Master 1a

Curriculum Correlation
Number Cluster 1: Counting

ON

Kindergarten
– 15.1 investigate (e.g., using a number line, a hundreds carpet, a board game with numbered squares) the idea that a number's position in the counting sequence determines its magnitude (e.g., the quantity is greater when counting forward and less when counting backward) – 15.3 make use of one-to-one correspondence in counting objects and matching groups of objects – 15.4 demonstrate an understanding of the counting concepts of stable order (i.e., the concept that the counting sequence is always the same – 1 is followed by 2, 2 by 3, and so on) and of order irrelevance (i.e., the concept that the number of objects in a set will be the same regardless of which object is used to begin the counting) – 15.7 explore and communicate the function/purpose of numbers in a variety of contexts (e.g., use magnetic and sandpaper numerals to represent the number of objects in a set [to indicate quantity]; line up toys and manipulatives, and identify the first, second, and so on [to indicate ordinality]; use footsteps to discover the distance between the door and the sink [to measure]; identify a favourite sports player: "My favourite player is number twenty-four" [to label or name]) – 20.1 demonstrate an understanding of number relationships for numbers from 0 to 10, through investigation (e.g., show small quantities using fingers or manipulatives) – 20.2 use, read, and represent whole numbers to 10 in a variety of meaningful contexts (e.g., use a hundreds chart to read whole numbers; use magnetic and sandpaper numerals to represent the number of objects in a set; put the house number on a house built in the blocks area; find and recognize numbers in the environment; write numerals on imaginary bills at the restaurant in the dramatic play area)
Grade 1
Number Quantity Relationships – read and print in words whole numbers to ten, using meaningful contexts (e.g., storybooks, posters) (Activity 1) – demonstrate, using concrete materials, the concept of conservation of number (e.g., 5 counters represent the number 5, regardless whether they are close together or far apart) (Activities 1, 2, 5) Counting – demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting; (Activities 1, 2, 3, 5) – count forward by 1's, 2's, 5's, and 10's to 100, using a variety of tools and strategies (e.g., move with steps; skip count on a number line; place counters on a hundreds chart; connect cubes to show equal groups; count groups of pennies, nickels, or dimes) (Activities 1, 2, 3, 5) – count backwards by 1's from 20 and any number less than 20 (e.g., count backwards from 18 to 11), with and without the use of concrete materials and number lines (Activities 3, 5) – use ordinal numbers to thirty-first in meaningful contexts (e.g., identify the days of the month on a calendar) (Activity 4) Cross Strand: Patterning and Algebra Patterning and Relationships – identify and extend, through investigation, numeric repeating patterns (e.g., 1, 2, 3, 1, 2, 3, 1, 2, 3, …)

Master 1b

Curriculum Correlation
Number Cluster 1: Counting

ON (con'd)

Grade 2
Quantity Relationships – read and print in words whole numbers to twenty, using meaningful contexts (e.g., storybooks, posters, signs) Counting – count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 (e.g., count by 5's from 15; count by 25's from 125) – count backwards by 1's from 50 and any number less than 50, and count backwards by 10's from 100 and any number less than 100, using number lines and hundreds charts (Sample problem: Count backwards from 87 on a hundreds carpet, and describe any patterns you see.) (Activities 3, 5)

Master 1c

Curriculum Correlation
Number Cluster 1: Counting

BC/YT

Kindergarten
Number concepts to 10 • Counting – one-to-one correspondence – conservation – cardinality – stable order counting – sequencing 1–10 – linking sets to numerals
Grade 1
Number concepts to 20 • Counting – counting on and counting back (Activities 1, 2, 3, 5) – sequencing numbers to 20 (Activities 1, 2, 3, 5) • Books published by Native Northwest: *Learn to Count*, by various artists; *Counting Wild Bears*, by Gryn White; *We All Count*, by Jason Adair; *We All Count*, by Julie Flett (http://nativenorthwest.com) using counting collections made of local materials; counting in different languages; different First Peoples counting systems (e.g., Tsimshian) (Activity 1) • *Tlingit Math Book* (http://yukon-ed-show-me-your-math.wikispaces.com/file/detail/Tlingit Math Book.pdf) (Activity 1) Ways to make 10 • Traditional First Peoples counting methods involved using fingers to count to 5 and for groups of 5. (Activities 1, 3, 5) • Traditional songs/singing and stories (Activity 1) Cross Strand: Repeating patterns with multiple elements and attributes – patterns using visuals (ten-frames, hundred charts) – investigating numerical patterns
Grade 2
Number concepts to 100 (Activities 3, 5) • Skip-counting by 2, 5, and 10 – Using different starting points – Increasing and decreasing (forward and backward) • Even and odd numbers

Master 1d

Curriculum Correlation
Number Cluster 1: Counting

NB/PEI/SK/NFL/MB

Kindergarten
Number KN01. Say the number sequence by 1s starting anywhere from 1 to 10 and from 10 to 1. KN03. Relate a numeral, 1 to 10, to its respective quantity.
Grade 1
Number 1N01. Say the number sequence, 0 to 100, by: • 1s forward and backward between any two given numbers • 2s to 20, forward starting at 0 • 5s and 10s to 100, forward starting at 0. (Activities, 1, 2, 3, 5) 1N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. (Activities, 1, 2, 3, 5) Cross Strand: Patterns and Relations (Patterns) 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions
Grade 2
Number 2N01. Say the number sequence from 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s using starting points from 1 to 9 • 2s starting from 1. 2N02. Demonstrate if a number (up to 100) is even or odd. 2N03. Describe order or relative position using ordinal numbers (up to tenth).

Master 1e

Curriculum Correlation
Number Cluster 1: Counting

NS

Kindergarten
Number PN01. Students will be expected to say the number sequence by • 1s, from 1 to 20 • 1s, starting anywhere from 1 to 10 and from 10 to 1 PN03: Students will be expected to relate a numeral, 1 to 10, to its respective quantity.
Grade 1
Number 1N01: Students will be expected to say the number sequence by • 1s, forward and backward between any two given numbers, 0 to 100 • 2s to 20, forward starting at 0 • 5s to 100, forward starting at 0, using a hundred chart or a number line • 10s to 100, forward starting at 0, using a hundred chart or a number line (Activities, 1, 2, 3, 5) 1N03. Students will be expected to demonstrate an understanding of counting to 20 by • indicating that the last number said identifies "how many" • showing that any set has only one count • using the counting-on strategy (Activities, 1, 2, 3, 5) Cross Strand: Patterns and Relations (Patterns) 1PR01: Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions.
Grade 2
Number 2N01: Students will be expected to say the number sequence by • 1s, forward and backward, starting from any point to 200 • 2s, forward and backward, starting from any point to 100 • 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100 • 10s, starting from any point, to 100 2N02: Students will be expected to demonstrate if a number (up to 100) is even or odd. 2N03. Students will be expected to describe order or relative position using ordinal numbers (up to tenth).

Master 1f

Curriculum Correlation
Number Cluster 1: Counting

AB/NWT/NU

Kindergarten
Number KN01. Say the number sequence 1 to 10 by 1s, starting anywhere from 1 to 10 and from 10 to 1. KN03. Relate a numeral, 1 to 10, to its respective quantity.
Grade 1
Number 1N01. Say the number sequence 0 to 100 by: • 1s forward between any two given numbers • 1s backward from 20 to 0 • 2s forward from 0 to 20 • 5s and 10s forward from 0 to 100. (Activities 1, 2, 3, 5) 1N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies "how many" • showing that any set has only one count • using counting-on • using parts or equal groups to count sets. (Activities 1, 2, 3, 5) 1N07. Demonstrate an understanding of conservation of number. (Activities 1, 2, 5) Cross Strand: Patterns and Relations 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions
Grade 2
Number 2N01. Say the number sequence 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s, using starting points from 1 to 9 • 2s, starting from 1. 2N02. Demonstrate if a number (up to 100) is even or odd. 2N03. Describe order or relative position using ordinal numbers (up to tenth).

Name_____ Date _____

Master 2

My Huckleberry (Duje) Story

By Pam Spooner and Colin Williams

When I was a *nyuzki* (child), my *'utsoo* (grandmother) and I would look for *yuntumai'* (blueberries) in the wild. We would look deep in the forest, knowing that we would find lots of *yuntumai'* (blueberries) there.

It was the *duje* (huckleberry) that we really wanted, but few people knew where to find them. Once we found some *duje* (huckleberries), we would pick them and put them into our buckets.

Name_____ Date _____

‘*utsoo* (grandma) loved *duje* (huckleberries). She would use them in jams, pies, and bannock.

Name_____ Date _____

When our buckets were full, we would start our long walk home, being careful not to disturb the animals that lived in the forest. When we got to the edge of the forest, we would stop and say *Mussi* (thank you) to Mother Earth for everything that she had given us, including the *duje* (huckleberries).

When we got home, we would wash all the berries and use some of them to make warm *duje beitle* (huckleberry pies). '*utsiyan* (grandpa) would be so happy when he came home. We would eat together and '*utsiyan* (grandpa) would tell us about his hunting trip.

Name_____ Date _____

Master 3a

First Nations Languages and Dialects

Cree

Audio recording courtesy of Lorna Burke.

1	one	peyak
2	two	nîso
3	three	nisto
4	four	newo
5	five	nîyânan
6	six	nikotwâsik
7	seven	tepakohp
8	eight	ayinânew
9	nine	kekamitâtaht
10	ten	mitâtaht
11	eleven	peyako’sâp
12	twelve	nîsosâp
13	thirteen	nistosâp
14	fourteen	newosâp
15	fifteen	nîyânano’sâp
16	sixteen	nikotwâso’sâp
17	seventeen	tepakohpo’sâp
18	eighteen	ayinânewo’sâp
19	nineteen	kekamitatahto’sâp
20	twenty	nîstanaw

Name_____ Date _____

Master 3b

First Nations Languages and Dialects

Gitxan

Audio recordings courtesy of Dr. Jane Smith.

1	one	k’i’y
2	two	gilbil
3	three	gwila’l
4	four	tk’alpx
5	five	xwsdins
6	six	koo’lt
7	seven	t’ipxoo’lt
8	eight	gandoo’lt
9	nine	xwsdimoos
10	ten	xbi’l
11	eleven	xbi’l dik’l’y
12	twelve	xbi’l digilbil
13	thirteen	xbi’l digwila’l
14	fourteen	xbi’l ditk’ alpx
15	fifteen	xbi’l duxsdins
16	sixteen	xbi'l dikoo’lt
17	seventeen	xbi’l dit’ipxoo’lt
18	eighteen	xbi’l digandoo’lt
19	nineteen	xbi’l duxwsdimoos
20	twenty	gilbil wil k’ap

Name_____ Date _____

Master 3c

First Nations Languages and Dialects

Lheidli

Audio recordings courtesy of Edie Frederick.

1	one	ihukui (ihu-kuh-ee)
2	two	nankoh (nan-koh)
3	three	tagih (ta-gee)
4	four	dunghi (dung-ee)
5	five	skwunlai (sk-wun-lai)
6	six	ihk'utagih (I-cut-dung-ee)
7	seven	tagalt'I (ta-gal-tee)
8	eight	ihk'utdunghi (i-cut-dung-ee)
9	nine	ilhoh hooloh (ee-low who-low)
10	ten	lanezi (la-nay-zee)
11	eleven	lanezi on'un lhukui
12	twelve	lanezi on'un nankoh
13	thirteen	lanezi on'un tagih
14	fourteen	lanezi on'un dunghi
15	fifteen	lanezi on'un skunlai
16	sixteen	lanezi on'un lhk'utagih
17	seventeen	lanezi on'un tagalt'i
18	eighteen	lanezi on'un lhk'utdunghi
19	nineteen	lanezi on'un iho hooloh
20	twenty	nat lanez

Name_____ Date _____

Master 3d

First Nations Languages and Dialects

Ojibwe-Anishinaabemowin

Audio recording courtesy of Jodi Johnston.

1	one	bezhig
2	two	niizh
3	three	nswi
4	four	niiwin
5	five	naanan
6	six	ngodwaaswi
7	seven	niizhwaaswi
8	eight	nshwaaswi
9	nine	zhaangswi
10	ten	mdaaswi
11	eleven	mdaaswi-shi-bezhig
12	twelve	mdaaswi-shi-niizh
13	thirteen	mdaaswi-shi-nswi
14	fourteen	mdaaswi-shi-niiwin
15	fifteen	mdaaswi-shi-naanan
16	sixteen	mdaaswi-shi-ngodwaaswi
17	seventeen	mdaaswi-shi-niishwaaswi
18	eighteen	mdaaswi-shi-nshwaaswi
19	nineteen	mdaaswi-shi-zhaangswi
20	twenty	niizhtana

Name_____ Date _____

Master 4a

First Nations Languages and Dialects

Cree

Audio recording courtesy of Lorna Burke.

To listen to the audio file, click the link below:
Cree 1-20

1	one	peyak
2	two	nîso
3	three	nisto
4	four	newo
5	five	nîyânan
6	six	nikotwâsik
7	seven	tepakohp
8	eight	ayinânew
9	nine	kekamitâtaht
10	ten	mitâtaht
11	eleven	peyako'sâp
12	twelve	nîsosâp
13	thirteen	nistosâp
14	fourteen	newosâp
15	fifteen	nîyânano'sâp
16	sixteen	nikotwâso'sâp
17	seventeen	tepakohpo'sâp
18	eighteen	ayinânewo'sâp
19	nineteen	kekamitatahto'sâp
20	twenty	nîstanaw

Name_____ Date _____

Master 4b

First Nations Languages and Dialects

Gitxan

Audio recordings courtesy of Dr. Jane Smith.

To listen to the audio files, click the links below:
Gitxan 1-10
Gitxan 11-20

1	one	k’i’y
2	two	gilbil
3	three	gwila’l
4	four	tk’alpx
5	five	xwsdins
6	six	koo’lt
7	seven	t’ipxoo’lt
8	eight	gandoo’lt
9	nine	xwsdimoos
10	ten	xbi’l
11	eleven	xbi’l dik’l’y
12	twelve	xbi’l digilbil
13	thirteen	xbi’l digwila’l
14	fourteen	xbi’l ditk’ alpx
15	fifteen	xbi’l duxsdins
16	sixteen	xbi'l dikoo’lt
17	seventeen	xbi’l dit’ipxoo’lt
18	eighteen	xbi’l digandoo’lt
19	nineteen	xbi’l duxwsdimoos
20	twenty	gilbil wil k’ap

Name_____ Date _____

Master 4c

First Nations Languages and Dialects

Lheidli

Audio recordings courtesy of Edie Frederick.

To listen to the audio files, click the links below:
Lheidli 1-10
Lheidli 11-20

1	one	ihukui (ihu-kuh-ee)
2	two	nankoh (nan-koh)
3	three	tagih (ta-gee)
4	four	dunghi (dung-ee)
5	five	skwunlai (sk-wun-lai)
6	six	ihk'utagih (I-cut-dung-ee)
7	seven	tagalt'I (ta-gal-tee)
8	eight	ihk'utdunghi (i-cut-dung-ee)
9	nine	ilhoh hooloh (ee-low who-low)
10	ten	lanezi (la-nay-zee)
11	eleven	lanezi on'un lhukui
12	twelve	lanezi on'un nankoh
13	thirteen	lanezi on'un tagih
14	fourteen	lanezi on'un dunghi
15	fifteen	lanezi on'un skunlai
16	sixteen	lanezi on'un lhk'utagih
17	seventeen	lanezi on'un tagalt'i
18	eighteen	lanezi on'un lhk'utdunghi
19	nineteen	lanezi on'un iho hooloh
20	twenty	nat lanez

Name_____ Date _____

Master 4d

First Nations Languages and Dialects

Ojibwe- Anishinaabemowin

Audio recording courtesy of Jodi Johnston.

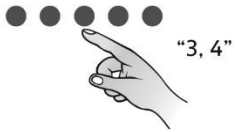
To listen to the audio file, click the link below:
Ojibwe-Anishinaabemowin 1-20

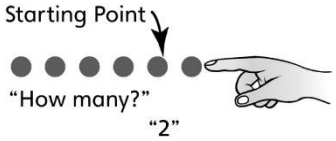
1	one	bezhig
2	two	niizh
3	three	nswi
4	four	niiwin
5	five	naanan
6	six	ngodwaaswi
7	seven	niizhwaaswi
8	eight	nshwaaswi
9	nine	zhaangswi
10	ten	mdaaswi
11	eleven	mdaaswi-shi-bezhig
12	twelve	mdaaswi-shi-niizh
13	thirteen	mdaaswi-shi-nswi
14	fourteen	mdaaswi-shi-niiwin
15	fifteen	mdaaswi-shi-naanan
16	sixteen	mdaaswi-shi-ngodwaaswi
17	seventeen	mdaaswi-shi-niishwaaswi
18	eighteen	mdaaswi-shi-nshwaaswi
19	nineteen	mdaaswi-shi-zhaangswi
20	twenty	niizhtana

Number

Master 5: Activity 1 Assessment

Counting to 20

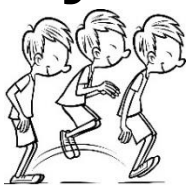
Counting Behaviours/Strategies		
Student has difficulty saying the counting sequence. "1, 2, 3, 5, 4, 7, 8…"	Student says number word in between "touches" or does not say one number word for each bead counted.	Student loses track of the count, misses beads in the count, or counts more than once. 
Observations/Documentation		

Student recounts when asked "How many?" 	Student gets a different number when the beads are counted in a different order. 	Student correctly counts the number of beads and realizes that the last number said tells how many (cardinality).
Observations/Documentation		

Name_____ Date _____

Master 6

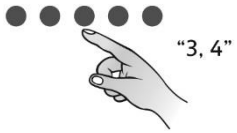
Action Cards

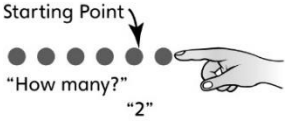
Jumping Jacks 	**Knee Touches** 
Knee Bends 	**Toe Touches** 
Sky Touches 	**Arm Circles** 
Bunny Hops 	**Heel Kicks** 
Side Bends 	**Choose Your Own**

Number

Master 7: Activity 2 Assessment

Counting to 50

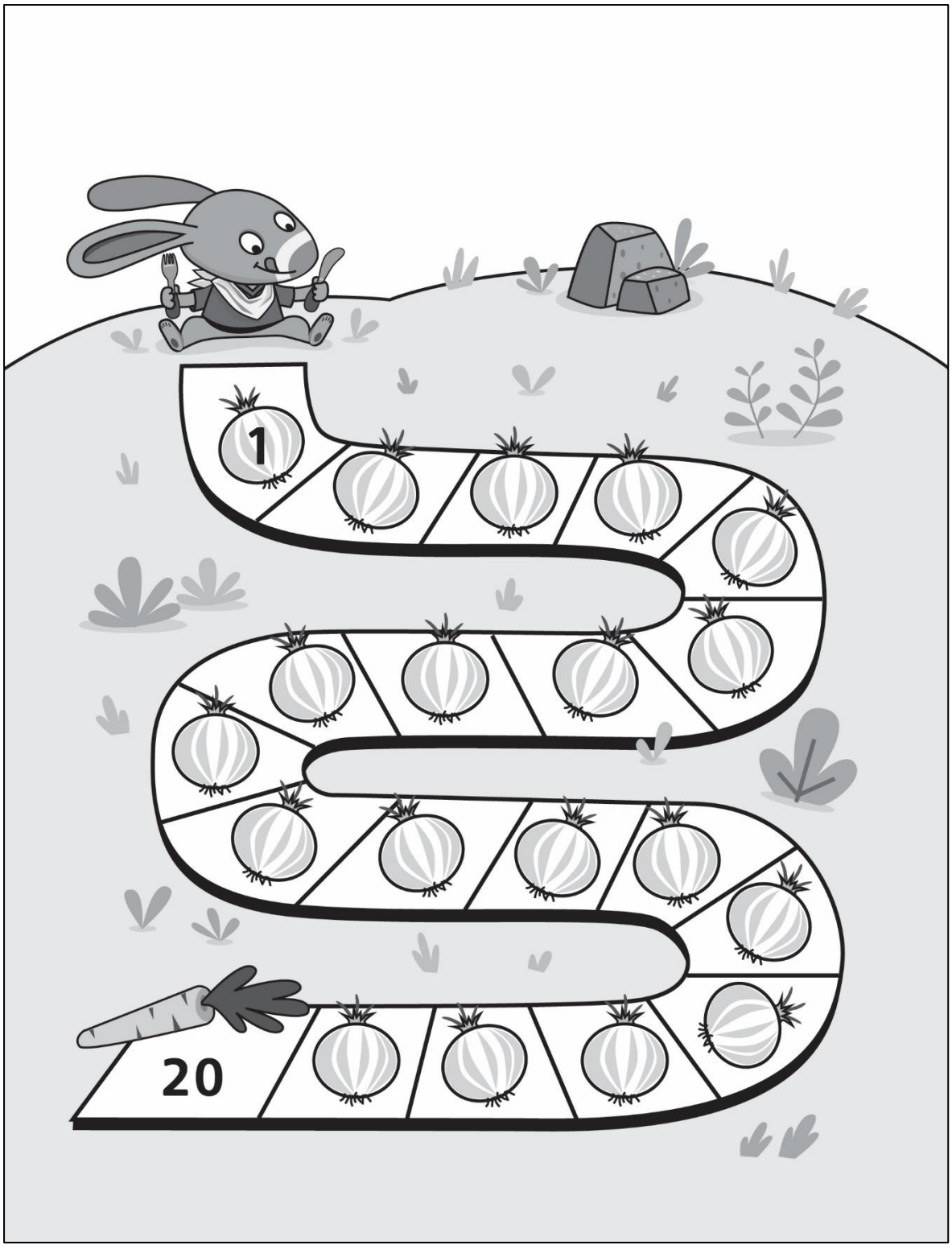
Counting Behaviours/Strategies		
Student does not say the number sequence correctly. "1, 2, 3, 4, **5, 7**, 8, 10, 20…"	Student says a number word in between "touches," or does not say one number word for each counter counted.	Student loses track of the count, misses counters in the count, or counts more than once. 
Observations/Documentation		

Student recounts when asked "How many?"	Student gets a different number when the counters are rearranged or counted in a different order.	Student correctly counts the number of objects in a set and realizes that the last number said tells how many are in the set, no matter how they are arranged.
		
Observations/Documentation		

Name _____ Date _____

Master 8a

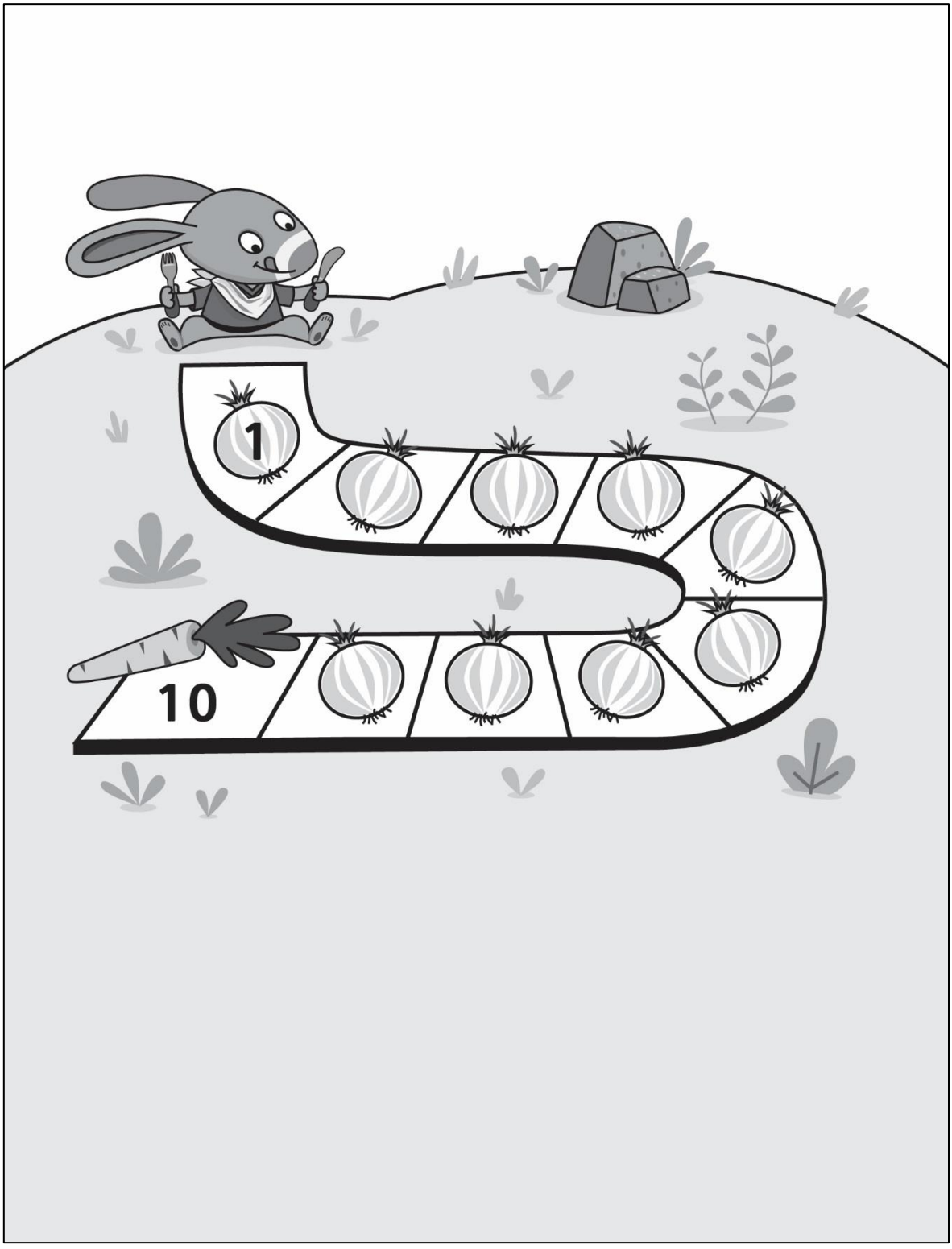
Hopping On Game Boards



Name _____ Date _____

Master 8b

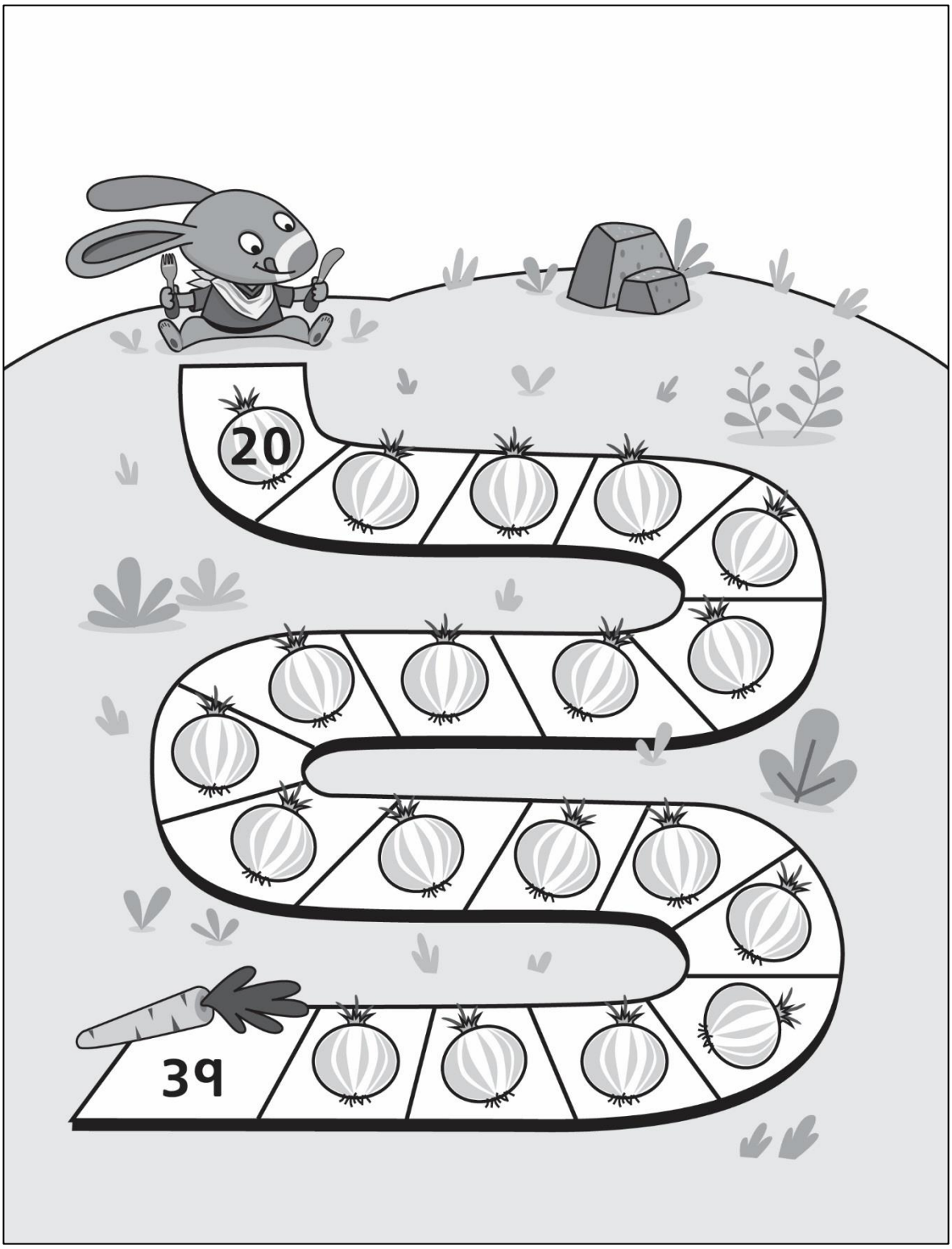
Hopping On Game Boards (for Accommodation)



Name _____ Date _____

Master 8c

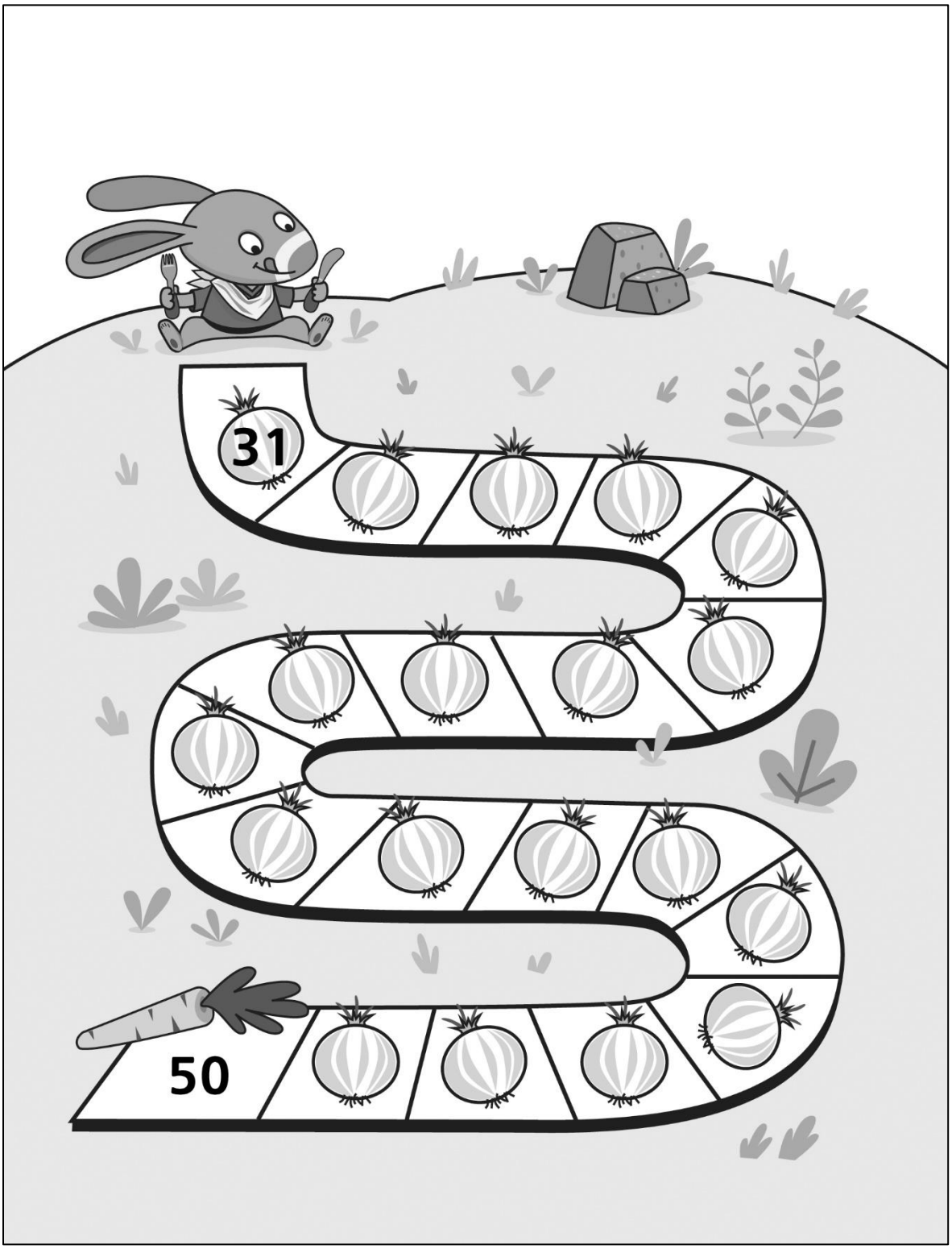
Hopping On Game Boards



Name _____ Date _____

Master 8d

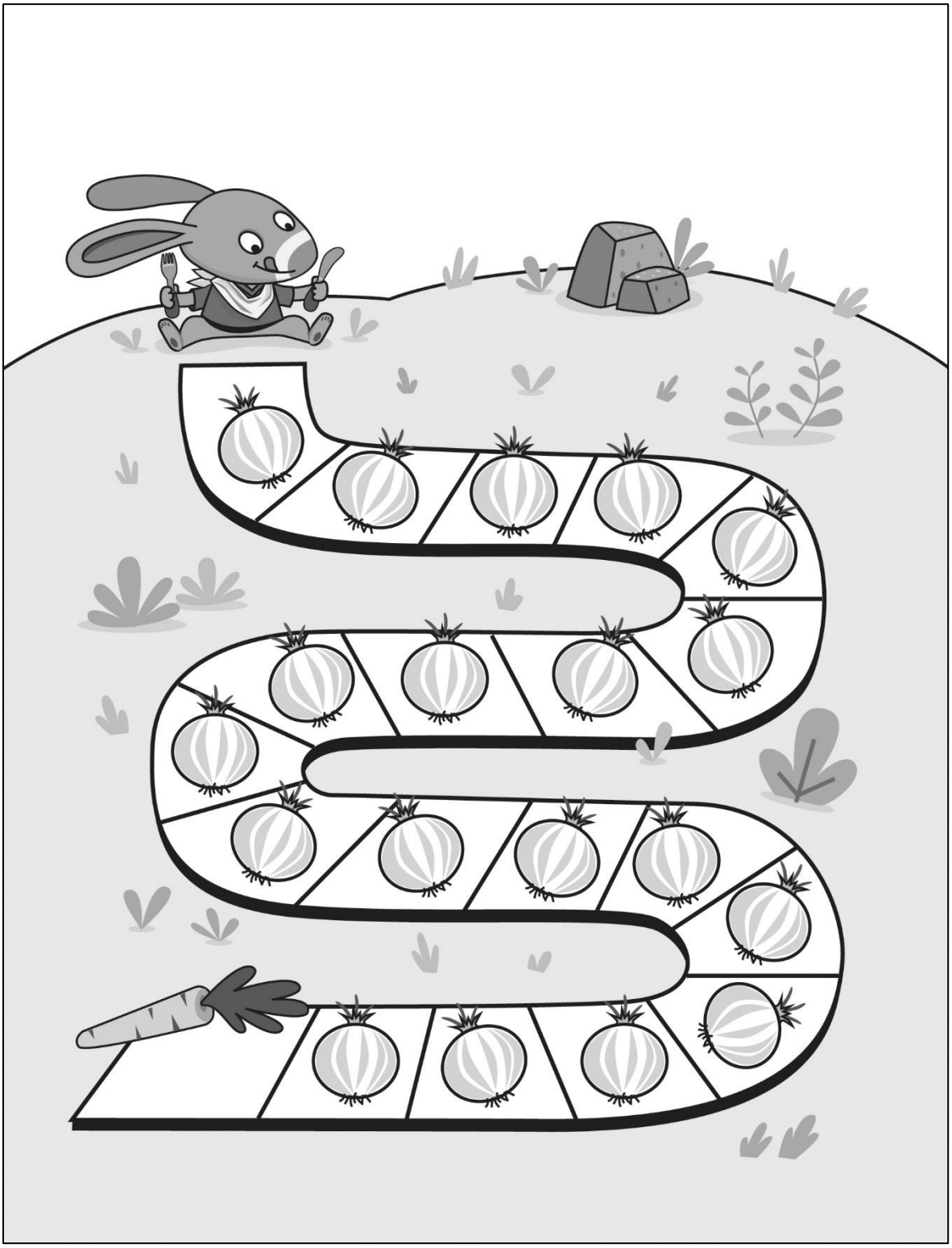
Hopping On Game Boards



Name _____ Date _____

Master 8e

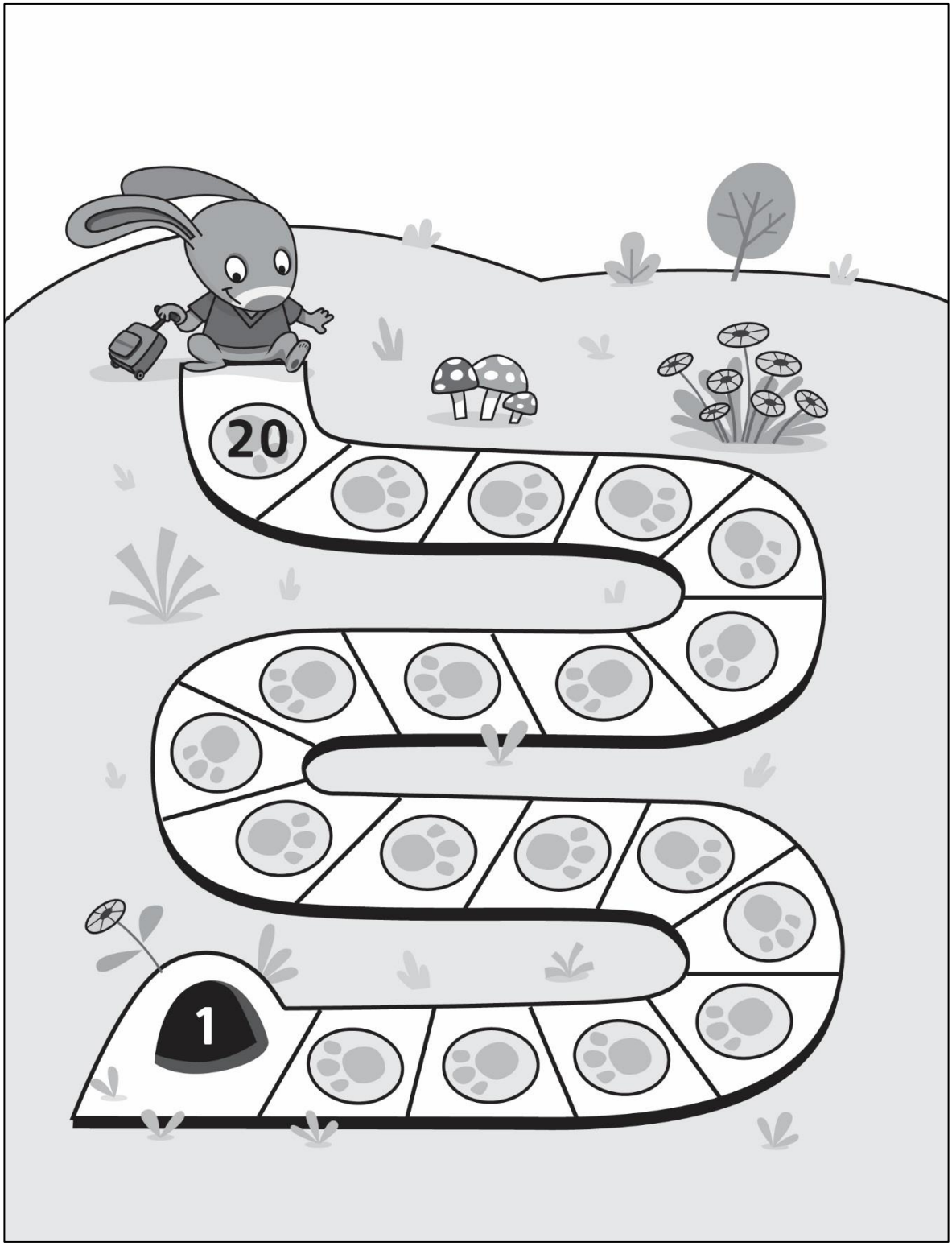
Hopping On Game Boards (for Extension)



Name _____ Date _____

Master 9a

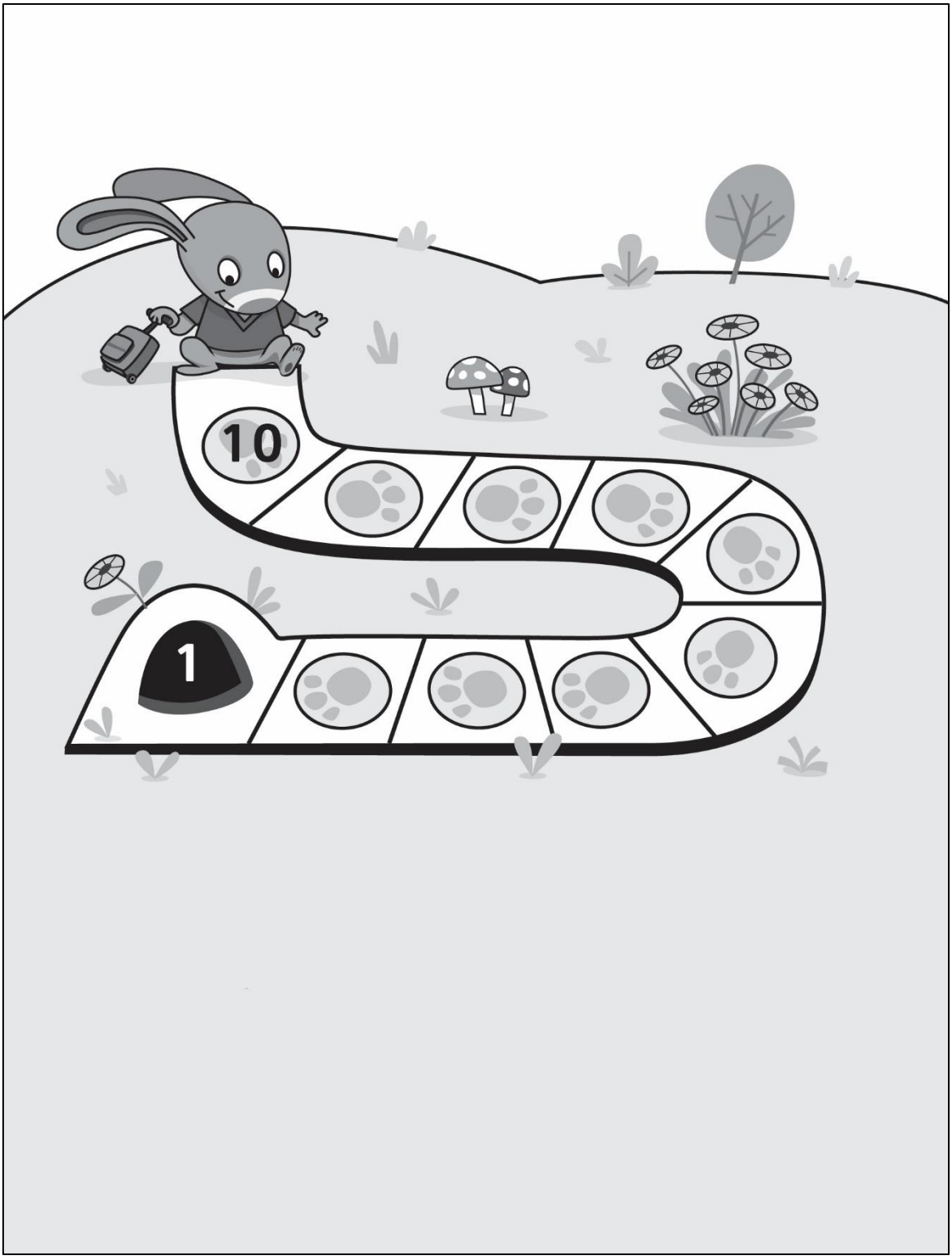
Hopping Back Game Boards



Name _____ Date _____

Master 9b

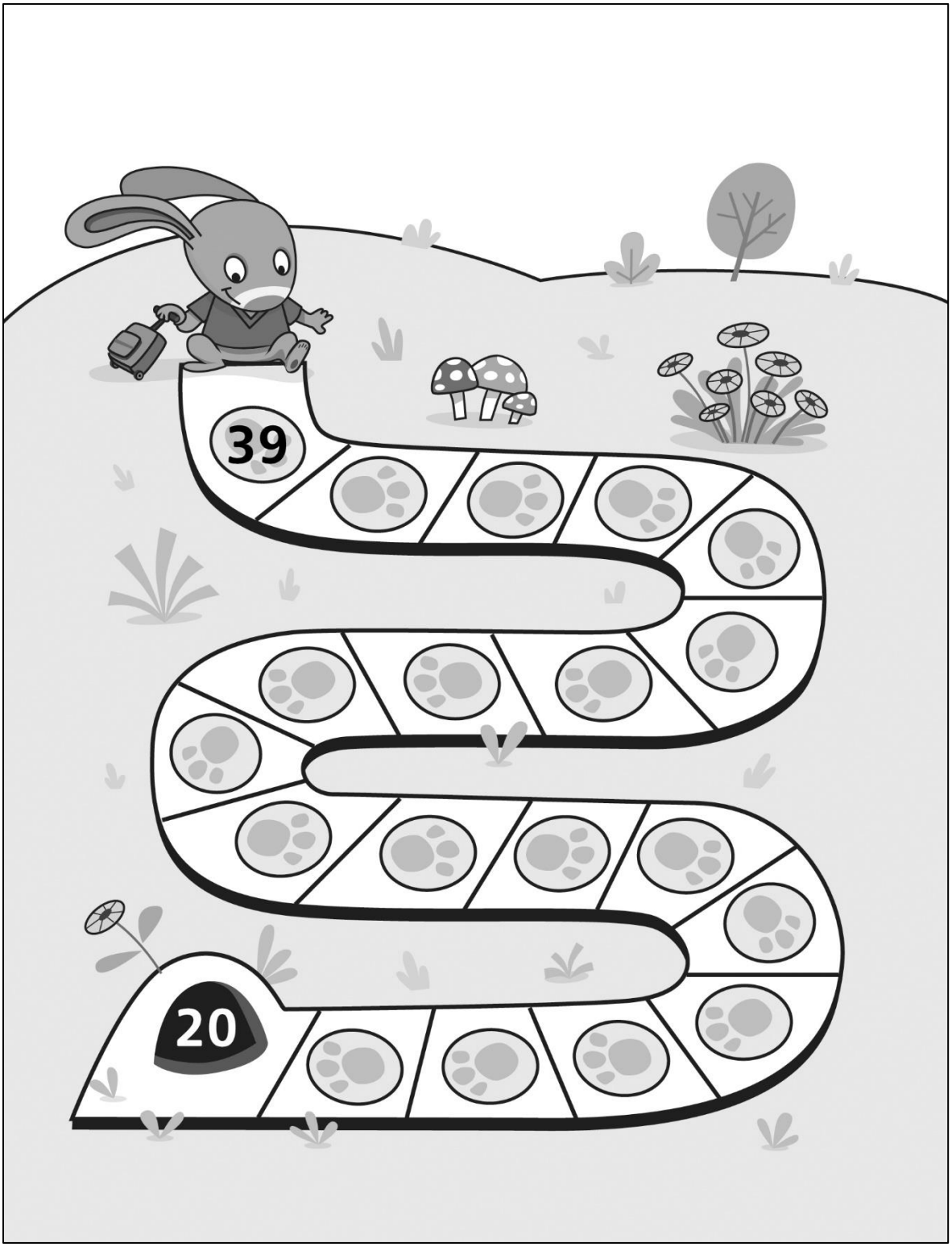
Hopping Back Game Boards (for Accommodation)



Name _____ Date _____

Master 9c

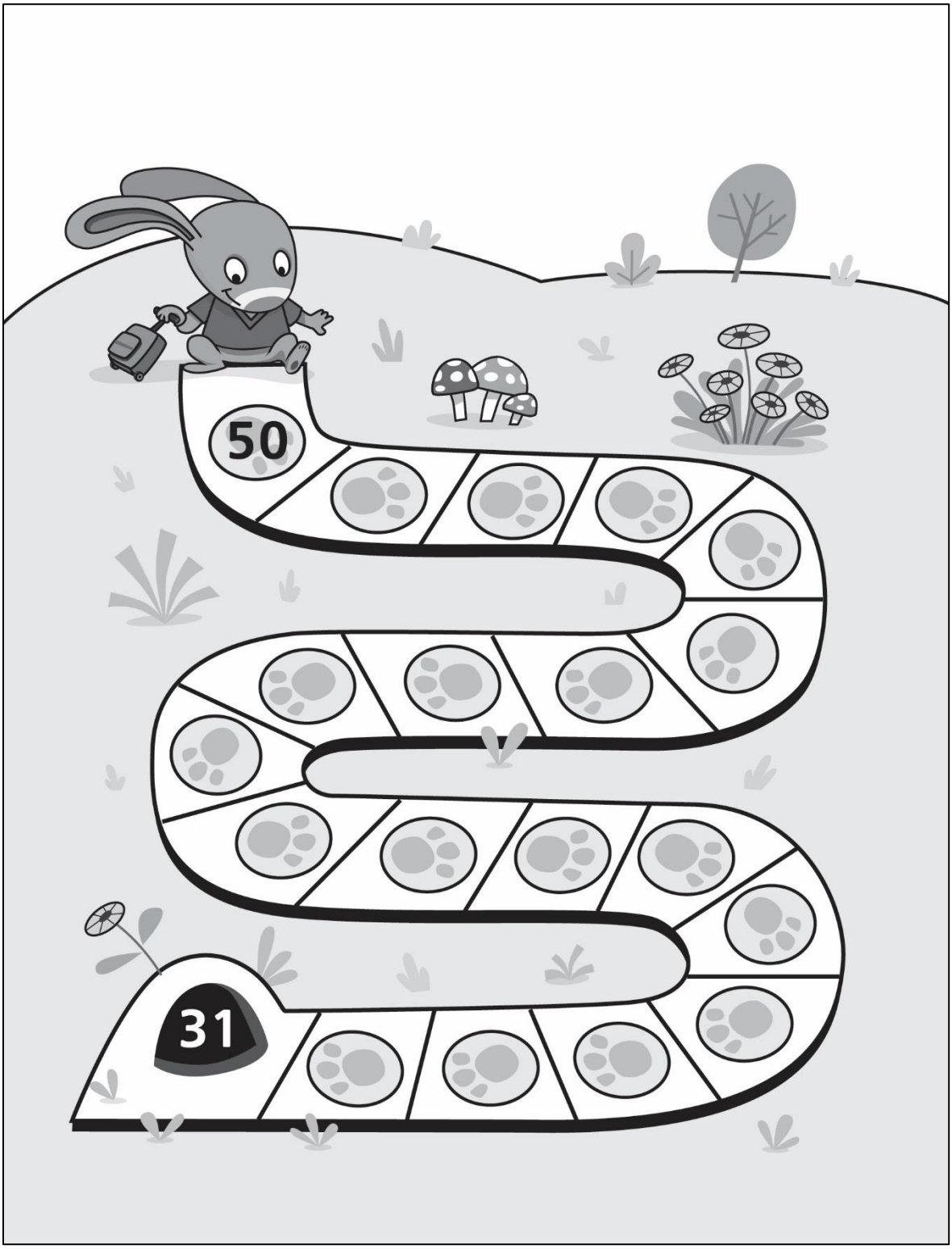
Hopping Back Game Boards



Name _____ Date _____

Master 9d

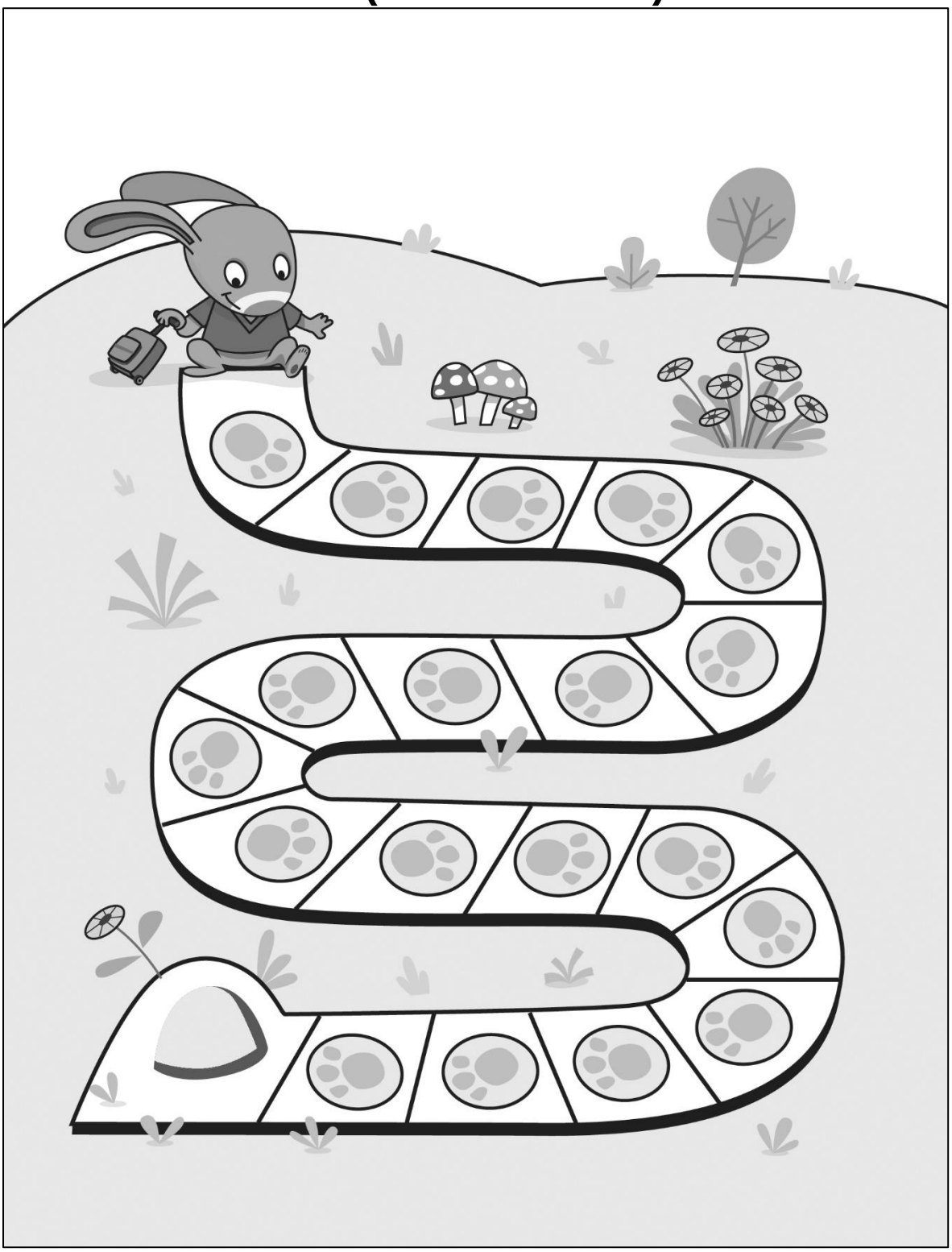
Hopping Back Game Boards



Name _____ Date _____

Master 9e

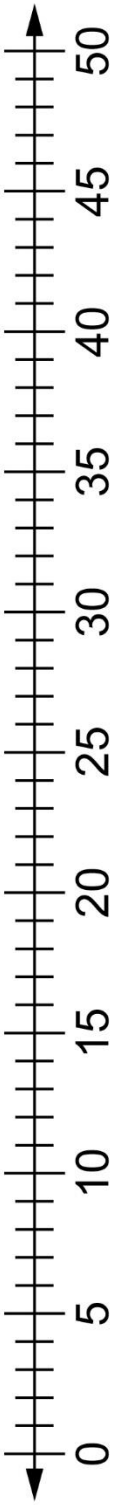
Hopping Back Game Boards (for Extension)



Name_____ Date _____

Master 10

Number Line



Number

Master 11: Activity 3 Assessment

Counting On and Back

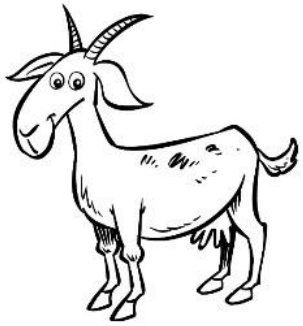
Counting On and Counting Back Behaviours/Strategies		
Student mixes up the number sequence when counting on. "… 4, 5, 7, 6, 9"	Student says the number word in between each "hop," or does not say one number word for each space counted.	Student counts from 1 to find out which space the game piece is on.
Observations/Documentation		

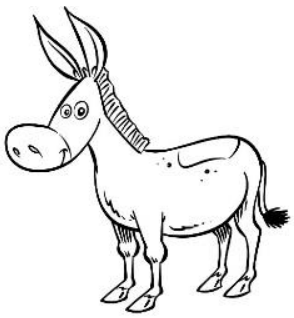
Student is able to count on, but mixes up the number sequence when counting back. "... 30, 29, 27"	Student is able to count on and back but loses track of the number counted on or back. "35, 36, 37, 38, … Did I count enough?"	Student is able to count on or back with ease. "50, 49, 48, 47, 46, 45"
Observations/Documentation		

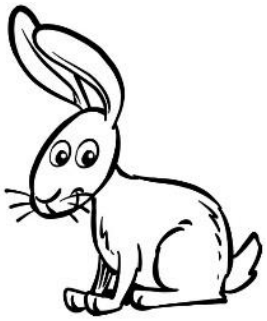
Name _____ Date _____

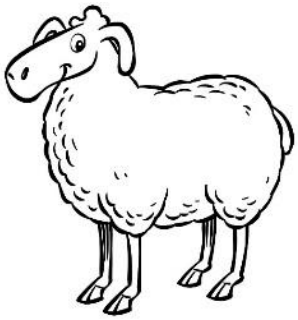
Master 12

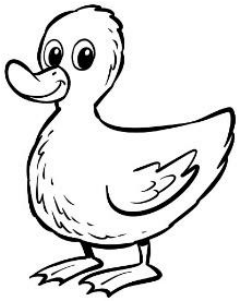
Barn Animal Cards

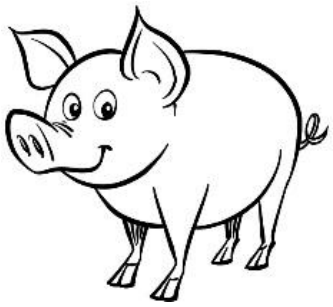


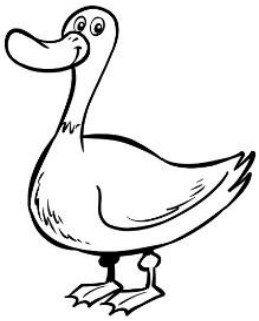


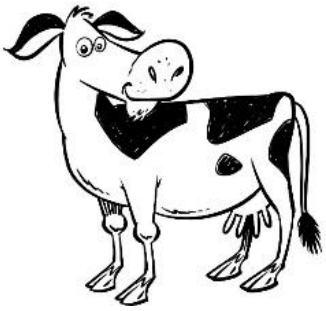


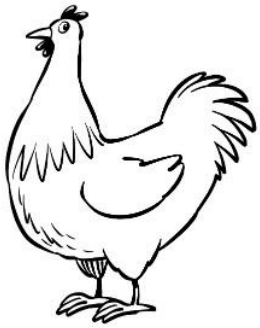


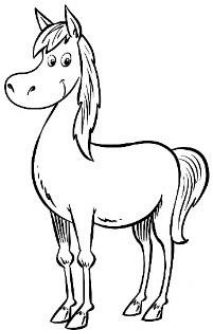












Name _____ Date _____

Master 13

Ordinal Number Cards

first 1st	second 2nd	third 3rd
fourth 4th	fifth 5th	sixth 6th
seventh 7th	eighth 8th	ninth 9th
tenth 10th		

Number

Master 14: Activity 4 Assessment

Ordinal Numbers

Ordinal Numbers Behaviours/Strategies			
Student has difficulty using the ordinal number vocabulary.	Student knows some ordinal numbers but has difficulty with those that sound different from the counting numbers (first, second, third).	Student starts counting from the wrong end of the line.	Student knows the ordinal numbers to tenth and uses them to describe the position of the animals correctly.
Observations/Documentation			

Name _____ Date _____

Master 15a

Number Cards (1–10)

1	2
3	4
5	6
7	8
9	10

Name _____ Date _____

Master 15b

Number Cards (11–20)

11	12
13	14
15	16
17	18
19	20

Name _____ Date _____

Master 15c

Number Cards (21–30)

21	22
23	24
25	26
27	28
29	30

Name _____ Date _____

Master 15d

Number Cards (31–40)

31	32
33	34
35	36
37	38
39	40

Name _____ Date _____

Master 15e

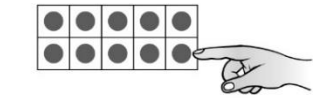
Number Cards (41–50)

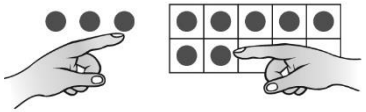
41	42
43	44
45	46
47	48
49	50

Number

Master 16: Activity 5 Assessment

Counting: Consolidation

Counting On and Counting Back Behaviours/Strategies		
Student mixes up the number sequence when counting forward.  "... 4, 5, 10, 20, 30, 40, 50"	Student adds or removes counters, then recounts from one to find how many, rather than counting on or counting back.	Student mixes up the number sequence when counting back. "19, 18, 16, **14**, 15"
Observations/Documentation		

Student has difficulty keeping track of the number counted on or back (how many have been added or removed, and the numbers in the counting sequence). "5, 6, 7, 8… Did I count enough?"	Student counts on or back, then counts from 1 to check.  "9, 8, 7" "1, 2, 3, 4, 5, 6, 7..."	Student counts on or back with ease. "50, 49, 48, 47, 46"
Observations/Documentation		

Master 17a

Curriculum Correlation
Cluster 2: Spatial Reasoning

ON

Kindergarten
15.5 subitize quantities to 5 without having to count, using a variety of materials (e.g., dominoes, dot plates, dice, number of fingers) and strategies (e.g., composing or decomposing numbers) 15.6 use information to estimate the number in a small set (e.g., apply knowledge of quantity; use a common reference such as a five frame; subitize)
Grade 1
Number Quantity Relationships – read and print in words whole numbers to ten, using meaningful contexts (e.g., storybooks, posters) (Activity 6) – estimate the number of objects in a set, and check by counting (e.g., "I guessed that there were 20 cubes in the pile. I counted them and there were only 17 cubes. 17 is close to 20.") (Activities 7, 8) Cross Strand: Patterning and Algebra Patterns and Relationships – identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute (e.g., colour, size, shape, thickness, orientation)
Grade 2
Number Quantity Relationships – read and print in words whole numbers to twenty, using meaningful contexts (e.g., storybooks, posters, signs) – estimate, count, and represent (using the ¢ symbol) the value of a collection of coins with a maximum value of one dollar.

Master 17b

Curriculum Correlation
Cluster 2: Spatial Reasoning

BC/YT

Kindergarten
Number concepts to 10 • Counting – subitizing Ways to make 5 • perceptual subitizing (e.g., I see 5) • conceptual subitizing (e.g., I see 4 and 1) Decomposition of numbers to 10 • numbers can be arranged and recognized • benchmarks of 5 and 10
Grade 1
Number concepts to 20 • Counting – numbers to 20 can be arranged and recognized (Activities 6, 7, 8) – subitizing (Activities 6, 8) Ways to make 10 • numbers to 10 can be arranged and recognized (Activities, 6, 8) • benchmarks of 10 and 20 (Activities 7, 8) Cross Strand: Repeating patterns with multiple elements and attributes – patterns using visuals
Grade 2
Quantities to 100 can be arranged and recognized • benchmarks of 25, 50, and 100 (Activity 7) Benchmarks of 25, 50, and 100 and personal referents (Activity 7)

Master 17c

Curriculum Correlation
Cluster 2: Spatial Reasoning

NB/PEI/SK/NFL/MB/AB/NWT/NU

Kindergarten
Number KN02. Recognize, at a glance, and name familiar arrangements of 1 to 5 objects or dots. KN03. Relate a numeral, 1 to 10, to its respective quantity.
Grade 1
Number 1N02. Recognize, at a glance, and name familiar arrangements of 1 to 10 objects or dots. (Activities 6, 8) 1N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. (Activities 6, 7, 8) 1N05. Compare sets containing up to 20 elements to solve problems using: • referents • one-to-one correspondence. (Activities 7, 8) 1N06. Estimate quantities to 20 by using referents. (Activities 7, 8) Cross Strand: Patterns and Relations 1PR1: Demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, creating, patterns using manipulatives, diagrams, sounds and actions.
Grade 2
Number 2N06. Estimate quantities to 100 using referents.

Master 17d

Curriculum Correlation
Cluster 2: Spatial Reasoning

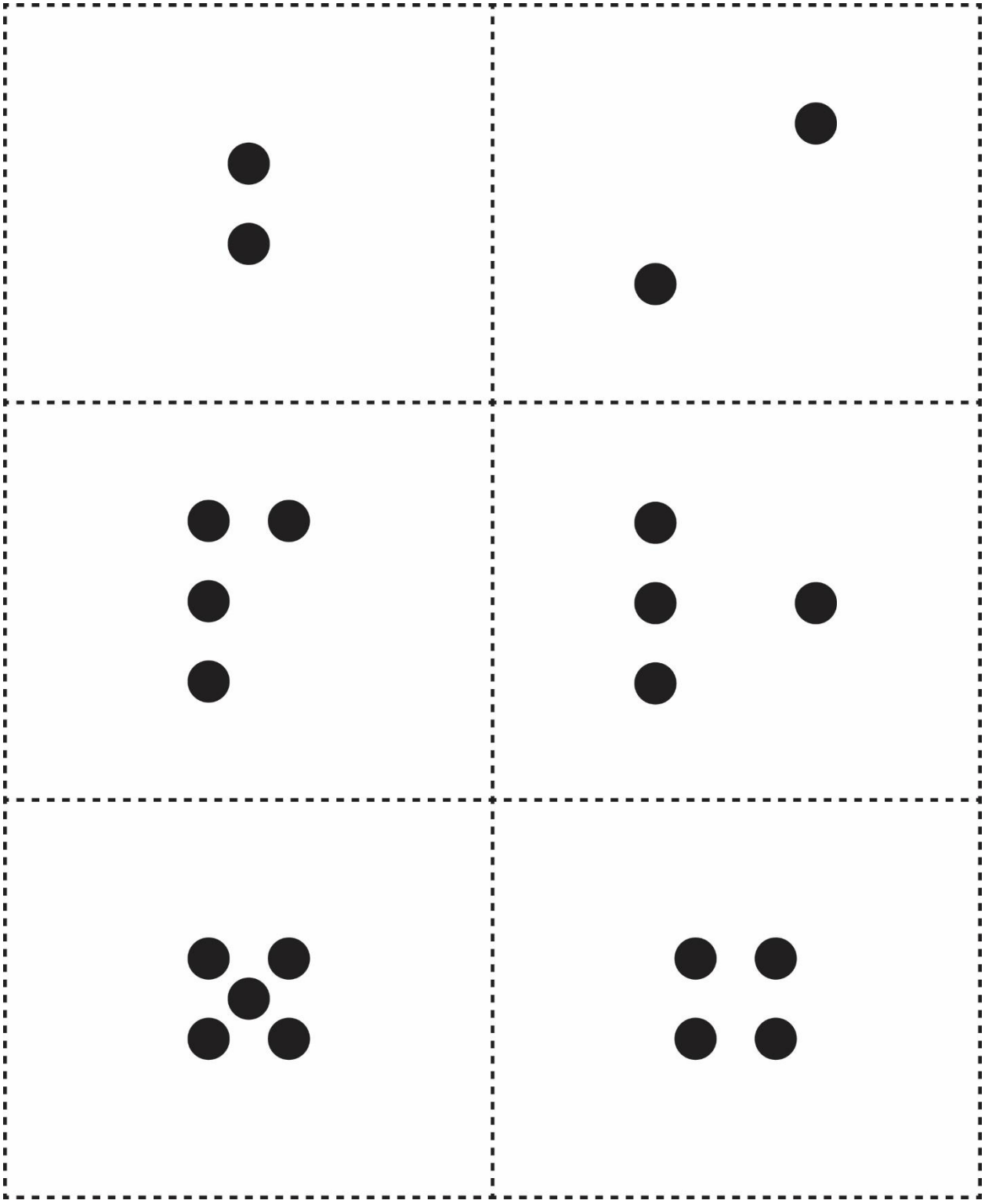
NS

Kindergarten
Number KN02. Students will be expected to recognize, at a glance, and name the quantity represented by familiar arrangements of one to five objects or dots. KN03. Students will be expected to relate a numeral, 1 to 10, to its respective quantity.
Grade 1
Number 1N02. Students will be expected to recognize, at a glance, and name the quantity represented by familiar arrangements of 1 to 10 objects or dots. (Activities 6, 8) 1N03. Students will be expected to demonstrate an understanding of counting to 20 by • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting-on strategy (Activities 6, 7, 8) 1N05. Students will be expected to compare sets containing up to 20 objects to solve problems using referents and one-to-one correspondence. (Activities 7, 8) 1N06. Students will be expected to estimate quantities to 20 by using referents. (Activities 7, 8) Cross Strand: Patterns and Relations 1PR1: Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions.
Grade 2
Number 2N06. Students will be expected to estimate quantities to 100 by using referents.

Name _____ Date _____

Master 18a

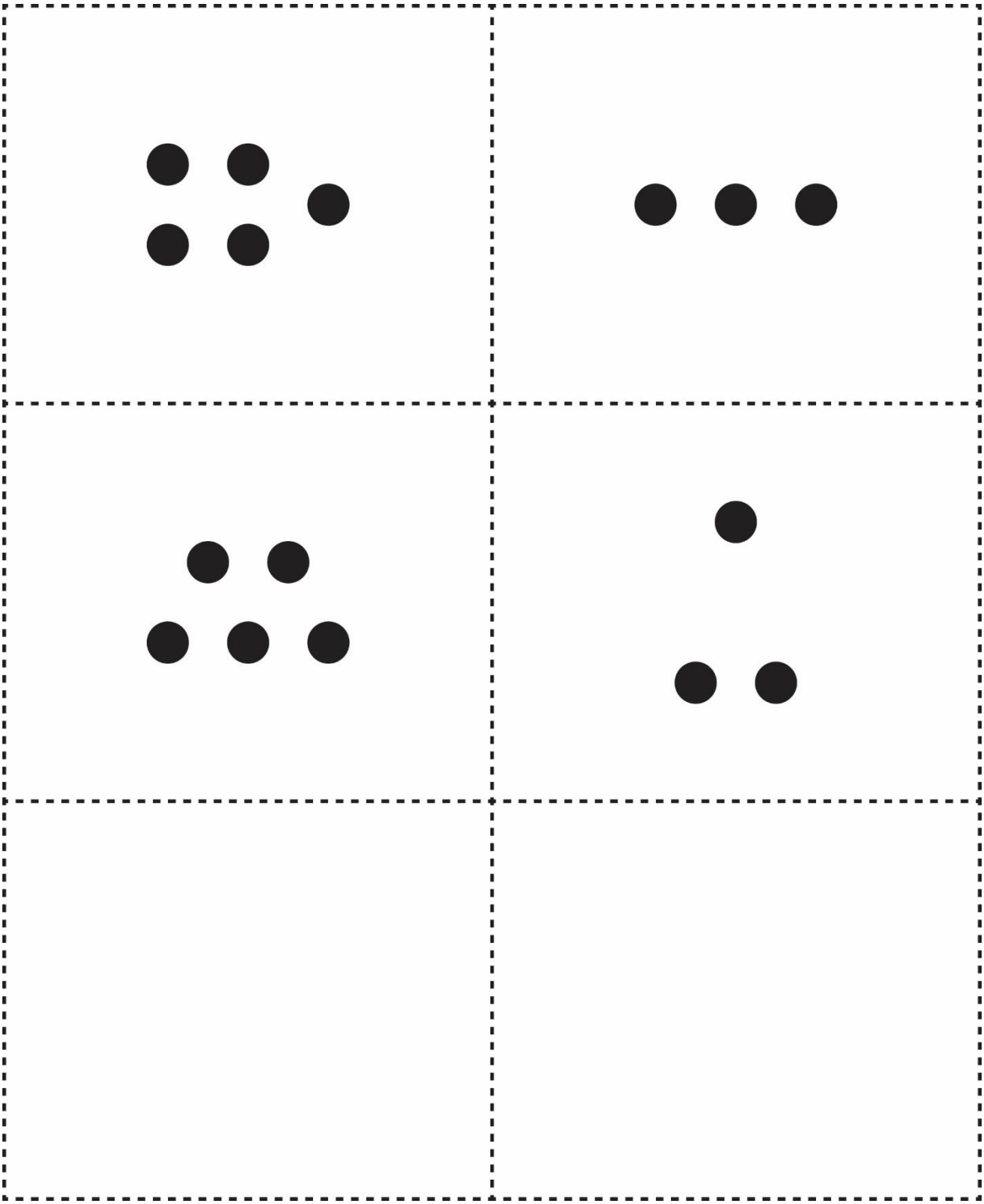
Dot Cards



Name _____ Date _____

Master 18b

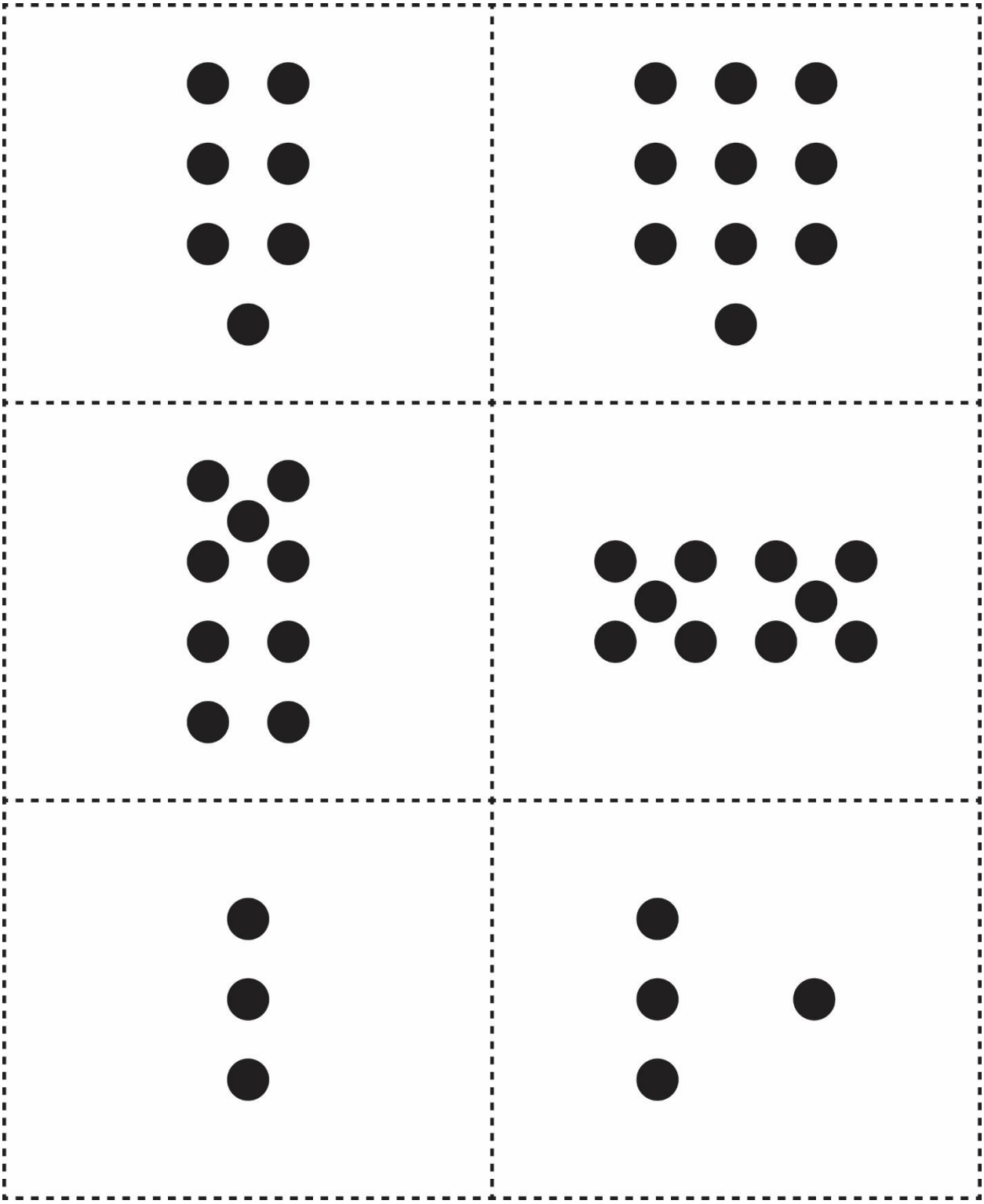
Dot Cards



Name _____ Date _____

Master 18c

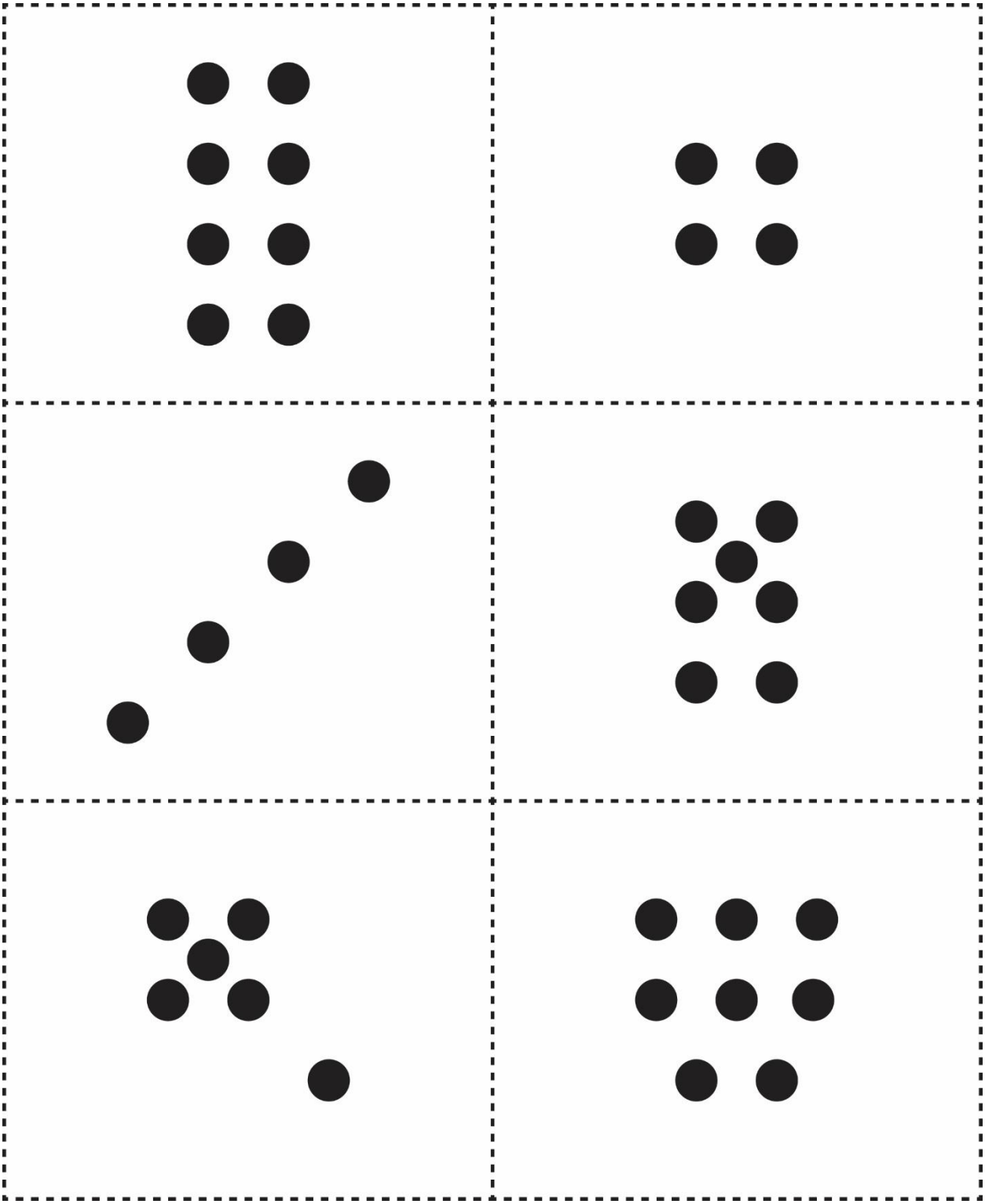
Dot Cards



Name _____ Date _____

Master 18d

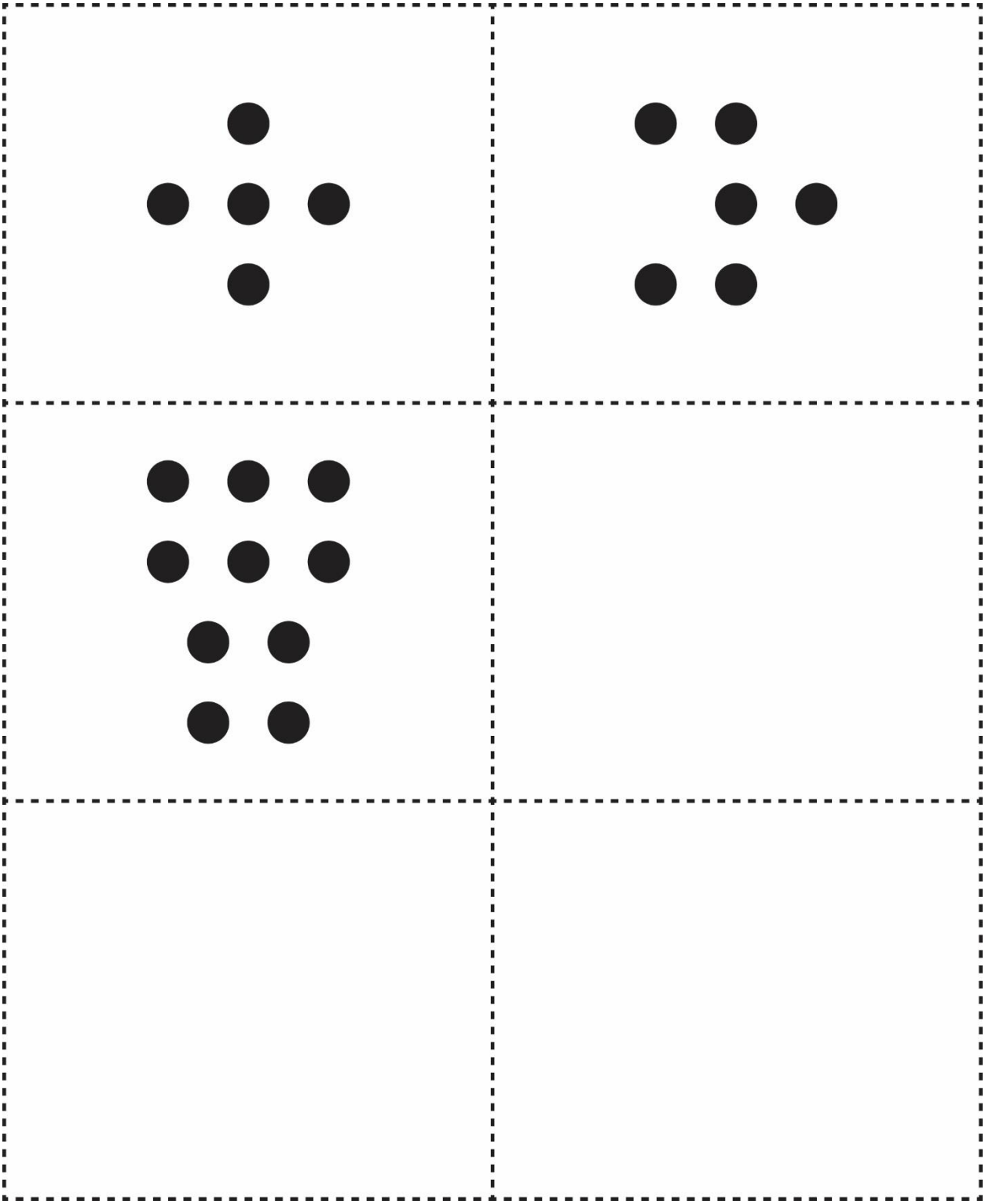
Dot Cards



Name _____ Date _____

Master 18e

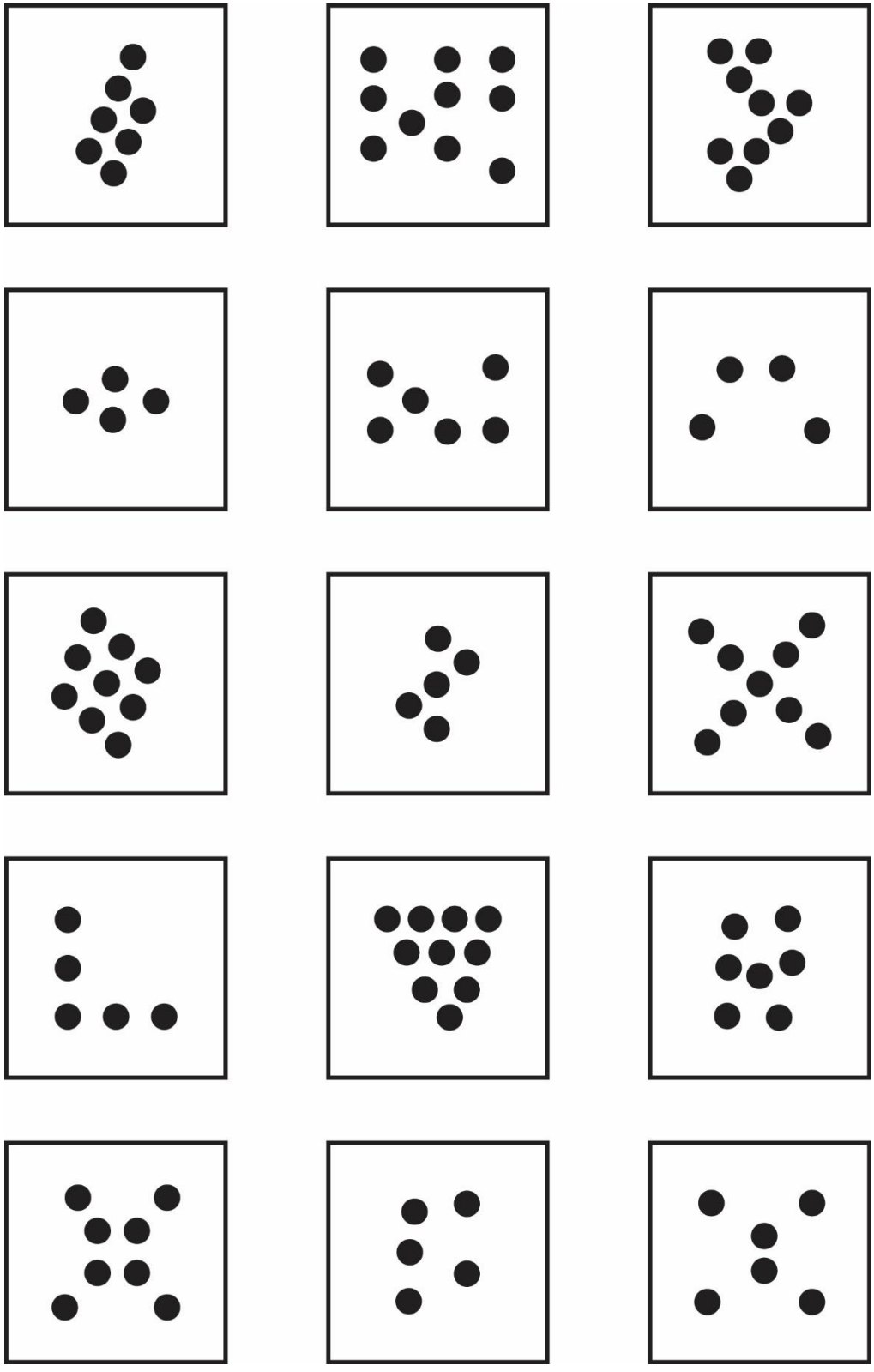
Dot Cards



Name _____ Date _____

Master 19

How Many Dots?



Number

Master 20: Activity 6 Assessment

Subitizing to 10

Subitizing Behaviours/Strategies		
Student guesses instead of subitizing.	Student counts instead of subitizing.	Student only subitizes simple arrangements of up to 5 dots.
Observations/Documentation		

Student subitizes more difficult arrangements of up to 5 dots.	Student sees regular arrangements of dots in parts to subitize up to 10 dots.	Student subitizes irregular arrangements of up to 10 dots.
Observations/Documentation		

Name_____ Date _____

Master 21

Grab 50! Recording Sheet

Player A		Player B	
Estimate	**How Many?**	**Estimate**	**How Many?**

Number

Master 22: Activity 7 Assessment

Estimating Quantities

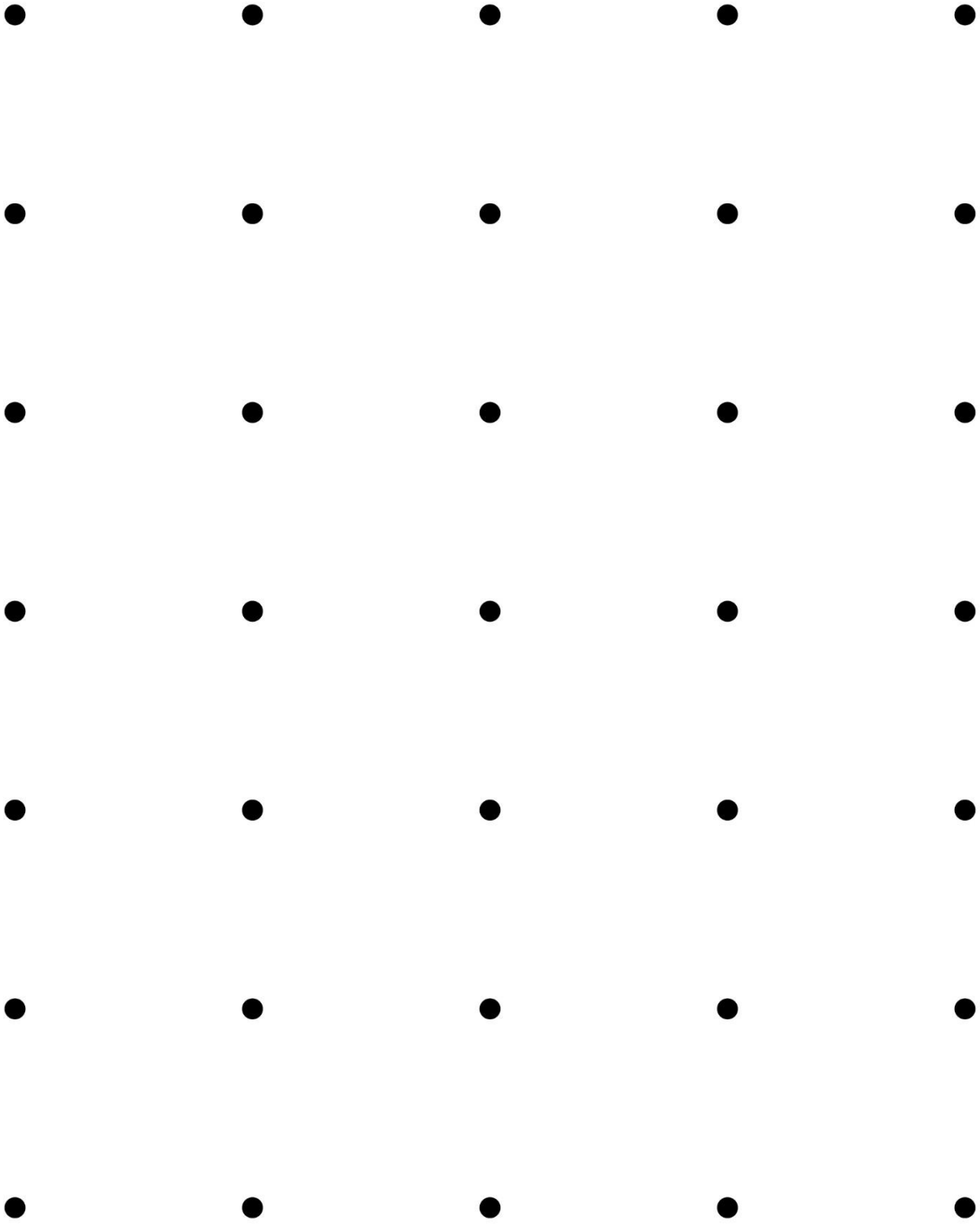
Estimating Behaviours/Strategies		
Student guesses instead of estimating.	Student counts instead of estimating.	Student estimates but it is not close to 50.
Observations/Documentation		

Student physically moves counters into groups to help see the referent of 5, 10, or 20.	Student makes a good estimate but is unable to explain how the estimate compares to 50.	Student makes good estimates and explains how the estimates compare to 50.
Observations/Documentation		

Name_____ Date _____

Master 23a

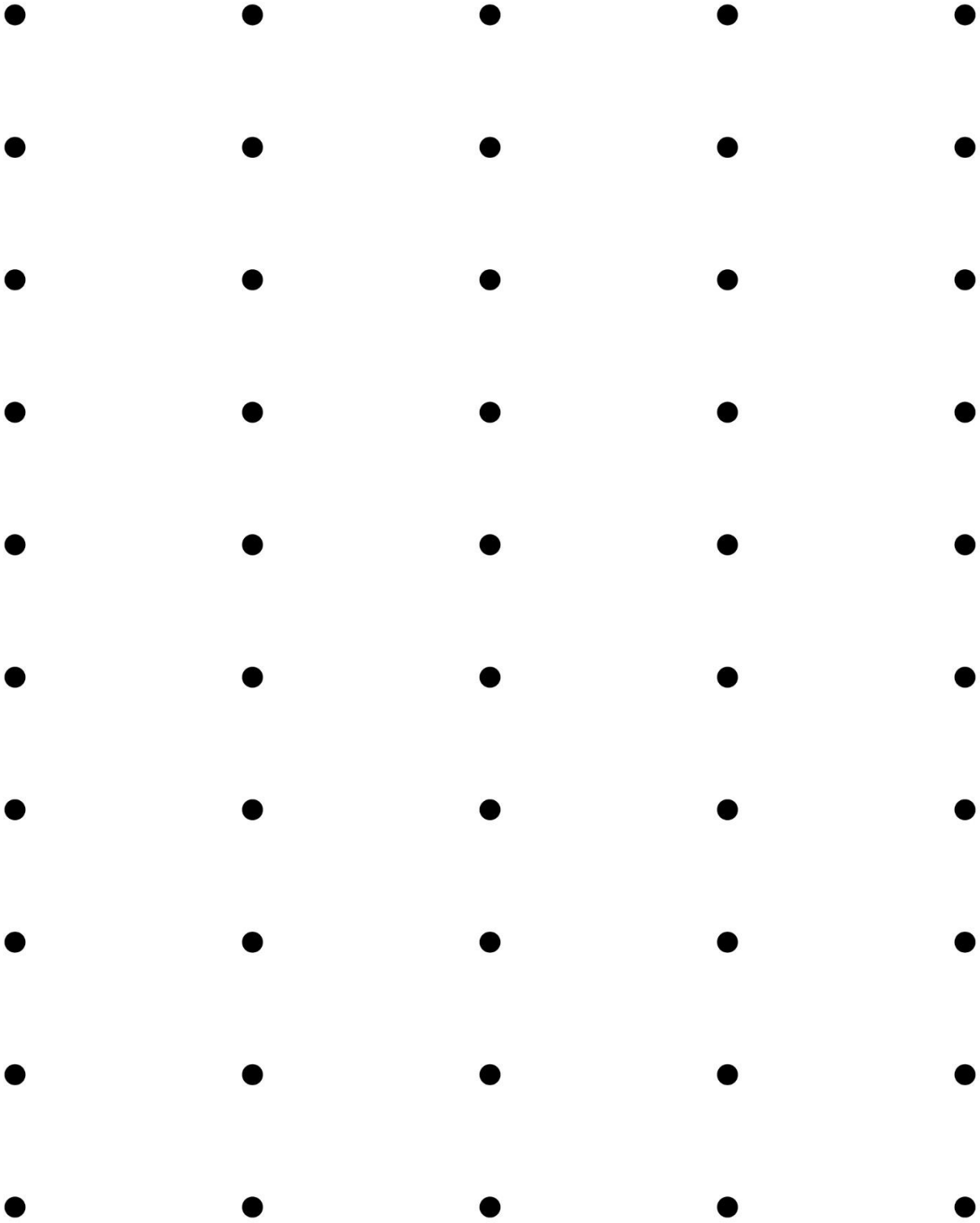
How Many?



Name _____ Date _____

Master 23b

How Many?



Name_____ Date _____

Master 24

How Many? Recording Sheet

I estimate there are ____ dots in the outline.

I counted _____ dots.

I estimate there are ____ dots in the outline.

I counted _____ dots.

I estimate there are ____ dots in the outline.

I counted _____ dots.

I estimate there are ____ dots in the outline.

I counted _____ dots.

I estimate there are ____ dots in the outline.

I counted _____ dots.

I estimate there are ____ dots in the outline.

I counted _____ dots

Number

Master 25: Activity 8 Assessment

Spatial Reasoning: Consolidation

Estimating Behaviours/Strategies			
Student guesses instead of estimating.	Student counts instead of estimating.	Student estimates but it is not close to the actual number of dots.	Student makes good estimates and explains how the estimates compare to the actual numbers of dots.
Observations/Documentation			

Subitizing Behaviours/Strategies			
Student subitizes simple arrangements of up to 5 dots.	Student subitizes more difficult arrangements of up to 5 dots.	Student groups dots to subitize regular arrangements of up to 10 dots.	Student subitizes irregular arrangements of up to 10 dots.
Observations/Documentation			

Master 26a

Curriculum Correlation
Number Cluster 3: Comparing and Ordering

ON

Kindergarten
15.2: investigate some concepts of quantity and equality through identifying and comparing sets with more, fewer, or the same number of objects (e.g., find out which of two cups contains more or fewer beans [i.e., the concept of one-to-one correspondence]; investigate the ideas of more, less, or the same, using concrete materials such as counters or five and ten frames; recognize that the last number counted represents the number of objects in the set [i.e., the concept of cardinality]) 15.3: make use of one-to-one correspondence in counting objects and matching groups of objects 15.4: demonstrate an understanding of the counting concepts of stable order (i.e., the concept that the counting sequence is always the same – 1 is followed by 2, 2 by 3, and so on) and of order irrelevance (i.e., the concept that the number of objects in a set will be the same regardless of which object is used to begin the counting)
Grade 1
Number Quantity and Relationships – represent, compare, and order whole numbers to 50, using a variety of tools (e.g., connecting cubes, ten frames, base ten materials, number lines, hundreds charts) and contexts (e.g., real-life experiences, number stories) (Activities 9, 10, 11, 12) – relate numbers to the anchors of 5 and 10 (e.g., 7 is 2 more than 5 and 3 less than 10) (Activities 9, 10) Counting – demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting (Activities 9, 12) Cross Strand: Patterning and Algebra Patterns and Relationships – identify and extend, through investigation, numeric repeating patterns (e.g., 1, 2, 3, 1, 2, 3, 1, 2, 3, …)
Grade 2
Number Quantity Relationships – represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools (e.g., ten frames, base ten materials, coin manipulatives, number lines, hundreds charts and hundreds carpets) – determine, using concrete materials, the ten that is nearest to a given two-digit number, and justify the answer (e.g., use counters on ten frames to determine that 47 is closer to 50 than to 40)

Master 26b

Curriculum Correlation

Number Cluster 3: Comparing and Ordering

BC/YT

Kindergarten
Number concepts to 10 • Counting – sequencing 1–10 • Ways to make 5 – comparing quantities, 1–10 • Decomposition of numbers to 10 – numbers can be arranged and recognized
Grade 1
Number concepts to 20 • Counting – sequencing numbers to 20 (Activities 9, 10, 11, 12) – comparing and ordering numbers to 20 (Activities 9, 10, 11, 12) – numbers to 20 can be arranged and recognized (Activities 9, 10, 11, 12) Cross Strand: Repeating patterns with multiple elements and attributes – patterns using visuals (ten-frames, hundred charts) – investigating numerical patterns
Grade 2
Number concepts to 100 • Quantities to 100 can be arranged and recognized – comparing and ordering numbers to 100

Master 26c

Curriculum Correlation

Number Cluster 3: Comparing and Ordering

NB/PEI/SK/NFL/MB/AB/NWT/NU

Kindergarten
Number KN05. Compare quantities, 1 to 10, using one-to-one correspondence.
Grade 1
Number 1N05. Compare sets containing up to 20 elements to solve problems using: • referents • one-to-one correspondence (Activities 9, 10, 12) Cross Strand: Patterns and Relations (Patterns) 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions
Grade 2
Number 2N05. Compare and order numbers up to 100.

Master 26d

Curriculum Correlation

Number Cluster 3: Comparing and Ordering

NS

Kindergarten
Number KN05. Students will be expected to compare quantities, 1 to 10, using one-to-one correspondence.
Grade 1
Number 1N05. Students will be expected to compare sets containing up to 20 objects to solve problems using referents and one-to-one correspondence. (Activities 9, 10, 12) Cross Strand: Patterns and Relations 1PR1. Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions.
Grade 2
Number 2N05. Students will be expected to compare and order numbers up to 100.

Name_____ Date _____

Master 27

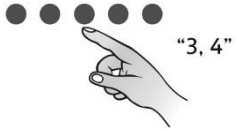
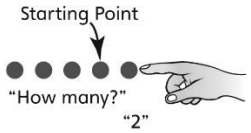
More/Fewer Cards

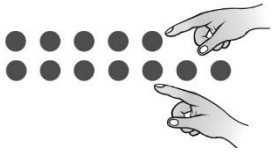
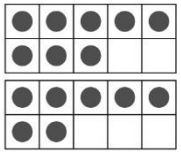
More	**Fewer**
More	**Fewer**
More	**Fewer**
More	**Fewer**

Number

Master 28: Activity 9 Assessment

Comparing Sets Concretely

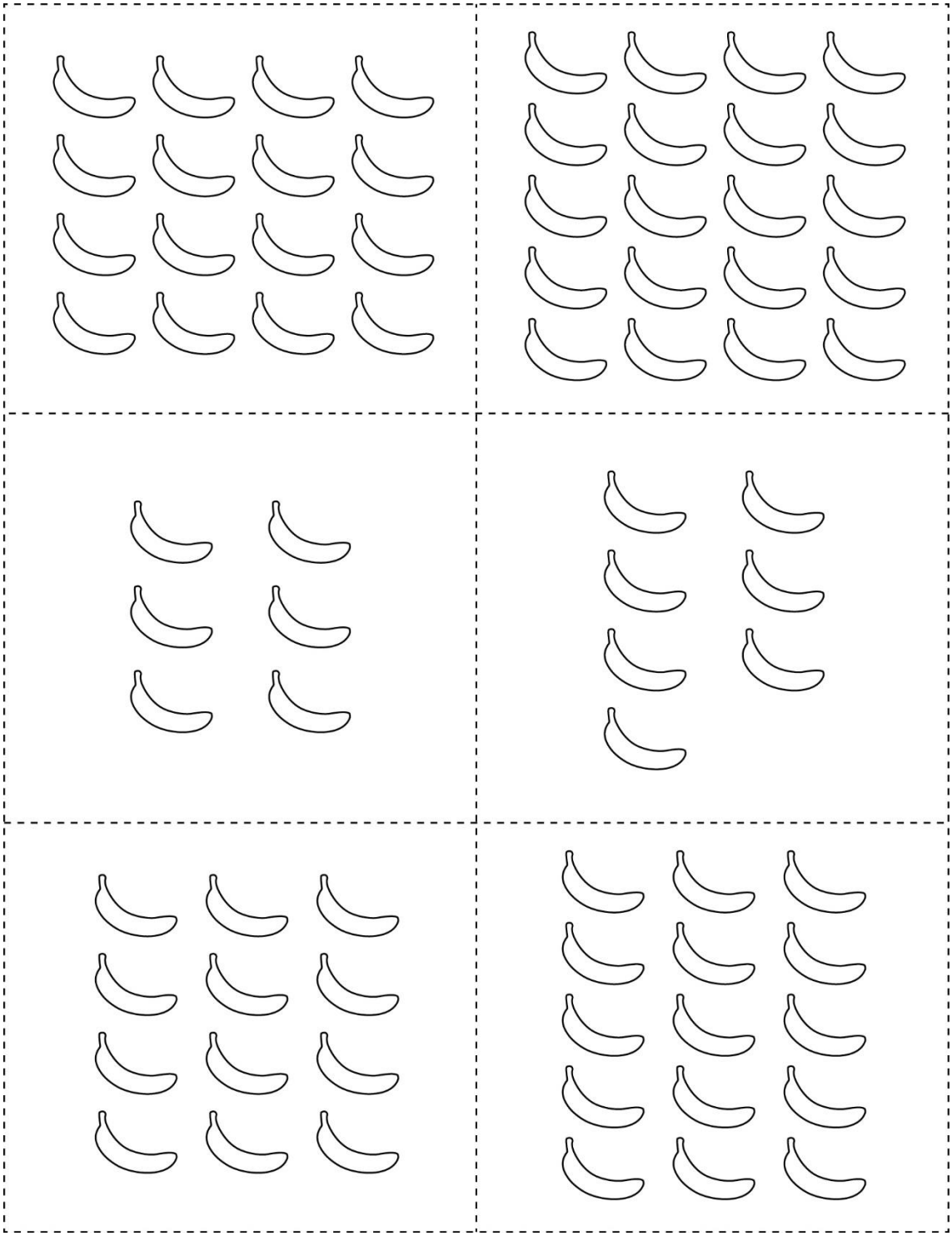
Counting Sets Behaviours/Strategies			
Student mixes up the number sequence when counting counters. "1, 2, 3, 5, 7, 8, 10"	Student says number word in between "touches," or does not say one number word for each counter counted.	Student loses track of the count, misses counters in the count, or counts counters more than once.  	Student thinks the number of objects in a set is different when the objects are rearranged or counted in a different order. 
Observations/Documentation			

Comparing Sets Behaviours/Strategies			
Student compares the sets using one-to-one matching. 	Student compares the sets using counting. "1, 2, 3, 4, 5" "1, 2, 3, 4, 5, 6, 7"	Student uses number relationships to compare sets.  	Students uses mental strategies to compare sets (e.g., visualizing ten-frames).
Observations/Documentation			

Name _____ Date _____

Master 29a

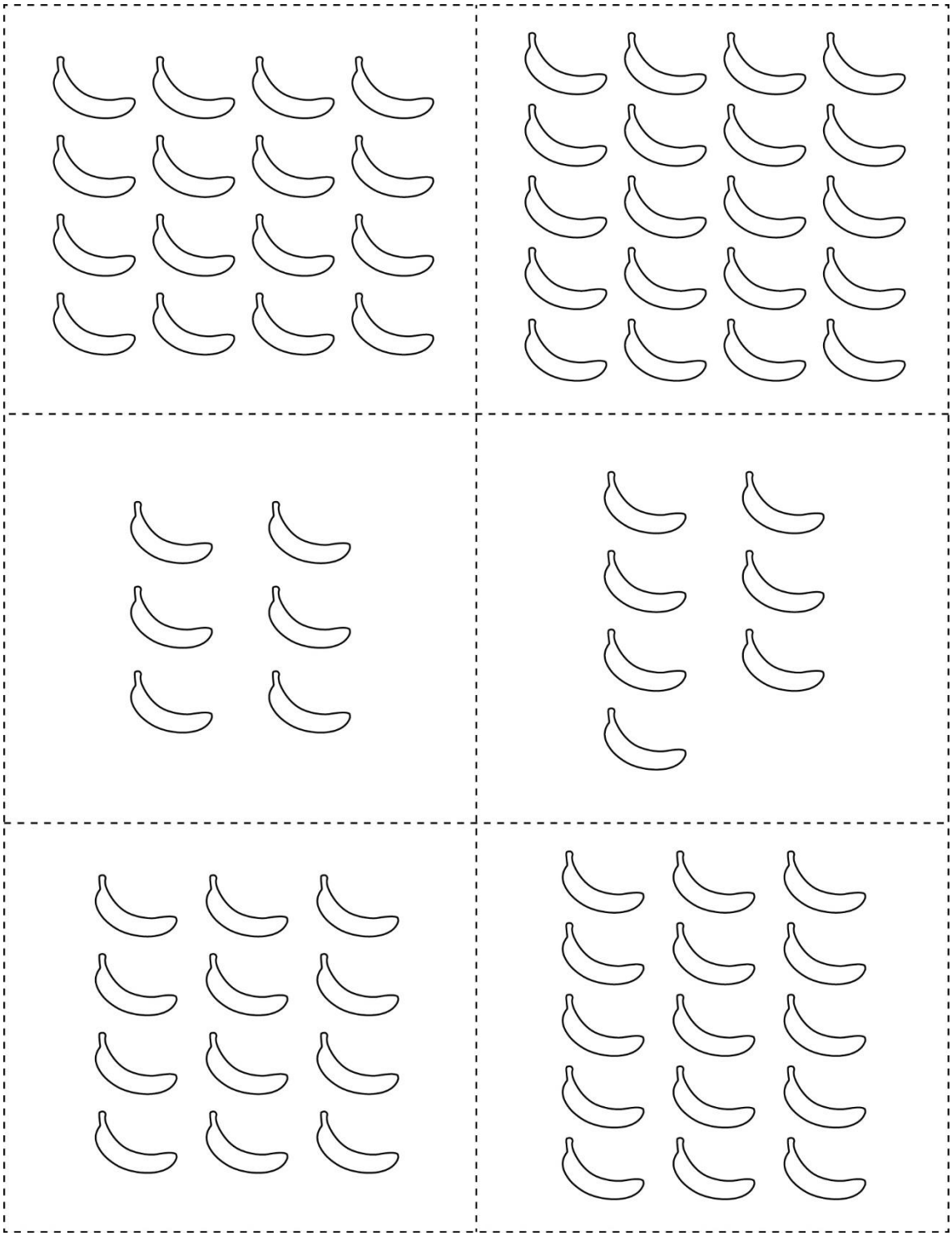
Banana Cards



Name _____ Date _____

Master 29b

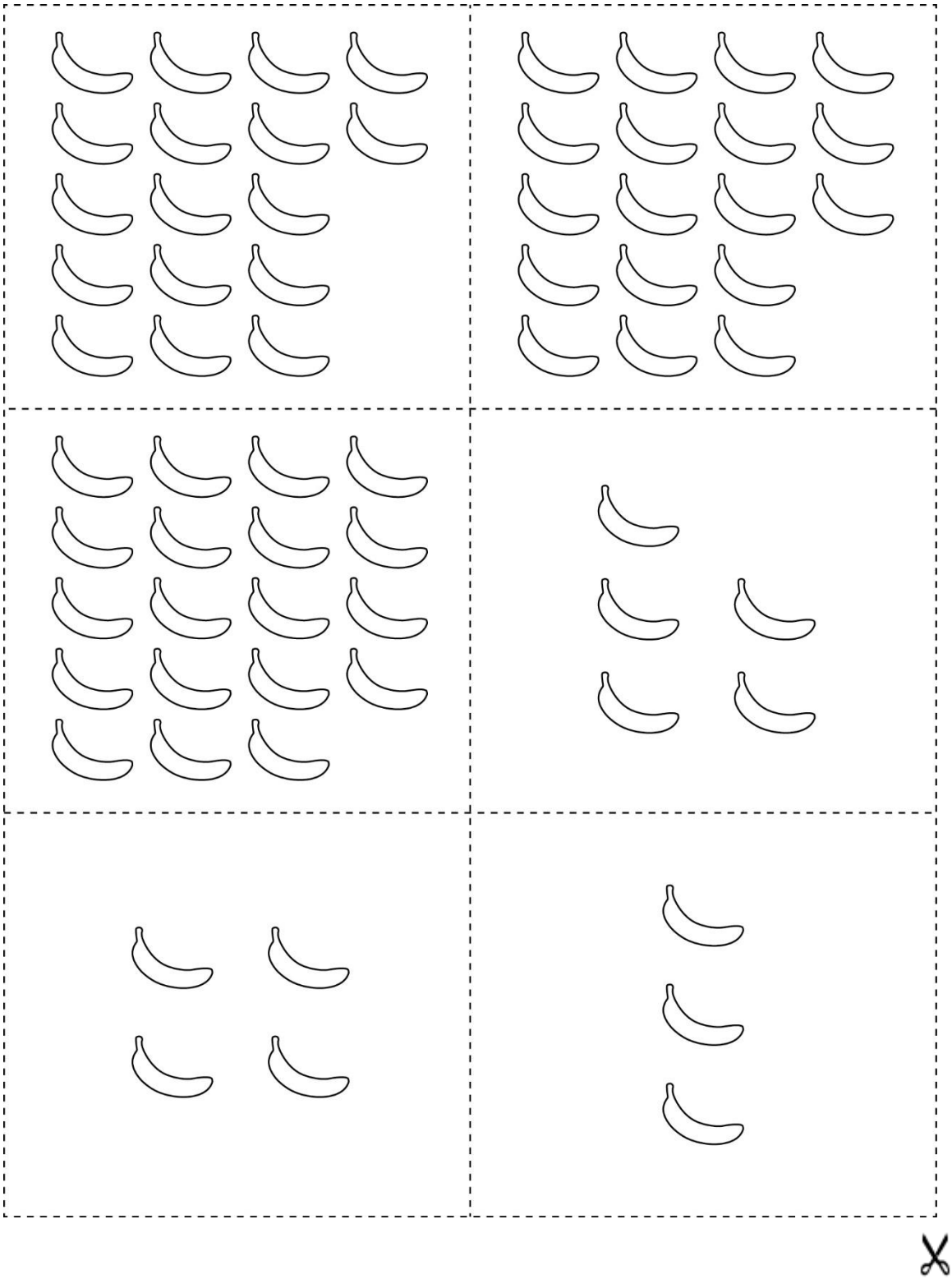
Banana Cards



Name _____ Date _____

Master 29c

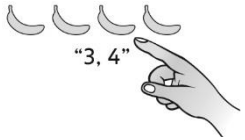
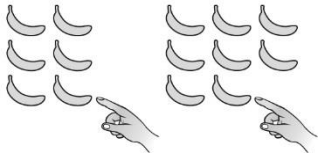
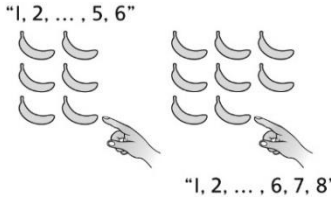
Banana Cards

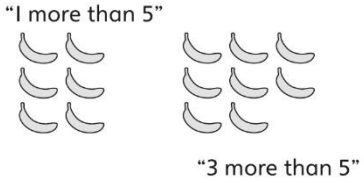
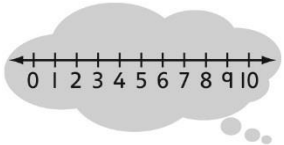


Number

Master 30: Activity 10 Assessment

Comparing Sets Pictorially

Counting and Comparing Sets Behaviours/Strategies			
Student does not say the number sequence correctly when counting bananas. "1, 2, 3, 5, 7, 8, 10"	Student loses track of the count, misses bananas in the count, or counts bananas more than once. 	Student compares the sets using one-to-one matching. 	Student compares the sets using counting. 
Observations/Documentation			

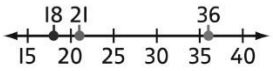
Student uses number relationships to compare sets. 	Student uses mental strategies to compare sets (e.g., 8 comes after 6 on a number line). 	Student determines which set has more but has difficulty determining how many more.	Student is able to determine which set has more and how many more.
Observations/Documentation			

Number

Master 31: Activity 11 Assessment

Comparing Numbers to 50

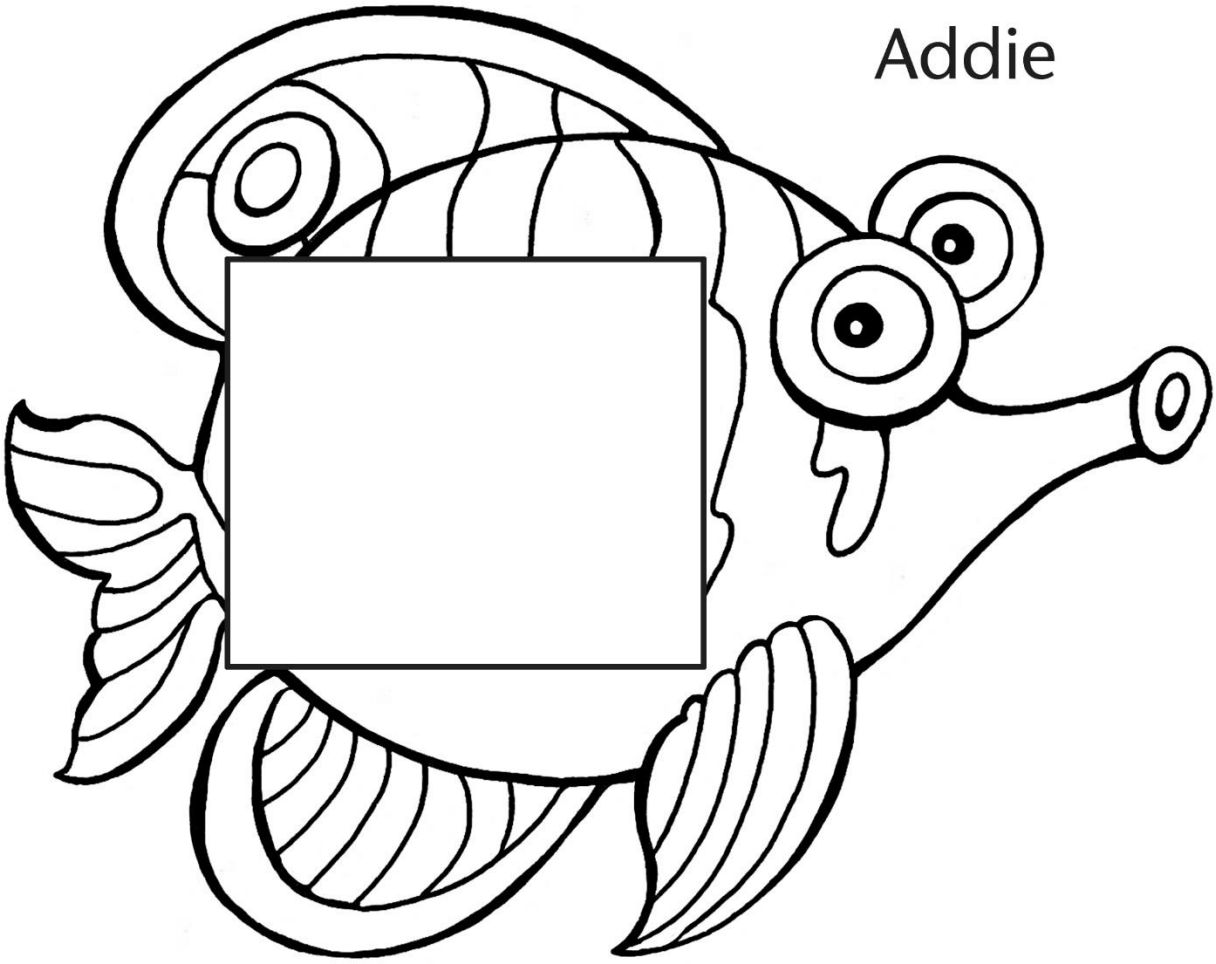
Representing, Comparing, and Ordering Numbers Behaviours/Strategies			
Student does not recognize the numbers on the craft sticks.	Student does not say one number word for each counter counted when modelling the numbers.	Student randomly places the sticks on the card. "27, 6, 19"	Student focuses on the last digit of the numbers. "22, 43, 19" "When I count, I say 2 before 3 and 3 before 9."
Observations/Documentation			

Student models the numbers with counters, then compares the sets using one-to-one matching.	Student models the numbers with counters, then counts to compare the sets.	Student places craft sticks down in reverse order. "26, 19, 6"	Students uses mental strategies to compare sets (36 comes after 21 and 21 comes after 18 on a number line). 
Observations/Documentation			

Name_____ Date _____

Master 32a

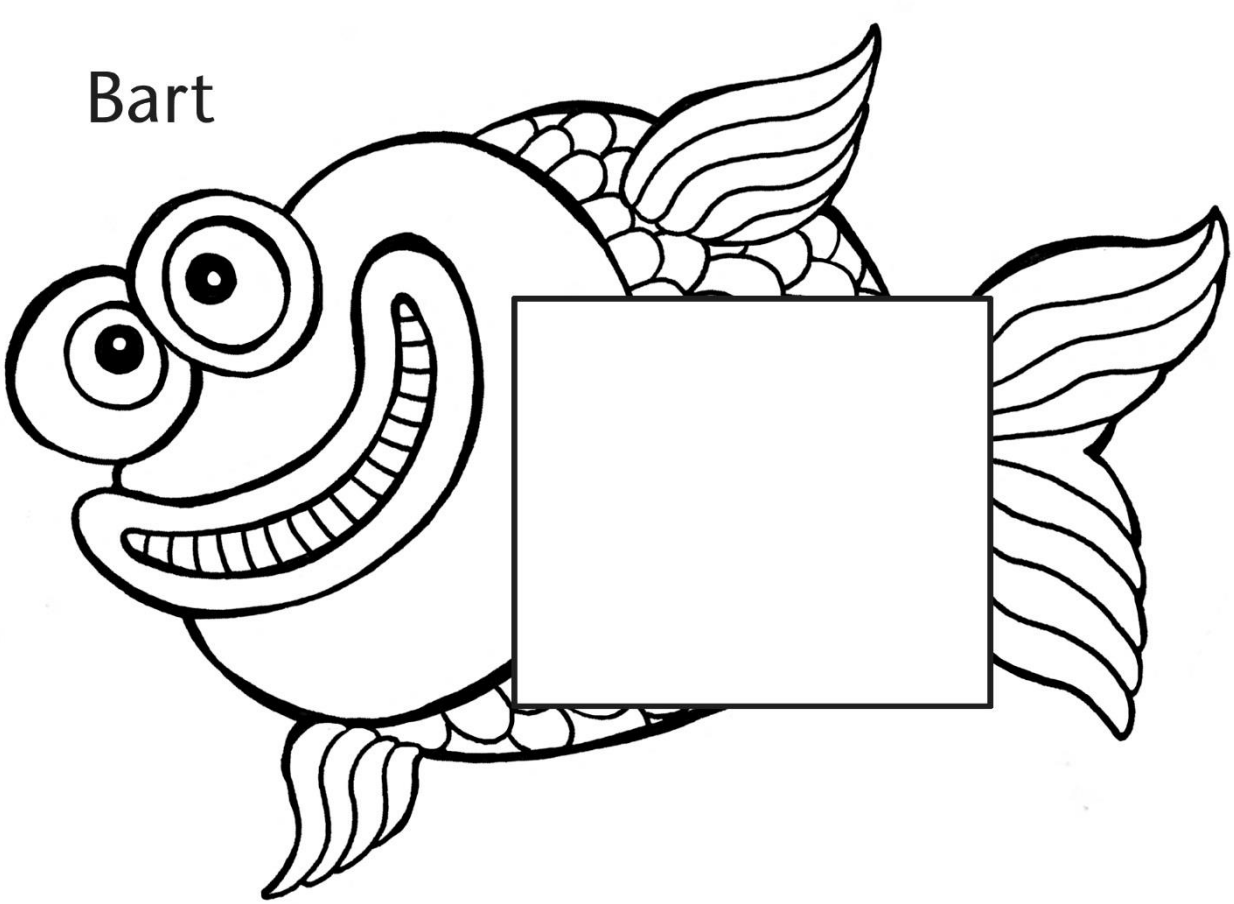
Fish Outlines



Name_____ Date _____

Master 32b

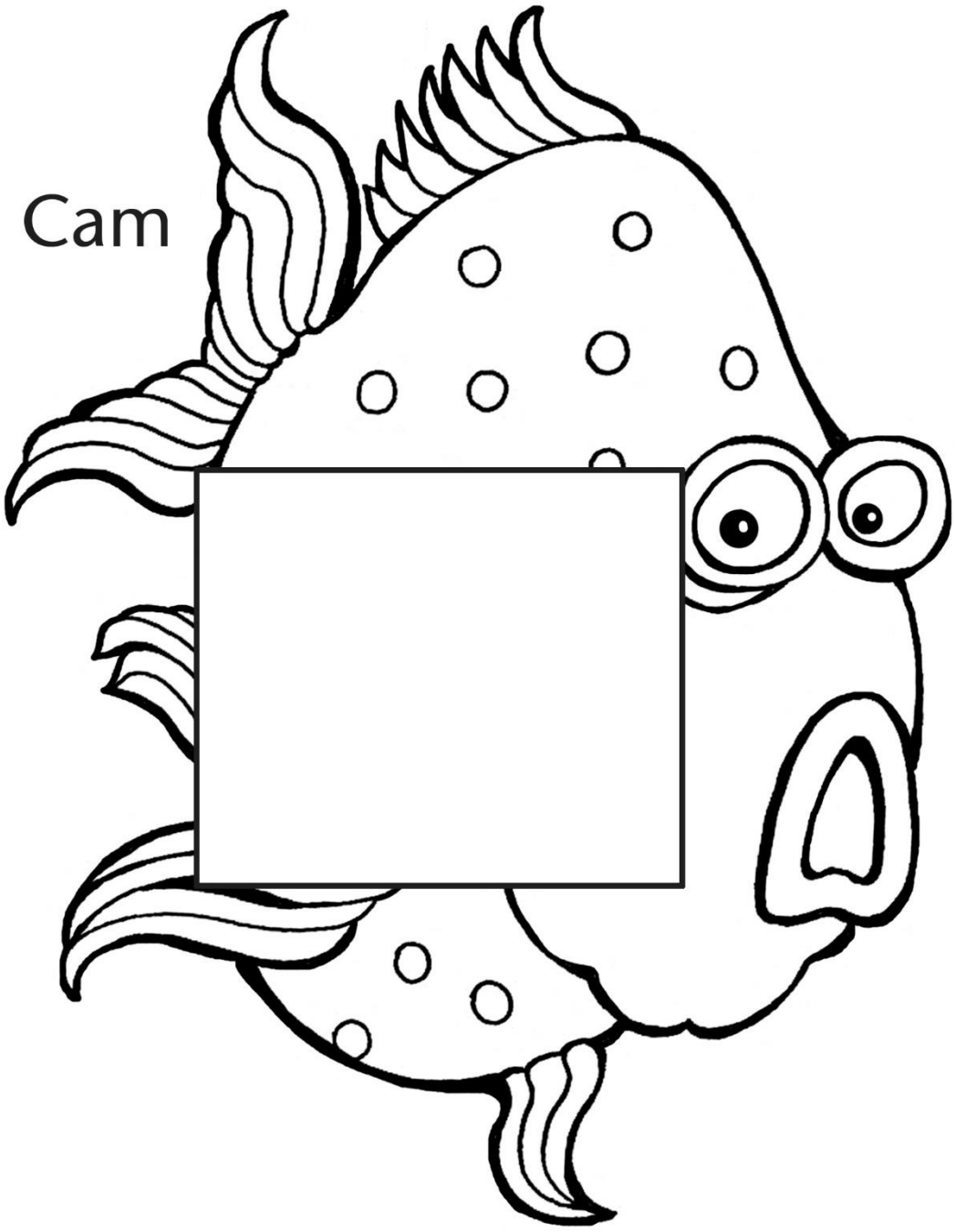
Fish Outlines



Name_____ Date _____

Master 32c

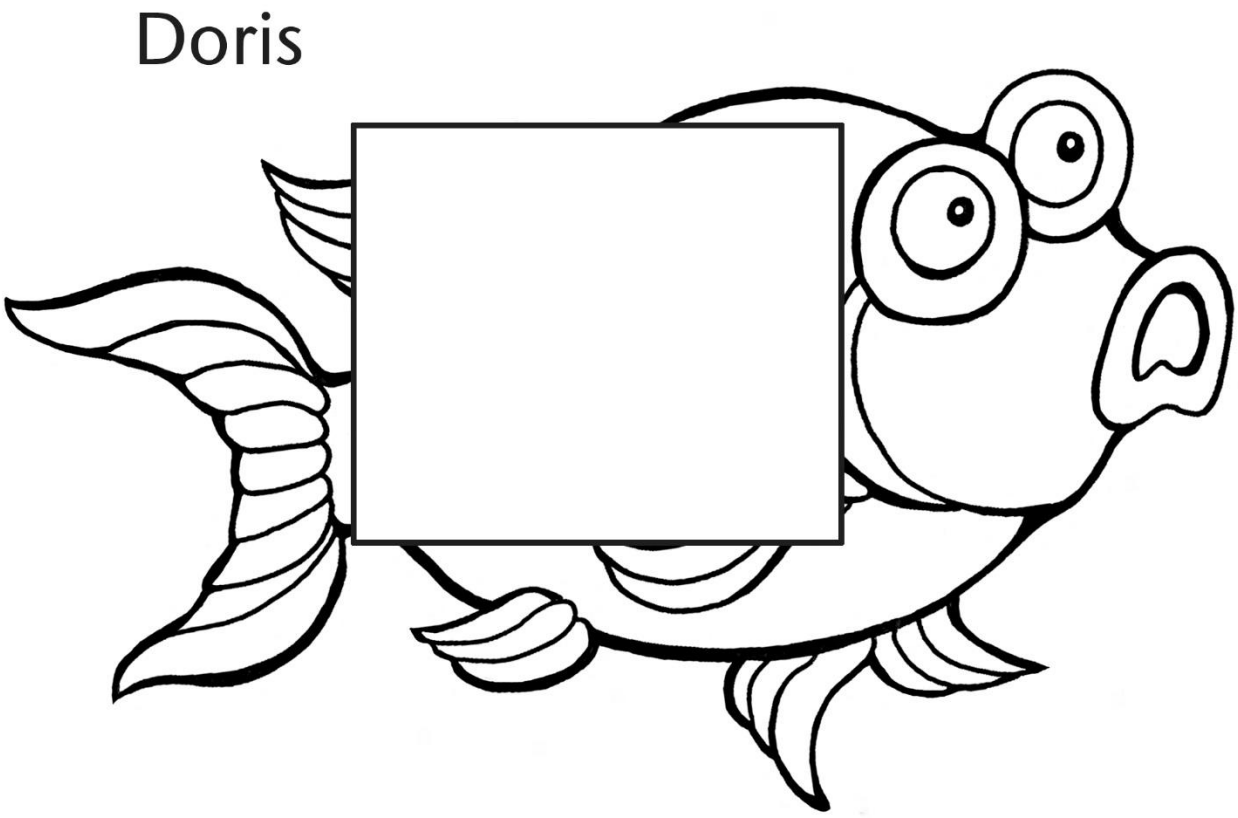
Fish Outlines



Name_____ Date _____

Master 32d

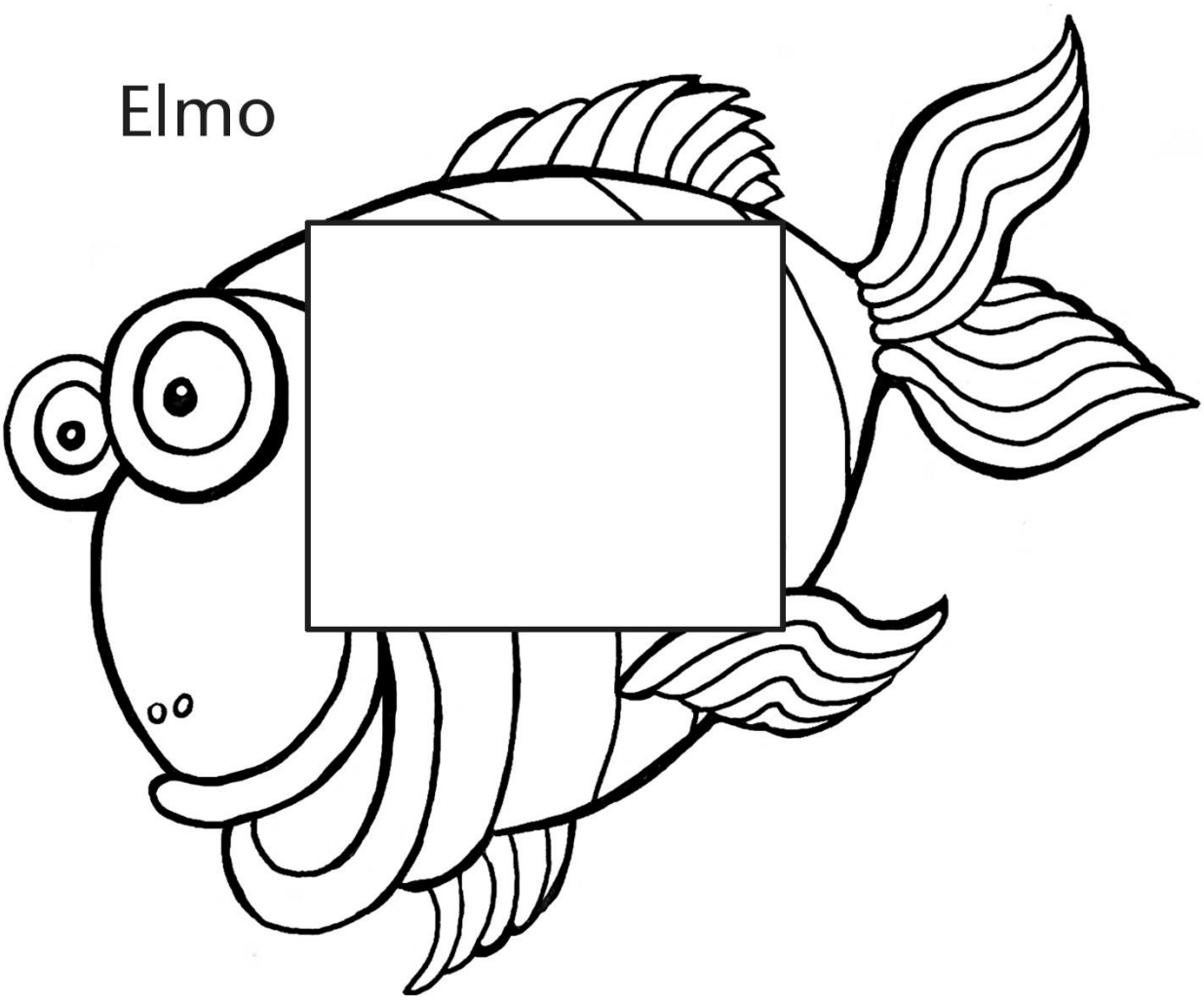
Fish Outlines



Name_____ Date _____

Master 32e

Fish Outlines



Number

Master 33: Activity 12 Assessment

Comparing and Ordering: Consolidation

Comparing and Ordering Numbers Behaviours/Strategies			
Student does not recognize the number on the craft stick.	Student does not say one number word for each dot drawn when modelling the number on the craft stick.	Student randomly draws dots on the fish.	Student focuses on the last digit of the number on the stick. "Bart has 27 dots. I drew 32 dots for Addie because 2 is less than 7."
Observations/Documentation			

Student models the number with counters, then adds or removes counters to determine the number in the other set.	Student draws dots, then uses a number line to find a lesser or greater number.	Student successfully compares and orders numbers but has difficulty explaining how she or he knows the numbers are ordered from least to greatest.	Student successfully compares and orders numbers from least to greatest.
Observations/Documentation			

Master 34a

Curriculum Correlation
Cluster 4: Skip–Counting

ON

Kindergarten
15.1 investigate (e.g., using a number line, a hundreds carpet, a board game with numbered squares) the idea that a number's position in the counting sequence determines its magnitude (e.g., the quantity is greater when counting forward and less when counting backward) 15.3 make use of one-to-one correspondence in counting objects and matching groups of objects 15.4 demonstrate an understanding of the counting concepts of stable order (i.e., the concept that the counting sequence is always the same – 1 is followed by 2, 2 by 3, and so on) and of order irrelevance (i.e., the concept that the number of objects in a set will be the same regardless of which object is used to begin the counting)
Grade 1
Number Counting – demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting (Activities 13, 14, 15, 16) – count forward by 1's, 2's, 5's, and 10's to 100, using a variety of tools and strategies (e.g., move with steps; skip count on a number line; place counters on a hundreds chart; connect cubes to show equal groups; count groups of pennies, nickels, or dimes) (Activities 13, 14, 16) – count backwards from 20 by 2's and 5's, using a variety of tools (e.g., number lines, hundreds charts) (Activities 15, 16) Cross Strand: Patterning and Algebra Patterns and Relationships – identify and extend, through investigation, numeric repeating patterns (e.g., 1, 2, 3, 1, 2, 3, 1, 2, 3, …) – describe numeric repeating patterns in a hundred chart
Grade 2
Number Counting – count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 (e.g., count by 5's from 15; count by 25's from 125) – count backwards by 1's from 50 and any number less than 50, and count backwards by 10's from 100 and any number less than 100, using number lines and hundreds charts (Sample problem: Count backwards from 87 on a hundreds carpet, and describe any patterns you see.)

Master 34b

Curriculum Correlation
Cluster 4: Skip–Counting

BC/YT

Kindergarten
Number concepts to 10 • Counting – one-to-one correspondence – conservation – cardinality – stable order counting – sequencing 1–10
Grade 1
Number concepts to 20 • Counting – counting on and counting back (Activities 14, 16) – skip-counting by 2 and 5 (Activities 13, 14, 15, 16) Cross Strand: Repeating patterns with multiple elements and attributes – patterns using visuals (ten-frames, hundred charts) – investigating numerical patterns (e.g., skip-counting by 2s or 5s on a hundred chart)
Grade 2
Number concepts to 100 • Counting – skip-counting by 2, 5, and 10 – using different starting points – increasing and decreasing (forward and backward)

Master 34c

Curriculum Correlation
Cluster 4: Skip–Counting

NB/PEI/SK/MB

Kindergarten
Number KN01. Say the number sequence by 1s starting anywhere from 1 to 10 and from 10 to 1.
Grade 1
Number 1N01. Say the number sequence, 0 to 100, by: • 1s forward and backward between any two given numbers • 2s to 20, forward starting at 0 • 5s and 10s to 100, forward starting at 0. (Activities 13, 14, 16) 1N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. (Activities 13, 14, 16) 1N07. Demonstrate, concretely and pictorially, how a given number can be represented by a variety of equal groups with and without singles. (Activities 13, 14, 16) Cross Strand: Patterns and Relations 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions
Grade 2
Number 2N01. Say the number sequence from 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s using starting points from 1 to 9 • 2s starting from 1.

Master 34d

Curriculum Correlation
Cluster 4: Skip–Counting

NS

Kindergarten
Number KN01. Students will be expected to say the number sequence by • 1s, from 1 to 20 • 1s, starting anywhere from 1 to 10 and from 10 to 1
Grade 1
Number 1N01. Students will be expected to say the number sequence by • 1s, forward and backward between any two given numbers, 0 to 100 • 2s to 20, forward starting at 0 • 5s to 100, forward starting at 0, using a hundred chart or a number line • 10s to 100, forward starting at 0, using a hundred chart or a number line (Activities 13, 14, 16) 1N03. Students will be expected to demonstrate an understanding of counting to 20 by • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting-on strategy. (Activities 13, 14, 16) 1N07. Students will be expected to demonstrate an understanding of conservation of number for up to 20 objects. (Activities 13, 14, 16) Cross Strand: Patterns and Relations 1PR1. Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions.
Grade 2
Number 2N01. Students will be expected to say the number sequence by • 1s, forward and backward, starting from any point to 200 • 2s, forward and backward, starting from any point to 100 • 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100 • 10s, starting from any point, to 100.

Master 34e

Curriculum Correlation
Cluster 4: Skip–Counting

NFL/AB/NWT/NU

Kindergarten
Number KN01. Say the number sequence by 1s starting anywhere from 1 to 10 and from 10 to 1.
Grade 1
Number 1N01. Say the number sequence 0 to 100 by: • 1s forward between any two given numbers • 1s backward from 20 to 0 • 2s forward from 0 to 20 • 5s and 10s forward from 0 to 100. (Activities 13, 14, 16) 1N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. (Activities 13, 14, 16) Cross Strand: Patterns and Relations 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions
Grade 2
Number 2N01. Say the number sequence from 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s, using starting points from 1 to 9 • 2s, starting from 1.

Number

Master 35: Activity 13 Assessment

Skip-Counting Forward

Skip-Counting Forward Behaviours/Strategies		
Student does not associate the skip-counting number with a quantity.	Student counts forward by 2s to 10, then struggles to know which number comes next. "2, 4, 6, 8, 10, ?"	Student mixes up the numbers in the skip-counting sequence. "10, 20, 30, 50, 40"
Observations/Documentation		

Student skip-counts but doesn't realize that the last number said represents the number of cubes/ acorns along the path.	Student skip-counts but doesn't realize that the number of cubes/acorns will be the same whether they are counted by 1s, 2s, 5s, or 10s.	Student skip-counts fluently by 2s, 5s, and 10s and associates the skip-counting number with a quantity.
Observations/Documentation		

Name_____ Date _____

Master 36

The School Fun Fair

Tommy came running home from school and ran through the front door.
“We are having a Fun Fair at school tomorrow!” shouted Tommy. “I am so excited. I can’t wait!”
“I am so happy for you, Tommy,” said Mom. “Do you know what you are going to do there?”
“Not really. I haven’t been to one before, but Mrs. Spencer says it will be lots of fun.”
“We used to have Fun Fairs at school when I was your age,” said Mom. “We played lots of games and there were yummy things to eat. There were candy apples and cotton candy. I can smell them now!”
“Mrs. Spencer sent home this paper for you to read. It tells you all about it,” said Tommy.
“Let’s see. There will be lots of games, including the Sack Race, the Egg and Spoon Race, and a big Tug of War. Do you want to try a game with me?” asked Mom.
“Yeah! That would be great. Can we do it now?” said Tommy.
“We sure can, but some of the games need a lot of people. How about the Egg and Spoon Race? It only needs two,” said Mom.
“I can’t wait!” said Tommy.
“Okay! You get two eggs and two spoons and I’ll get the popcorn!” said Mom. “It wouldn’t be the same without something yummy to eat.”

Name _____ Date _____

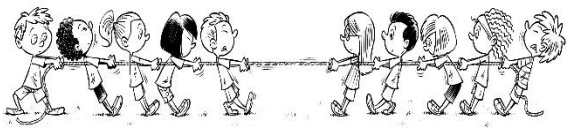
Master 37

Activity Cards

Egg and Spoon Race

Sack Race

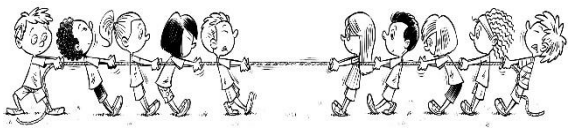
Tug of War



Egg and Spoon Race

Sack Race

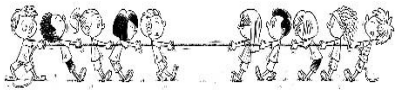
Tug of War



Name_____ Date _____

Master 38

The Fun Fair Recording Sheet

Activity	Number of Groups	Number of Leftovers	Total
Egg and Spoon Race 			
Sack Race 			
Tug of War 			
Red Light/Green Light 			

Number

Master 39: Activity 14 Assessment

Skip-Counting with Leftovers

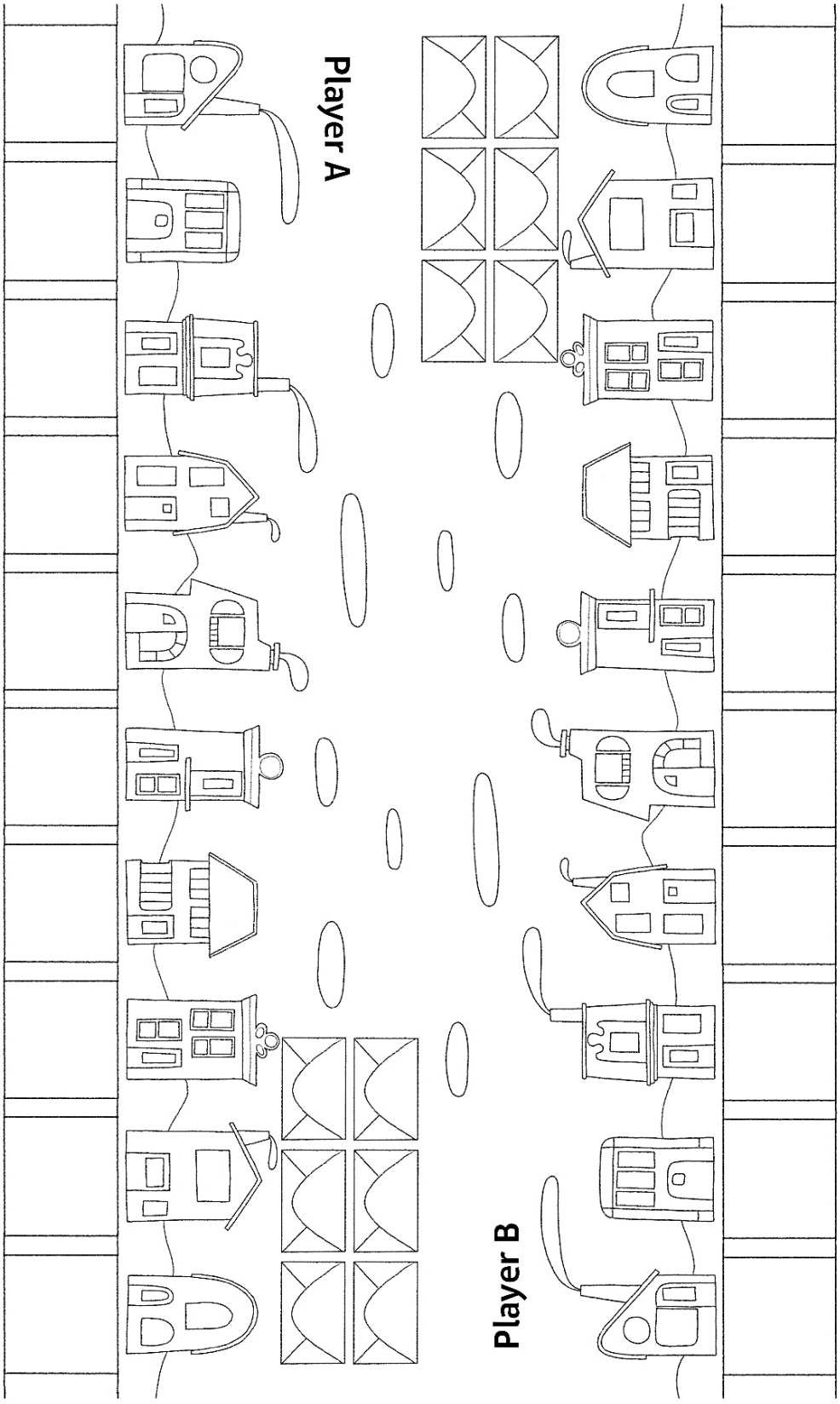
Skip-Counting with Leftovers Behaviours/Strategies		
Student does not arrange the counters into groups of the correct size.	Student mixes up or does not know the number to skip-count by.	Student mixes up the numbers in the skip-counting sequence. "5, 10, 20, 30, 40"
Observations/Documentation		

Student skip-counts but does not include the leftovers in the total.  "5, 10, 15, 20"	Student continues to skip-count by the same number to count the leftover counters.  "5, 10, 15, 20, 25, 30"	Student sees groups of counters as one unit, fluently skip-counts by the unit, then counts on by 1s to find the total.  "5, 10, 15, 20, 21, 22"
Observations/Documentation		

Name _____ Date _____

Master 40

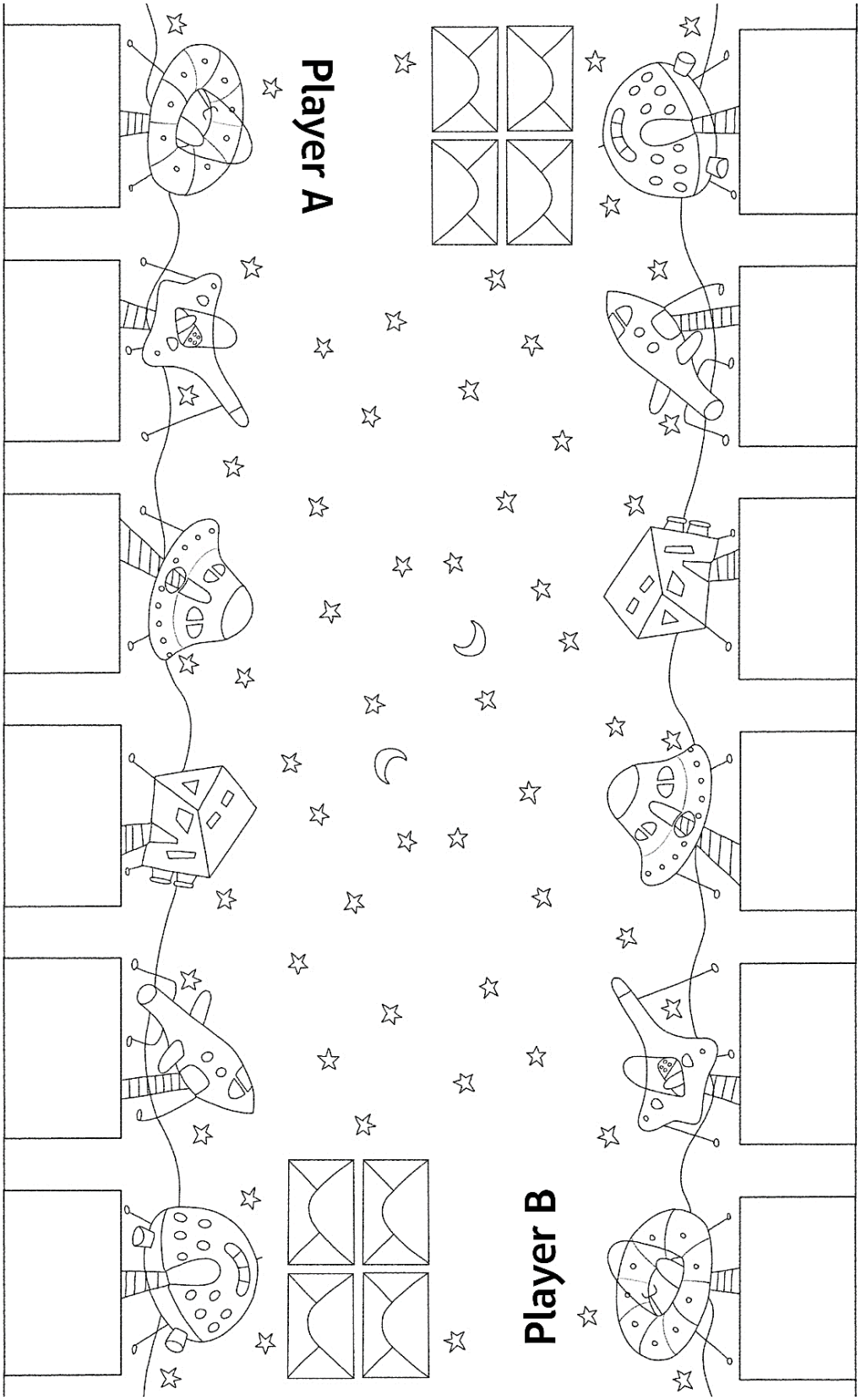
Delivering Mail Game Board



Name _____ Date _____

Master 41

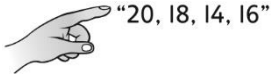
Mail on Planet Math Game Board



Number

Master 42: Activity 15 Assessment

Skip-Counting Backward

Skip-Counting Backward Behaviours/Strategies			
Student mixes up the numbers in the skip-counting backward sequence.  	Student counts backward by 2s to 10, then struggles to know which number comes next. "20, 18, 16, 14, 12, 10, ?"	Student counts backward by 2s and 5s, but doesn't know when to stop. "50, 48, 46, 44, 42, 40, 38 Can I stop yet?"	Student counts backward by 2s, 5s, and 10s, from 50 with confidence and understanding.
Observations/Documentation			

Name_____ Date _____

Master 43

Under Construction Recording Sheet

	Number of Towers	Number of Cubes in Dump Truck	Total
10-Cube Towers			
5-Cube Towers			

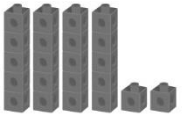
	Number of Barns	Number of Cubes in Hay Wagon	Total
2-Cube Barns			

Number

Master 44: Activity 16 Assessment

Skip-Counting : Consolidation

Skip-Counting Behaviours/Strategies		
Student mixes up or does not know the number to skip-count by.	Student mixes up the numbers in the skip-counting sequence. "2, 4, 8, 6, 10, …"	Student skip-counts but does not include the leftovers in the total.  "5, 10, 15, 20"
Observations/Documentation		

Student continues to skip-count by the same number to count the cubes in the dump truck.  "5, 10, 15, 20, 25, 30"	Student skip-counts but doesn't realize that the total number of cubes when 10-cube towers are made will be the same when 5-cube towers are made.	Student sees groups of cubes as one unit, fluently skip-counts by the unit, then counts on by 1s to find the total.  "5, 10, 15, 20, 21, 22"
Observations/Documentation		

Master 45a

Curriculum Correlation

Number Cluster 5: Composing and Decomposing

ON

Kindergarten
– 15.8: explore different Canadian coins, using coin manipulatives (e.g., role-play the purchasing of items at the store in the dramatic play area; determine which coin will purchase more – a loonie or a quarter) – 15.9: compose and decompose quantities to 10 (e.g., make multiple representations of numbers using two or more colours of linking cubes, blocks, dot strips, and other manipulatives; play "shake and spill" games)
Grade 1
Number Quantity Relationships – relate numbers to the anchors of 5 and 10 (e.g., 7 is 2 more than 5 and 3 less than 10) (Activities 17, 18, 19, 23) – identify and describe various coins (i.e., penny, nickel, dime, quarter, $1 coin, $2 coin), using coin manipulatives or drawings, and state their value (e.g., the value of a penny is one cent; the value of a toonie is two dollars) (Activities 20, 23) – represent money amounts to 20¢, through investigation using coin manipulatives (Activities 20, 23) – compose and decompose numbers up to 20 in a variety of ways, using concrete materials (e.g., 7 can be decomposed using connecting cubes into 6 and 1, or 5 and 2, or 4 and 3) (Activities 17, 18, 19, 23) – divide whole objects into parts and identify and describe, through investigation, equal-sized parts of the whole, using fractional names (e.g., halves; fourths or quarters) (Activities 22, 23) Operational Sense – add and subtract money amounts to 10¢, using coin manipulatives and drawings (Activities 20, 23) Cross Strand: Patterning and Algebra Expressions and Equality – demonstrate examples of equality, through investigation, using a "balance" model (Sample problem: Demonstrate, using a pan balance, that a train of 7 attached cubes on one side balances a train of 3 cubes and a train of 4 cubes on the other side.)

Master 45b

Curriculum Correlation

Number Cluster 5: Composing and Decomposing

ON (con'd)

Grade 2
Number Quantity and Relationships – compose and decompose two-digit numbers in a variety of ways, using concrete materials (e.g., place 42 counters on ten frames to show 4 tens and 2 ones; compose 37¢ using one quarter, one dime, and two pennies) (Sample problem: Use base ten blocks to show 60 in different ways.) – determine, through investigation using concrete materials, the relationship between the number of fractional parts of a whole and the size of the fractional parts (e.g., a paper plate divided into fourths has larger parts than a paper plate divided into eighths) (Sample problem: Use paper squares to show which is bigger, one half of a square or one fourth of a square.) – regroup fractional parts into wholes, using concrete materials (e.g., combine nine fourths to form two wholes and one fourth) – compare fractions using concrete materials, without using standard fractional notation (e.g., use fraction pieces to show that three fourths are bigger than one half, but smaller than one whole) – estimate, count, and represent (using the ¢ symbol) the value of a collection of coins with a maximum value of one dollar. Operational Sense – add and subtract money amounts to 100¢, using a variety of tools (e.g., concrete materials, drawings) and strategies (e.g., counting on, estimating, representing using symbols).

Master 45c

Curriculum Correlation

Number Cluster 5: Composing and Decomposing

BC/YT

Kindergarten
Ways to make 5 • Using concrete materials to show ways to make 5 Decomposition of numbers to 10 • Decomposing and recomposing quantities to 10 • Numbers can be arranged and recognized • Making 10 • Using concrete materials to show ways to make 10
Grade 1
Ways to make 10 • Decomposing 10 into parts (Activities 17, 18, 21, 23) • Numbers to 10 can be arranged and recognized (Activities 17, 18, 21, 23) Addition and subtraction to 20 (understanding of operation and process) • Decomposing 20 into parts (Activities 19, 21, 23) Financial literacy – values of coins and monetary exchanges • Counting multiples of the same denomination (nickels, dimes, loonies, and toonies) (Activities 20, 23) Cross Strands: Change in quantity to 20, concretely and verbally • verbally describing a change in quantity (e.g., I can build 7 and make it 10 by adding 3) Meaning of equality and inequality • demonstrating and explaining the meaning of equality and inequality
Grade 2
Number concepts to 100 • Counting – Quantities to 100 can be arranged and recognized – Decomposing two-digit numbers into 10s and 1s Addition and subtraction to 100 • Decomposing numbers to 100 Financial literacy – coin combinations to 100 cents, and spending and saving • Counting simple mixed combinations of coins to 100 cents

Master 45d

Curriculum Correlation

Number Cluster 5: Composing and Decomposing

NB/PEI/SK/MB/NWT/AB/NU

Kindergarten
Number KN04. Represent and describe numbers 2 to 10, concretely and pictorially.
Grade 1
Number 1N04. Represent and describe numbers to 20 concretely, pictorially and symbolically. (Activities 17, 18, 19, 23) 1N07. Demonstrate, concretely and pictorially, how a given number can be represented by a variety of equal groups with and without singles. (Activities 21, 23) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).
Grade 2
Number 2N04. Represent and describe numbers to 100 concretely, pictorially and symbolically. 2N07. Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.

Master 45e

Curriculum Correlation

Number Cluster 5: Composing and Decomposing

NS

Kindergarten
Number KN04. Students will be expected to represent and describe numbers 2 to 10 in two parts, concretely and pictorially.
Grade 1
Number 1N04. Students will be expected to represent and partition numbers to 20. (Activities 17, 18, 19, 23) 1N07. Students will be expected to demonstrate an understanding of conservation of number for up to 20 objects. (Activities 21, 23) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Students will be expected to describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).
Grade 2
Number 2N04. Students will be expected to represent and partition numbers to 100. 2N07. Students will be expected to illustrate, concretely and pictorially, the meaning of place value for numerals to 100.

Master 45f

Curriculum Correlation

Number Cluster 5: Composing and Decomposing

NFL

Kindergarten
Number KN04. Represent and describe numbers 2 to 10, concretely and pictorially.
Grade 1
Number 1N04. Represent and describe numbers to 20 concretely, pictorially and symbolically. (Activities 17, 18, 19, 21, 23) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).
Grade 2
Number 2N04. Represent and describe numbers to 100 concretely, pictorially and symbolically. 2N07. Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.

Name _____ Date _____

Master 46a

Ten in the Pools Recording Sheet

Pool A	Pool B

Name _____ Date _____

Master 46b

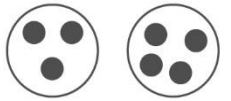
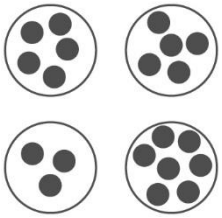
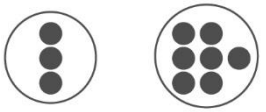
Ten in the Pools Recording Sheet

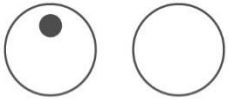
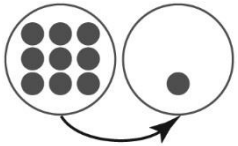
Pool A	Pool B	Pool C

Number

Master 47: Activity 17 Assessment

Decomposing 10

Representing and Counting Behaviours/Strategies			
Student does not place all 10 counters in the pools.  "1, 2, 3" "1, 2, 3, 4"	Student selects numbers randomly, 5 and 5, then 3 and 7. 	Student counts three times to confirm how many.  "1, 2, 3, 4, 5" "1, 2, 3, 4, 5" "1, 2, 3, 4, ..., 8, 9, 10"	Student counts on to confirm how many.  "3" "4, 5, ..., 8, 9, 10"
Observations/Documentation			

Student removes all counters and starts again to find a new way.  "1, ..."	Student finds many possible ways, but does not consider 0 or 10 children in a pool.	Student uses patterns to find all possible ways and models them with counters. 	Student uses known number relationships to find all possible ways. 0 + 10 = 10 1 + 9 = 10 2 + 8 = 10 3 + 7 = 10 4 + 6 = 10 5 + 5 = 10 6 + 4 = 10 7 + 3 = 10 8 + 2 = 10 9 + 1 = 10 10 + 0 = 10
Observations/Documentation			

Name_____ Date _____

Master 48

Tower Recording Sheet

Note: Use one recording sheet per number.

Number Card	Number of _____ Cubes	Number of _____ Cubes

Number

Master 49: Activity 18 Assessment

Numbers to 10

Representing and Counting Behaviours/Strategies		
Student selects cubes randomly.  "4 and 4, then 1 and 7"	Student counts three times to confirm how many.  "1, 2, 3, 4" "1, 2, 3, 4" "1, 2, 3, 4, 5, 6, 7, 8"	Student counts on to confirm how many.  "3, 4, 5, 6, 7, 8" "2"
Observations/Documentation		

Student takes the tower apart and starts again to find a new way.	Student uses patterns to find all possible ways to model the number with cubes.	Student uses known number relationships to show all possible ways. 0 + 8 = 8 1 + 7 = 8 2 + 6 = 8 3 + 5 = 8 4 + 4 = 8 5 + 3 = 8 6 + 2 = 8 7 + 1 = 8 8 + 0 = 8
Observations/Documentation		

Name_____ Date _____

Master 50

Ten-Frame Recording Sheet

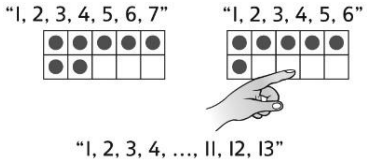
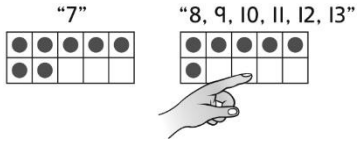
Number	Counters in First Ten-Frame	Counters in Second Ten-Frame

Number

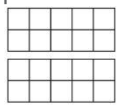
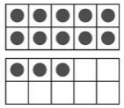
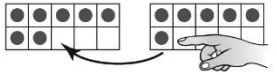
Master 51: Activity 19 Assessment

Numbers to 20

Counting Behaviours/Strategies

Student repeatedly counts to confirm (does not trust that the number of counters remains the same when partitioned in different ways).	Student counts three times to check the number of counters. 	Student counts on from the number of counters in the first ten-frame. 
Observations/Documentation		

Composing and Decomposing Numbers Behaviours/Strategies

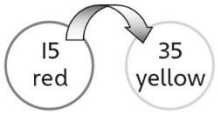
Student removes all counters and starts fresh each time to represent numbers in different ways.  "Hmm, what is another way to make 12?"	Student moves counters from one ten-frame to the other to represent numbers in different ways.  "Next time, I'll put 9 in the top one."	Student uses patterns and systematically moves counters from one ten-frame to the other to represent numbers in different ways.  "I can make this one smaller and the other one gets bigger."
Observations/Documentation		

Number

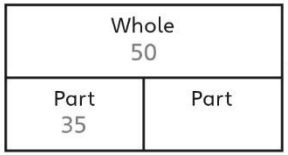
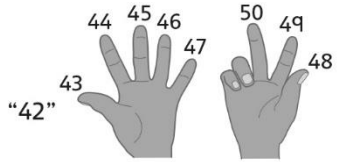
Master 52: Activity 20 Assessment

Decomposing 50

Decomposing 50 Behaviours/Strategies

1.	2.	3.	4.
Student decomposes 50 into two parts, but does not know that rearranging the counters does not change the quantity (i.e., conservation of number).	Student decomposes 50 into two parts, but arranges counters randomly or starts again to find different ways. "I'll put the counters back in the bin and start again."	Student uses patterns to find different ways to decompose 50 into two parts (flips counters and moves them to the other part). 	Student uses patterns to systematically find different ways to decompose 50 into two parts (flips one counter at a time and moves it to the other part).
Observations/Documentation			

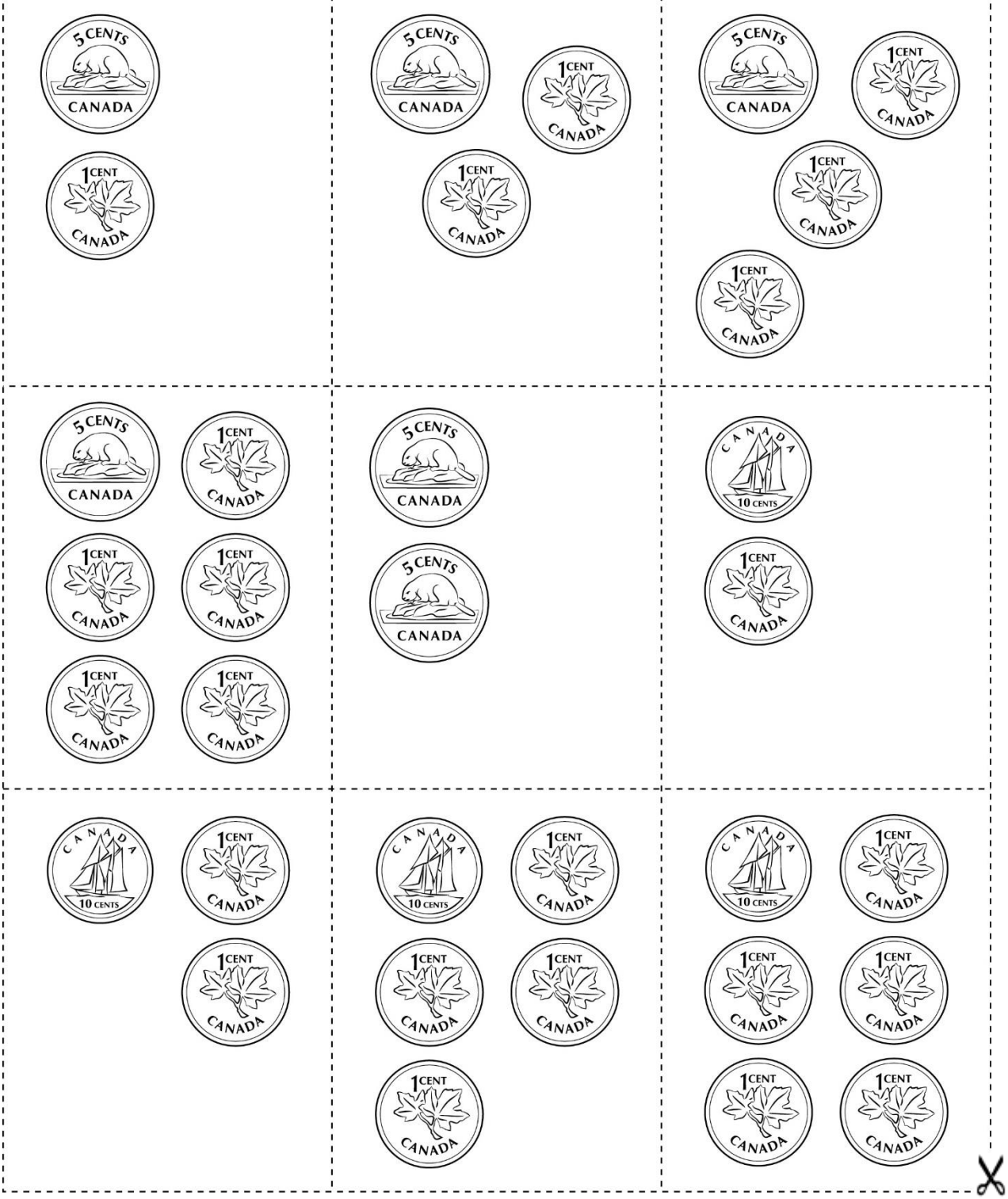
Finding the Unknown Part Behaviours/Strategies

1.	2.	3.	4.
Student writes numbers on the mat, but mixes up the whole and the part, or adds the whole and the known part to find the unknown part.  "The other part is 60."	To find a part given the whole and another part, student guesses and then uses counters to check.  "Guess 25" "35 counters and 25 counters is 60 counters: too many."	To find a part given the whole and another part, student counts on from the part or back from the whole with counters or fingers.  "The other part is 8."	Student uses efficient counting strategies, number relationships, or mental strategies to find a part given the whole and another part.
Observations/Documentation			

Name _____ Date _____

Master 53a

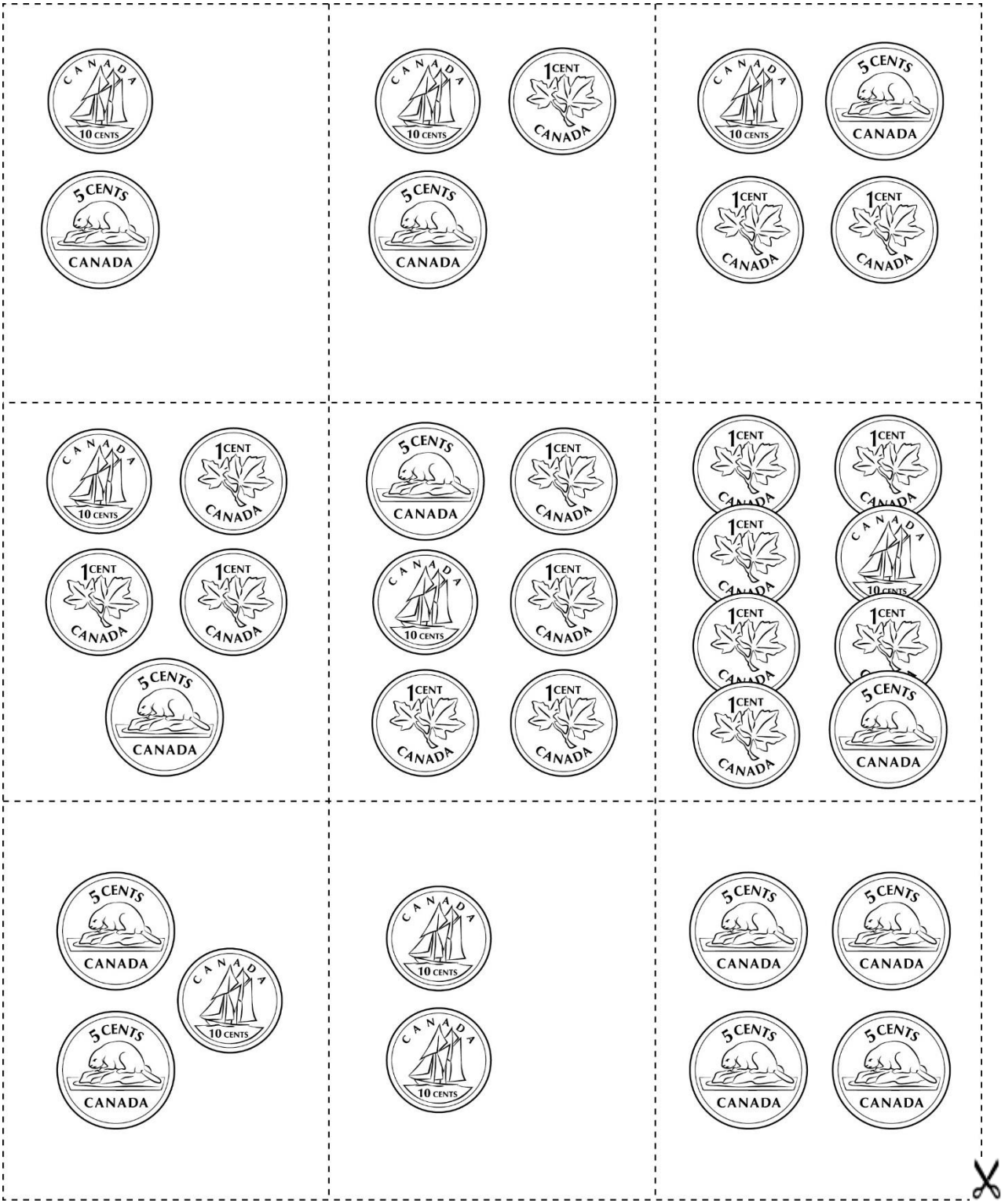
Coin Cards



Name _____ Date _____

Master 53b

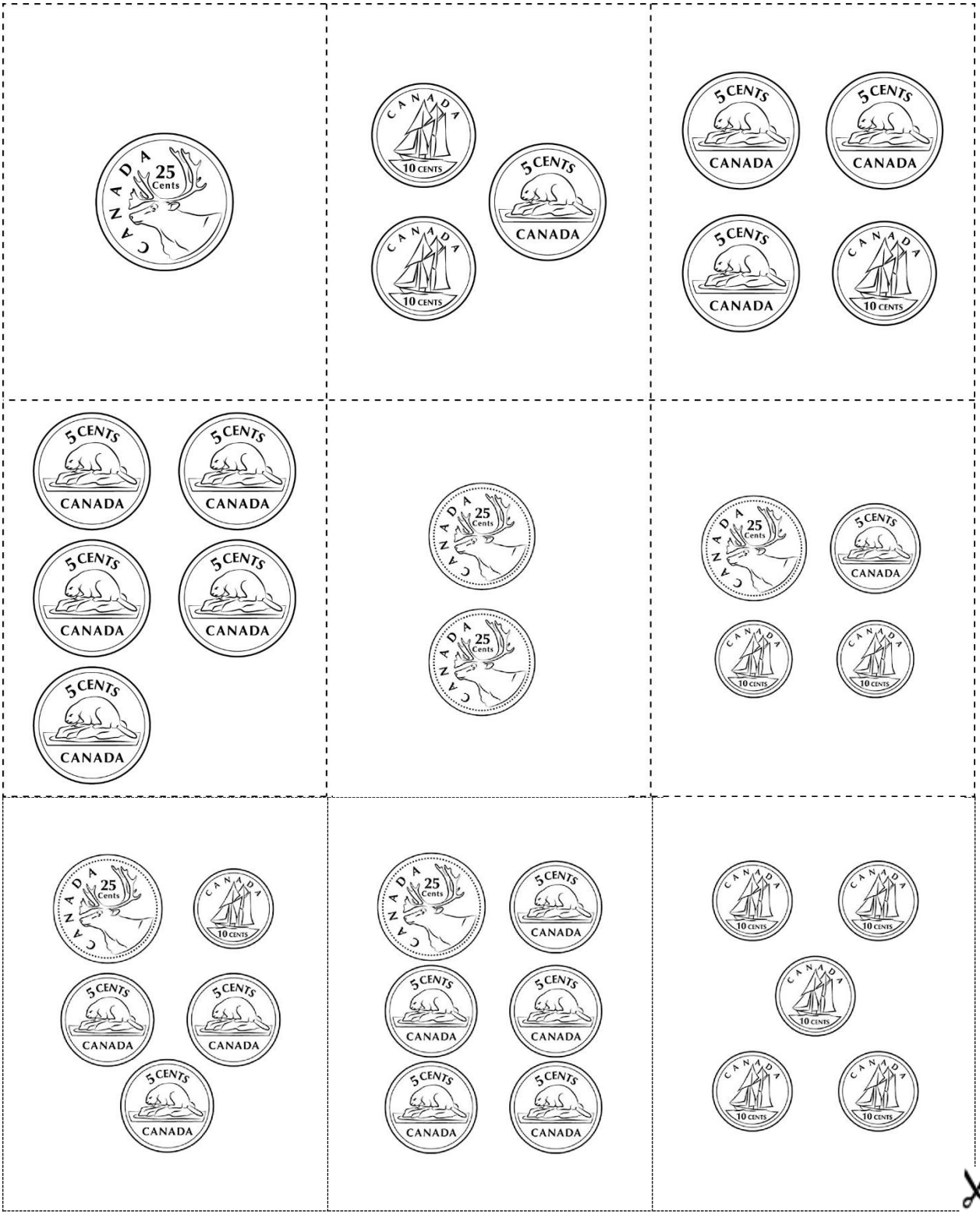
Coin Cards



Name _____ Date _____

Master 53c

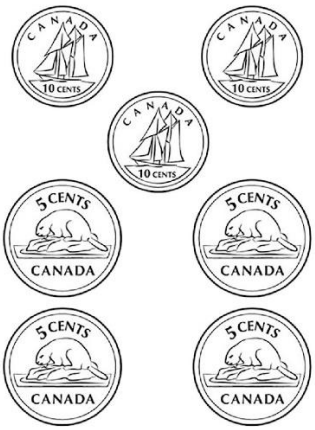
Coin Cards

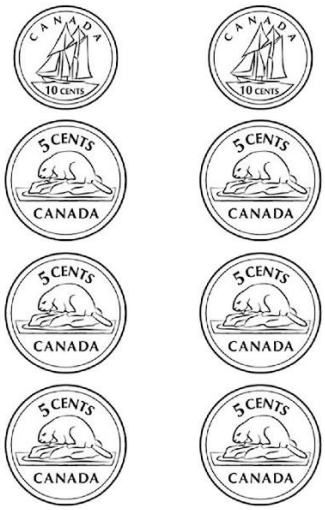


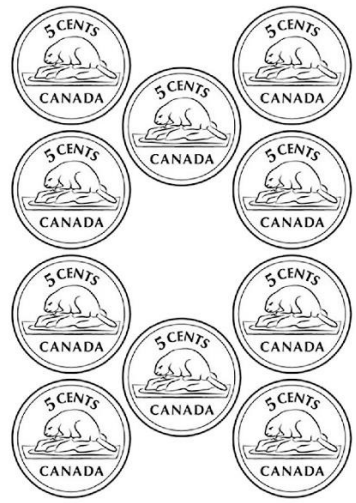
Name _____ Date _____

Master 53d

Coin Cards





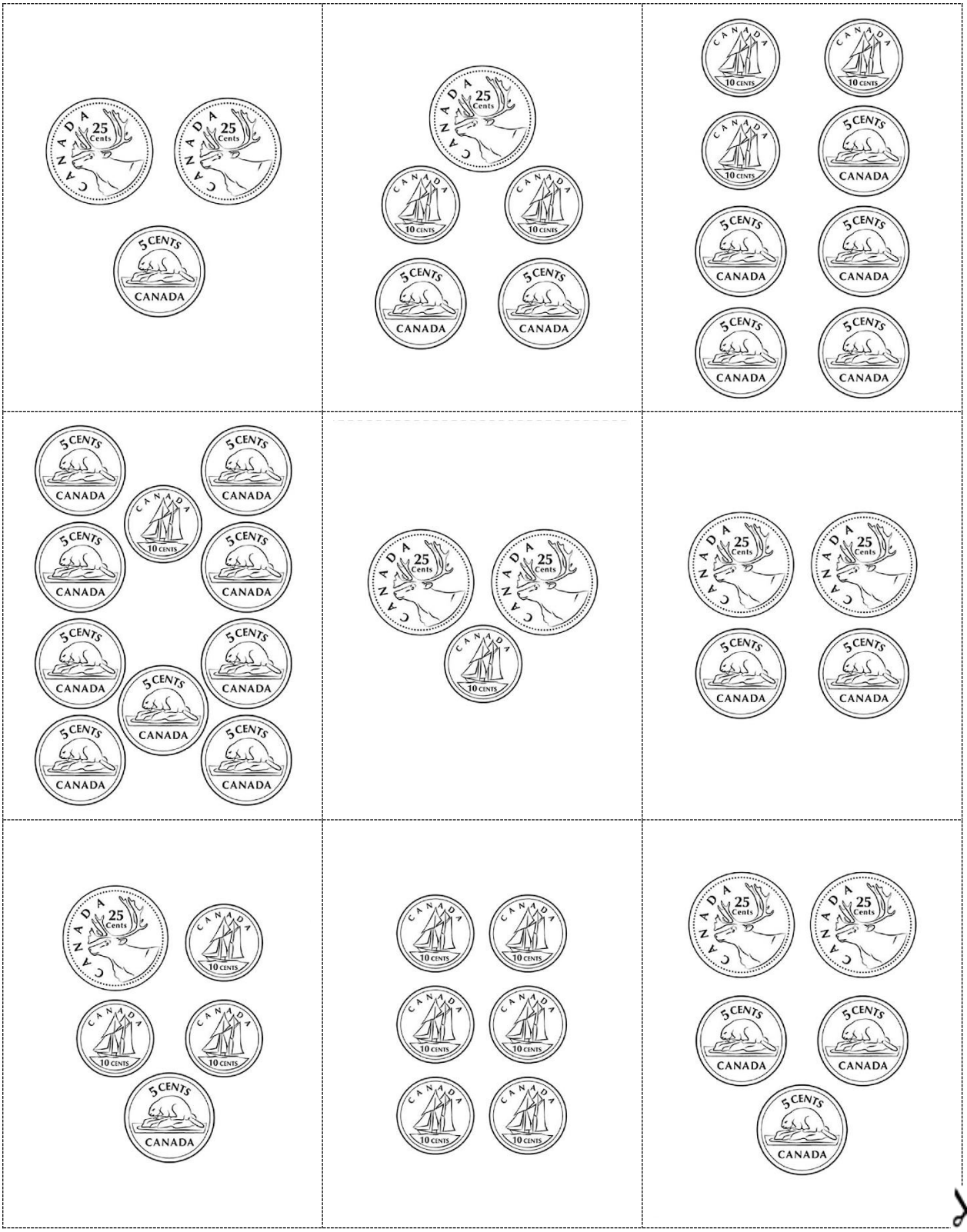


Name _____ Date _____

Master 53e

Coin Cards

(for Extension)

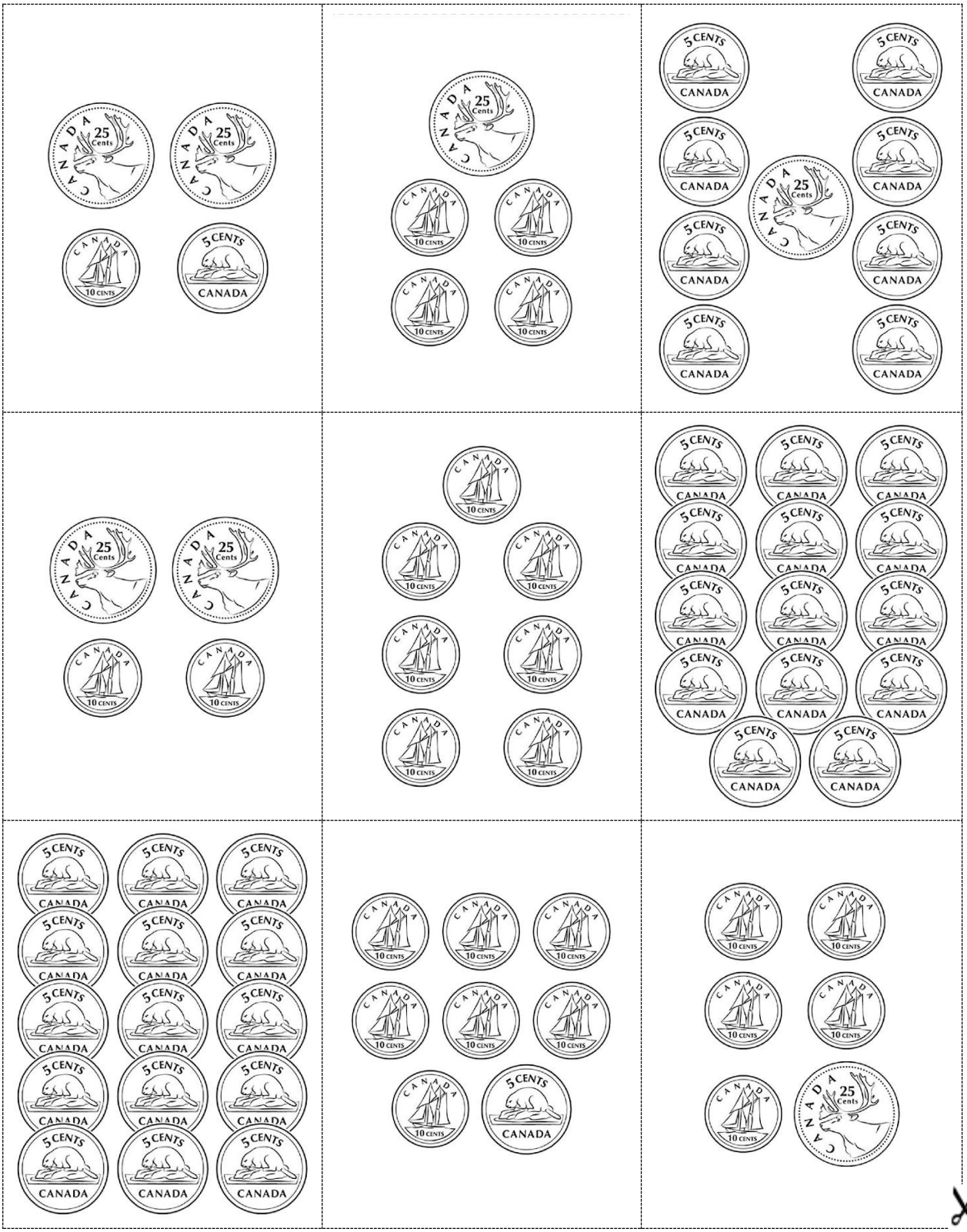


Name _____ Date _____

Master 53f

Coin Cards

(for Extension)



Number

Master 54: Activity 21 Assessment

Money Amounts

Counting and Representing Money Amounts Behaviours/Strategies			
Student needs to count to trust the value of a coin.	Student touches a nickel and says "1, 2, 3, 4, 5." 	Student continues to skip-count by 5s when the next coin is a cent. 	Student randomly counts a collection of coins. 
Observations/Documentation			
Student sorts then counts a collection of coins. 	Student randomly selects coins to represent a money amount in a different way, paying no attention to values.	Student clears all the coins away and starts fresh to represent a money amount in a different way.	Student systematically trades coins to represent a money amount in different ways. 
Observations/Documentation			

Name_____ Date _____

Master 55

Equal Groups Recording Sheet

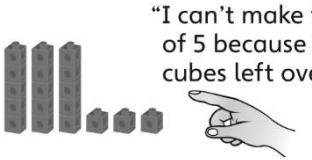
Number

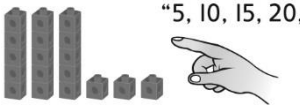
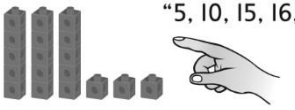
Height of Tower	Picture of Towers	Number of Towers	Leftover Cubes
2 cubes			
3 cubes			
4 cubes			
5 cubes			
10 cubes			

Number

Master 56: Activity 22 Assessment

Equal Groups

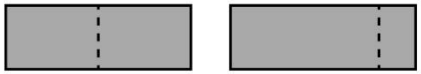
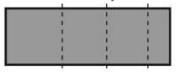
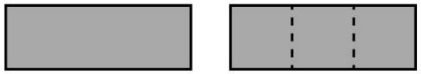
Making Equal Groups Behaviours/Strategies		
Student makes towers of unequal numbers of cubes.	Student makes equal groups only when there are no leftovers. 	Student groups the cubes into equal groups in more than one way.
Observations/Documentation		

Counting Behaviours/Strategies		
Student counts all the cubes by 1s when grouped in 2s, 5s, or 10s. 	Student continues to skip-count to count the leftover cubes. 	Student sees groups of cubes as one unit, fluently skip-counts by the unit, then counts on by 1s to find the total. 
Observations/Documentation		

Number

Master 57: Activity 23 Assessment

Equal Parts

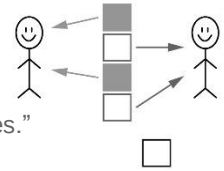
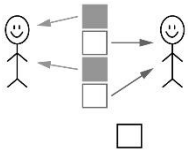
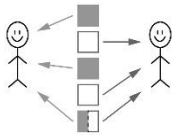
Partitioning and Describing Parts of a Whole Behaviours/Strategies		
Student does not recognize and describe one-half.  "These both show half."	Student partitions a whole into the correct number of parts, but the parts are not all equal.  "I will cut my cereal bar in 4 to share with 4 people. Each person gets one-fourth."	Student partitions a whole into two equal parts, but has difficulty dividing a whole into more equal parts.
Observations/Documentation		
Student partitions a whole into equal parts, but has difficulty with fraction words.  "There are 3 small halves."	Student partitions a whole into equal parts, but doesn't consider the whole when discussing fractions. "One-half is always bigger than one-fourth."	Student partitions wholes into equal parts and can accurately describe the parts using fractional names.
Observations/Documentation		

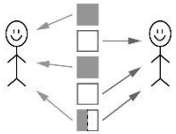
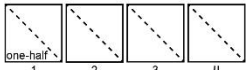
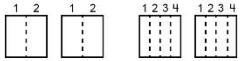
Number

Master 58: Activity 24 Assessment

Sharing Equally

Partitioning and Describing Parts of a Whole Behaviours/Strategies

Student shares some items equally but ignores the leftover. "I shared 5 sandwiches and each person got 2 sandwiches." 	Student shares some items equally but is not sure how to partition the leftover. "I'm not sure how to divide the leftover sandwich." 	Student shares items equally, including leftovers, but cannot use fractions to name the amount each sharer gets. "Each person gets 2 plus a bit more." 
Observations/Documentation		

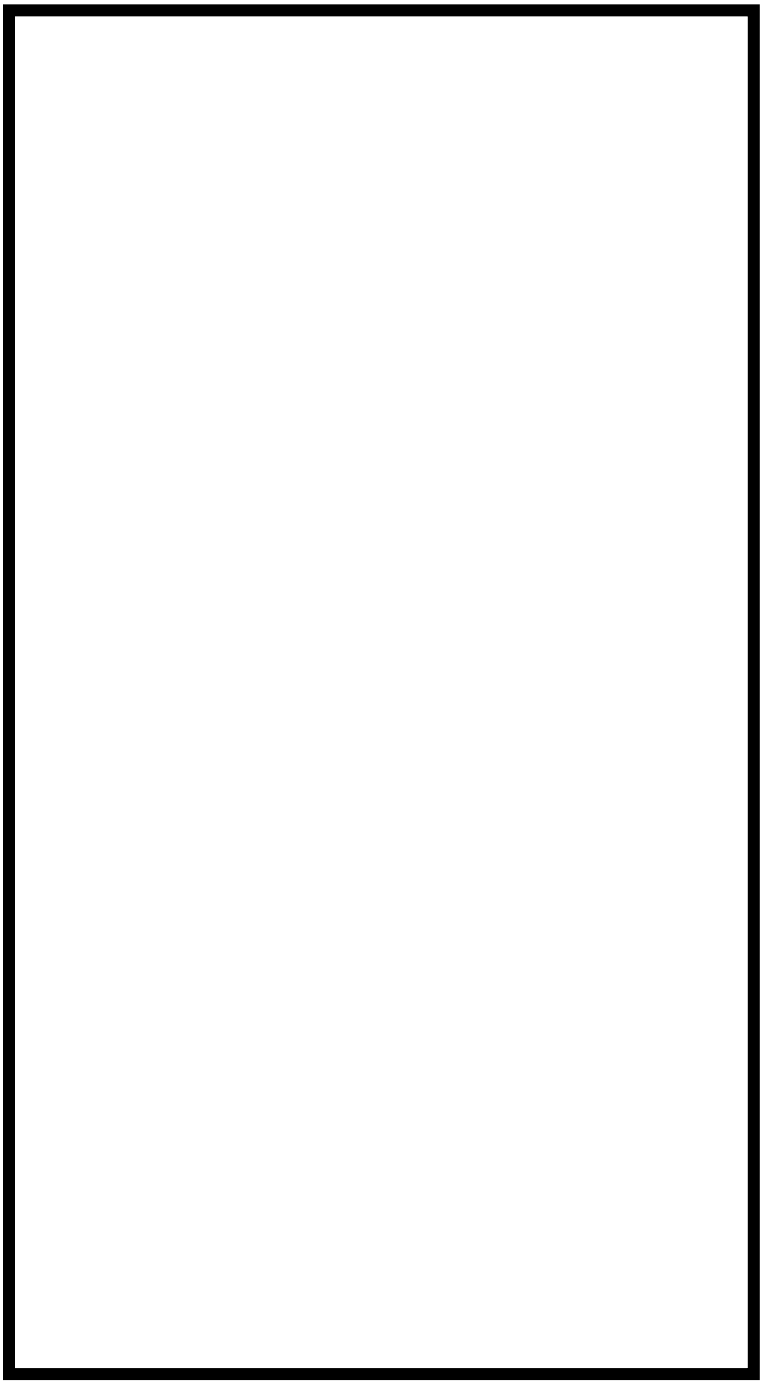
Student shares items equally, including leftovers, and uses fractions to name the amount each sharer gets. "Each person got two plus one half." 	Student partitions a whole into equal parts, but doesn't consider the whole when discussing fractions. "8 children got 1 one-half a sandwich each. I know 2 one-halves make a whole. So, I put 8 one-halves together to make 4 wholes. There were 4 whole sandwiches to start with." 	Student shares items equally, including leftovers, solves equal-sharing problems, and recognizes that one-half and two-fourths of the same whole are equal. "I can divide each leftover sandwich into 2 equal parts and give each person 1 one-half. Or, I can divide each whole into 4 equal parts and give each person 2 one-fourths." 
Observations/Documentation		

Name_____ Date _____

Master 59a

Paper Shapes

Rectangle

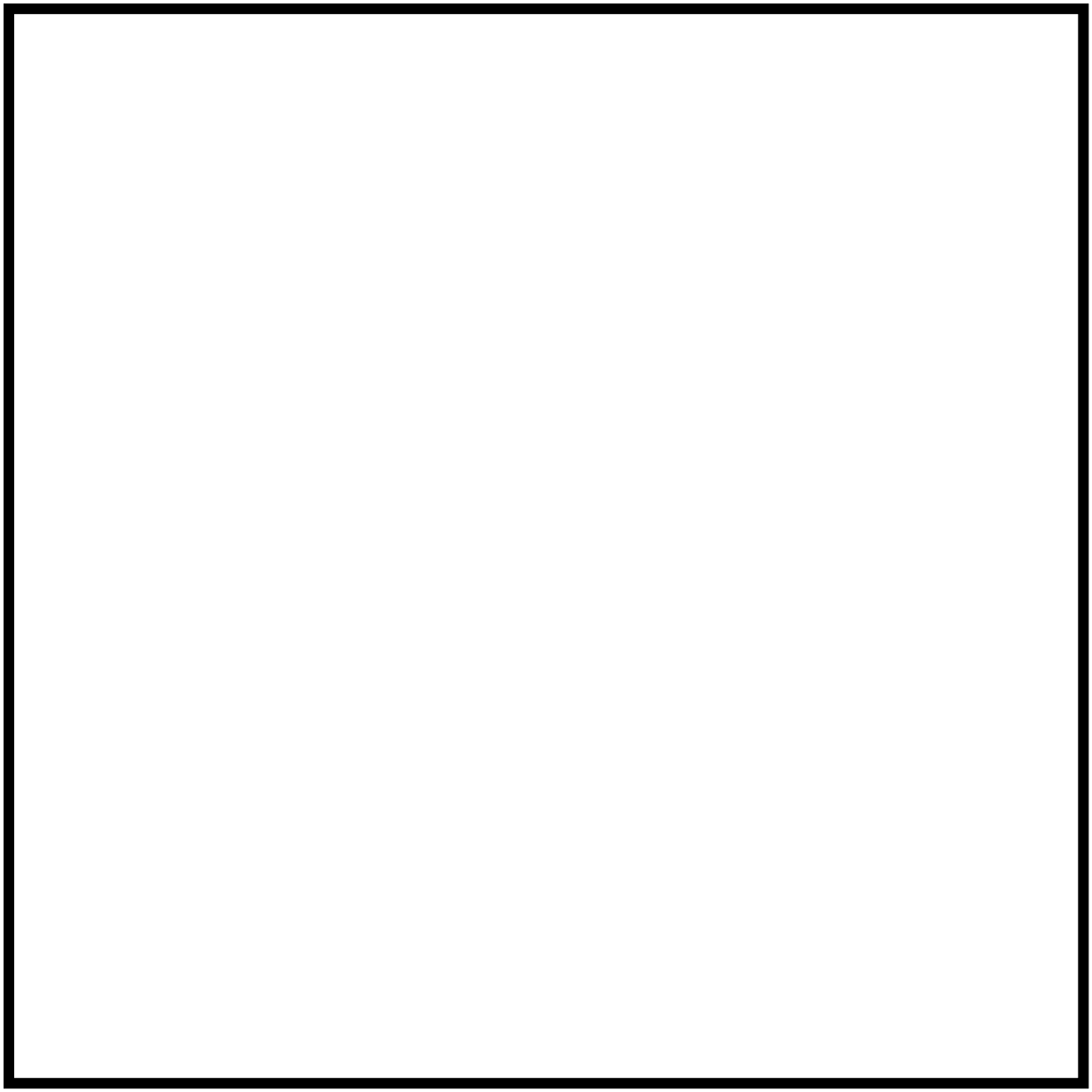


Name_____ Date _____

Master 59b

Paper Shapes

Square

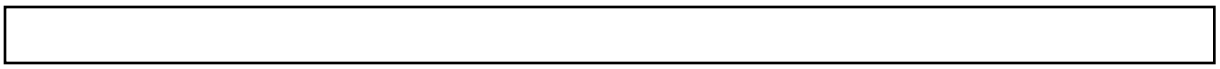


Name_____ Date _____

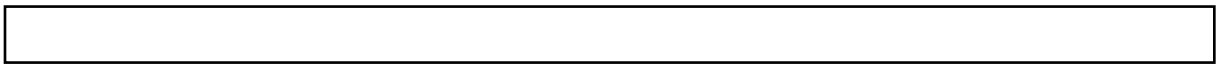
Master 60

Comparing Fractions

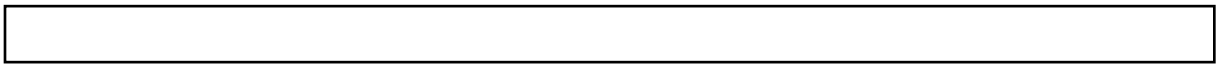
___ sharers



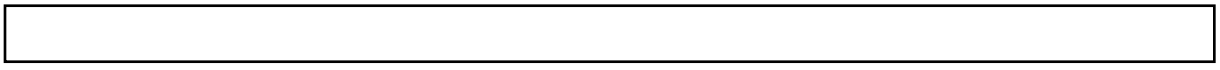
___ sharers



___ sharers

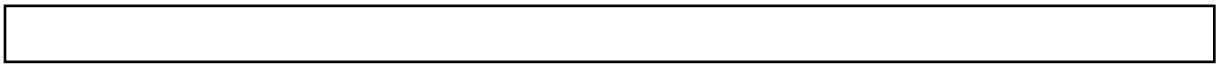


___ sharers



___ sharers

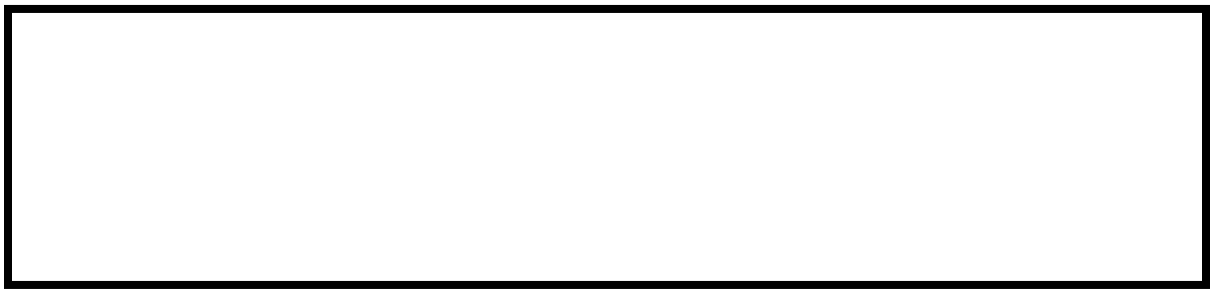
___ sharers



Name_____ Date _____

Master 61

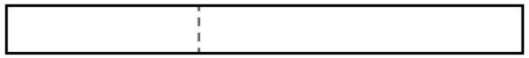
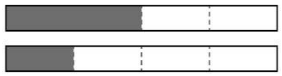
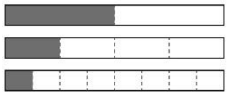
Paper Strips



Number

Master 62: Activity 25 Assessment

Comparing and Ordering Unit Fractions

Comparing and Ordering Unit Fractions Behaviours/Strategies		
Student divides into two parts but parts are not equal. 	Student can divide in half but struggles to partition into thirds, sixths, and eighths.  "How do I make 4 equal parts?"	Student can divide into equal parts but struggles to name the unit fraction.  "I don't know what each part is called."
Observations/Documentation		
Student divides into equal parts and names unit fraction but doesn't realize that the more parts, the smaller the part.	Student compares tow parts but struggles to order many parts.  "One-half is bigger than one-fourth."	Student successfully compares and orders unit fractions.  "From biggest to smallest: one-half, one-fourth, one-eighth."
Observations/Documentation		

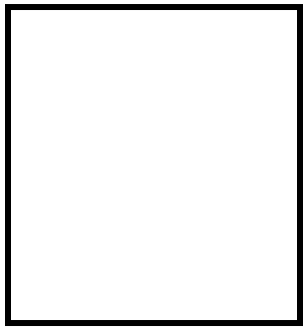
Name_____ Date _____

Master 63a

Activity Recording Sheets

Part A: Decomposition

- Represent your number in at least 3 different ways.
- Draw a picture to show each way.



Our Number

Name_____ Date _____

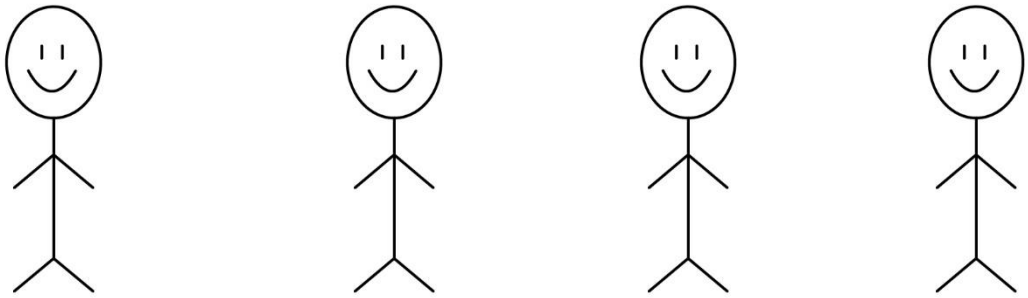
Master 63b

Activity Recording Sheets

Part B: Equal Shares

- Place the cards face down in a pile. Turn over a card.
- Use a drawing to share equally between 2 people.
  How much does each person get?

- Repeat, this time sharing the number among 4 people.



Name_____ Date _____

Master 63c

Activity Recording Sheets

Part C: Solving an Equal-Grouping Problem

Some students share 5 celery stalks equally.
Each student received half of a celery stalk.
How many students were there in the group?

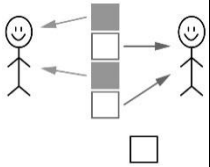
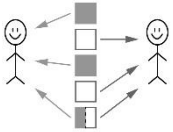
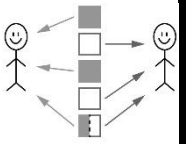
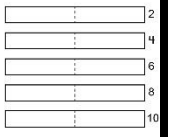
Draw a picture to solve the problem.

Number

Master 64: Activity 26 Assessment

Composing and Decomposing: Consolidation

Composing and Decomposing Behaviours/Strategies			
Student represents a number in only one way.	Student removes all objects and starts fresh to represent a number in different ways.	Student makes changes to the current representation to show numbers in different ways.	Student uses patterns to systematically find different ways to model a number.
Observations/Documentation			

Student shares some items equally but is not sure how to partition the leftover. "I'm not sure how to divide the leftover." 	Student shares items equally, including leftovers, but cannot use fractions to name the amount each sharer gets. "Each person gets two plus a bit more." 	Student shares items equally, including leftovers, and uses fractions to name the amount each sharer gets. "Each person gets two plus one half." 	Student shares items equally and solves equal-sharing problems where each share is one-half. "Each celery stalk serves 2 students. So, 5 stalks will serve 2, 4, 6, 8, 10 students." 
Observations/Documentation			

Master 65a

Curriculum Correlation
Number Cluster 6: Early Place Value

ON

Kindergarten
15.1 investigate (e.g., using a number line, a hundreds carpet, a board game with numbered squares) the idea that a number's position in the counting sequence determines its magnitude (e.g., the quantity is greater when counting forward and less when counting backward) 15.2 investigate some concepts of quantity and equality through identifying and comparing sets with more, fewer, or the same number of objects (e.g., find out which of two cups contains more or fewer beans [i.e., the concept of one-to-one correspondence]; investigate the ideas of more, less, or the same, using concrete materials such as counters or five and ten frames; recognize that the last number counted represents the number of objects in the set [i.e., the concept of cardinality]) 15.9 compose and decompose quantities to 10 (e.g., make multiple representations of numbers using two or more colours of linking cubes, blocks, dot strips, and other manipulatives; play "shake and spill" games)
Grade 1
Number Quantity Relationships – represent, compare, and order whole numbers to 50, using a variety of tools (e.g., connecting cubes, ten frames, base ten materials, number lines, hundreds charts) and contexts (e.g., real-life experiences, number stories) (Activities 24, 25, 26, 27) – demonstrate, using concrete materials, the concept of conservation of number (e.g., 5 counters represent the number 5, regardless whether they are close together or far apart) (Activities 24, 25, 26, 27) – relate numbers to the anchors of 5 and 10 (e.g., 7 is 2 more than 5 and 3 less than 10) (Activities 24, 25, 26, 27) – compose and decompose numbers up to 20 in a variety of ways, using concrete materials (e.g., 7 can be decomposed using connecting cubes into 6 and 1, or 5 and 2, or 4 and 3) (Activities 26, 27) Counting – count forward by 1's, 2's, 5's, and 10's to 100, using a variety of tools and strategies (e.g., move with steps; skip count on a number line; place counters on a hundreds chart; connect cubes to show equal groups; count groups of pennies, nickels, or dimes) (Activities 24, 25, 26, 27) Cross Strand: Patterning and Algebra Expressions and Equality – demonstrate examples of equality, through investigation, using a "balance" model (Sample problem: Demonstrate, using a pan balance, that a train of 7 attached cubes on one side balances a train of 3 cubes and a train of 4 cubes on the other side.)

Master 65b

Curriculum Correlation
Number Cluster 6: Early Place Value

ON (con't)

Grade 2
Number Quantity Relationships – represent, compare, and order whole numbers to 100, including money amounts to 100¢, using a variety of tools (e.g., ten frames, base ten materials, coin manipulatives, number lines, hundreds charts and hundreds carpets) – compose and decompose two-digit numbers in a variety of ways, using concrete materials (e.g., place 42 counters on ten frames to show 4 tens and 2 ones; compose 37¢ using one quarter, one dime, and two pennies) (Sample problem: Use base ten blocks to show 60 in different ways.) – determine, using concrete materials, the ten that is nearest to a given two-digit number, and justify the answer (e.g., use counters on ten frames to determine that 47 is closer to 50 than to 40) Counting – count forward by 1's, 2's, 5's, 10's, and 25's to 200, using number lines and hundreds charts, starting from multiples of 1, 2, 5, and 10 (e.g., count by 5's from 15; count by 25's from 125) – locate whole numbers to 100 on a number line and on a partial number line (e.g., locate 37 on a partial number line that goes from 34 to 41)

Master 65c

Curriculum Correlation
Number Cluster 6: Early Place Value

BC/YT

Kindergarten
Number concepts to 20 • Counting – Stable order counting Ways to make 5 • Comparing quantities 1-10 Decomposition of numbers to 10 • Decomposing and recomposing quantities to 10 • Numbers can be arranged and recognized • Making 10 • Using concrete materials to show ways to make 10
Grade 1
Number concepts to 20 • Counting on and counting back (Activities 24, 25, 26, 27) • Comparing and ordering numbers to 20 (Activities 24, 25, 27) • Numbers to 20 can be arranged and recognized (Activities 24, 25, 26, 27) • Base 10 (Activities 24, 25, 26, 27) • 10 and some more (Activities 24, 25, 26, 27) Ways to make 10 • Benchmarks of 10 and 20 (Activity 25) Cross Strand: Meaning of equality and inequality • Demonstrating and explaining the meaning of equality and inequality
Grade 2
Number concepts to 100 • Counting – Quantities to 100 can be arranged and recognized – Comparing and ordering numbers to 100 – Place value – Understanding of 10s and 1s – Understanding the relationship between digit places and their value, to 99 (e.g., the digit 4 in 49 has the value of 40) – Decomposing two-digit numbers into 10s and 1s

Master 65d

Curriculum Correlation
Number Cluster 6: Early Place Value

NB/PEI/SK/MB/NWT/AB/NU

Kindergarten
Number KN01. Say the number sequence by 1s starting anywhere from 1 to 10 and from 10 to 1. KN03. Relate a numeral, 1 to 10, to its respective quantity. KN04. Represent and describe numbers 2 to 10, concretely and pictorially.
Grade 1
Number 1N01. Say the number sequence, 0 to 100, by: • 1s forward and backward between any two given numbers • 2s to 20, forward starting at 0 • 5s and 10s to 100, forward starting at 0. (Activities 24, 25, 26, 27) 1N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. (Activities 24, 25, 26, 27) 1N04. Represent and describe numbers to 20 concretely, pictorially and symbolically. (Activities 24, 25, 26, 27) 1N07. Demonstrate, concretely and pictorially, how a given number can be represented by a variety of equal groups with and without singles. (Activities 24, 25, 26, 27) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20)
Grade 2
Number 2N01. Say the number sequence from 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s using starting points from 1 to 9 • 2s starting from 1. 2N04. Represent and describe numbers to 100, concretely, pictorially and symbolically. 2N07. Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.

Master 65e

Curriculum Correlation
Number Cluster 6: Early Place Value

NS

Kindergarten
Number KN01. Students will be expected to say the number sequence by • 1s, from 1 to 20 • 1s, starting anywhere from 1 to 10 and from 10 to 1 KN03. Students will be expected to relate a numeral, 1 to 10, to its respective quantity. KN04. Students will be expected to represent and describe numbers 2 to 10 in two parts, concretely and pictorially
Grade 1
Number 1N01. Students will be expected to say the number sequence by • 1s, forward and backward between any two given numbers, 0 to 100 • 2s to 20, forward starting at 0 • 5s to 100, forward starting at 0, using a hundred chart or a number line • 10s to 100, forward starting at 0, using a hundred chart or a number line (Activities 24, 25, 26, 27) 1N03. Students will be expected to demonstrate an understanding of counting to 20 by • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting-on strategy (Activities 24, 25, 26, 27) 1N04. Students will be expected to represent and partition numbers to 20. (Activities 24, 25, 26, 27) 1N07. Students will be expected to demonstrate an understanding of conservation of number for up to 20 objects. (Activities 24, 25, 26, 27) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Students will be expected to describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).
Grade 2
Number 2N01. Students will be expected to say the number sequence by • 1s, forward and backward, starting from any point to 200 • 2s, forward and backward, starting from any point to 100 • 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100 • 10s, starting from any point, to 100 2N04. Students will be expected to represent and partition numbers to 100. 2N07. Students will be expected to illustrate, concretely and pictorially, the meaning of place value for numerals to 100.

Master 65f

Curriculum Correlation
Number Cluster 6: Early Place Value

NFL

Kindergarten
Number KN01. Say the number sequence by 1s starting anywhere from 1 to 10 and from 10 to 1. KN03. Relate a numeral, 1 to 10, to its respective quantity. KN04. Represent and describe numbers 2 to 10, concretely and pictorially.
Grade 1
Number 1N01. Say the number sequence 0 to 100 by: • 1s forward between any two given numbers • 1s backward from 20 to 0 • 2s forward from 0 to 20 • 5s and 10s forward from 0 to 100. (Activities 24, 25, 26, 27) 1N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. (Activities 24, 25, 26, 27) 1N04. Represent and describe numbers to 20 concretely, pictorially and symbolically. (Activities 24, 25, 26, 27) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20)
Grade 2
Number 2N01. Say the number sequence from 0 to 100 by: • 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively • 10s using starting points from 1 to 9 • 2s starting from 1. 2N04. Represent and describe numbers to 100, concretely, pictorially and symbolically. 2N07. Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.

Name_____ Date _____

Master 66

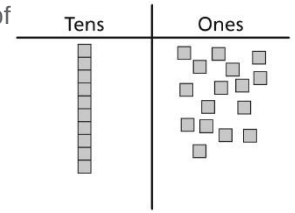
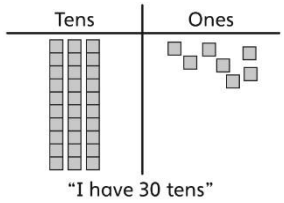
Ten and Ones Recording Sheet

Number	Number of Tens	Number of Ones

Number

Master 67: Activity 27 Assessment

Tens and Ones

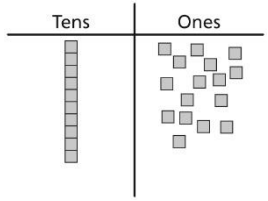
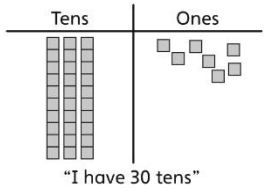
Building Two-Digit Numbers Behaviours/Strategies		
Student has difficulty recognizing and saying two-digit numbers. "I don't know that number."	Student makes 1 train of ten and has more than 10 cubes in the Ones column. 	Student builds the number correctly using tens and ones but confuses the number of tens with the number of cubes. 
Observations/Documentation		

Student builds the number correctly but is unable to relate the number of trains (tens) and single cubes (ones) to the digits of the number.	Student decides which number is greater by comparing the total number of cubes used to show each number.	Student builds the number correctly, understands the values of tens and ones, and successfully compares numbers.
Observations/Documentation		

Number

Master 68: Activity 28 Assessment

Building and Naming Numbers

Building, Naming, and Comparing Numbers Behaviours/Strategies			
Student has more than 10 cubes but doesn't use them to make a train.  	Student represents a number with cubes but has difficulty relating the number of trains and cubes to tens and ones.	Student represents a number with cubes but confuses the number of tens with the number of cubes.  "I have 30 tens"	Student counts ones with ease to 9 but cannot bridge past 9 ones. "twenty-nine, twenty-ten, twenty-eleven"
Observations/Documentation			

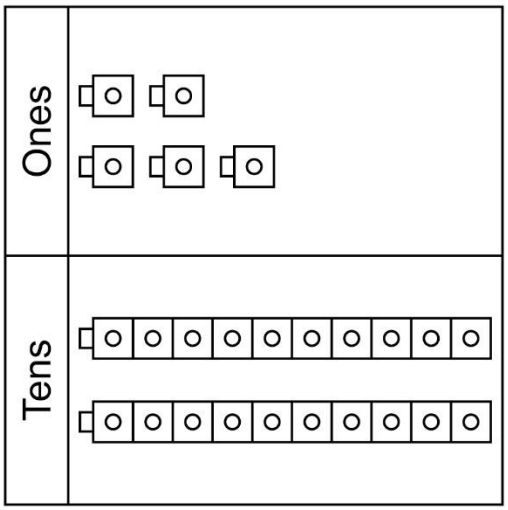
Student says, "2 tens and 3 ones," but doesn't know how to say the number.	Student says, "2 tens and 3 ones, twenty-three," but doesn't know how to write it using numerals.	Student decides which number is greater by comparing the total number of cubes used to show each number.	Student is able to build, name, and compare numbers using tens and ones.
Observations/Documentation			

Name _____ Date _____

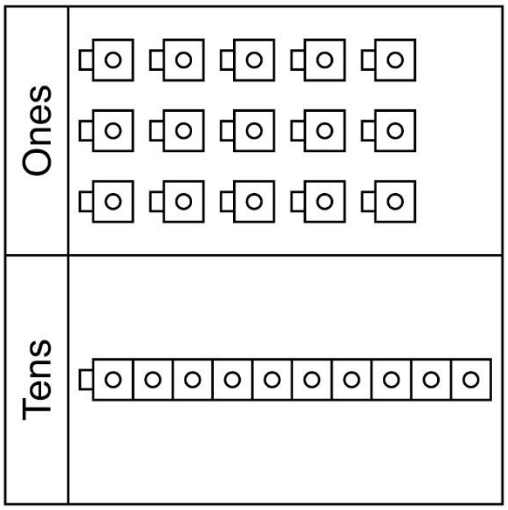
Master 69a

Matching Cards

2 tens 5 ones



25

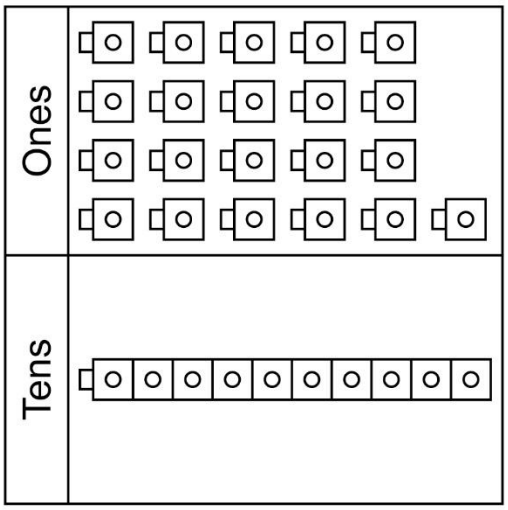


Name _____ Date _____

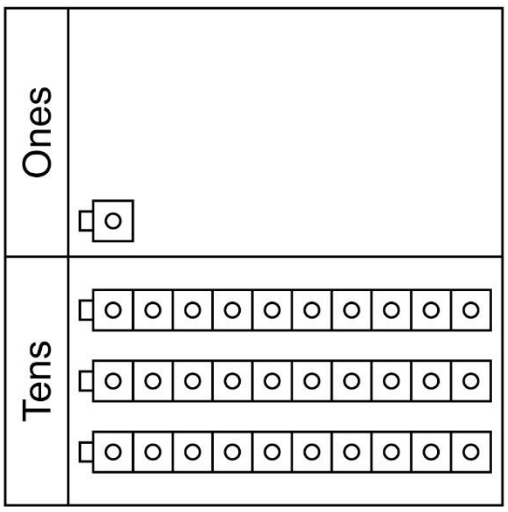
Master 69b

Matching Cards

2 tens 11 ones



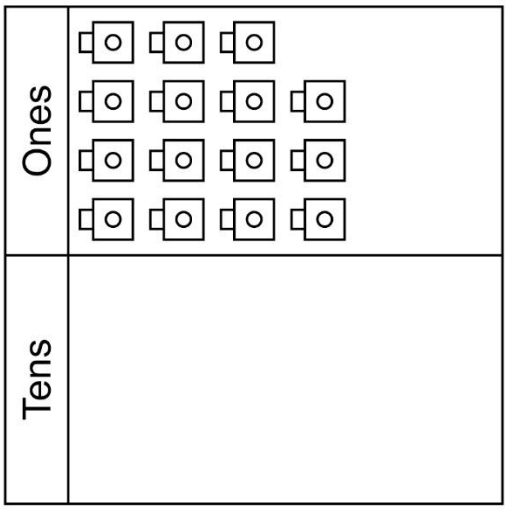
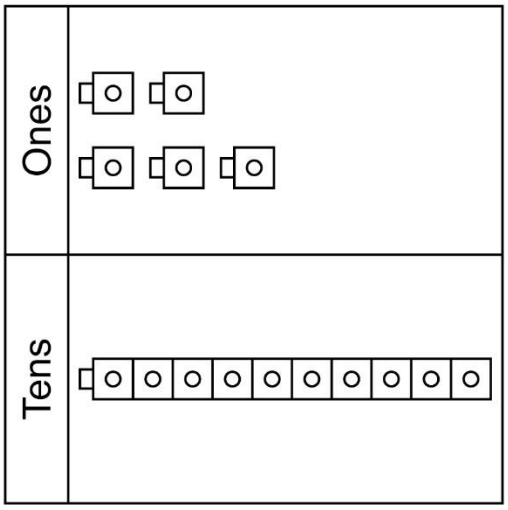
31



Name _____ Date _____

Master 69c

Matching Cards

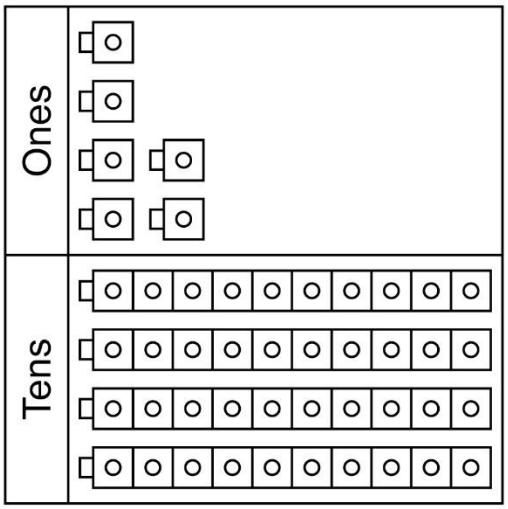
15 ones	
15	

Name _____ Date _____

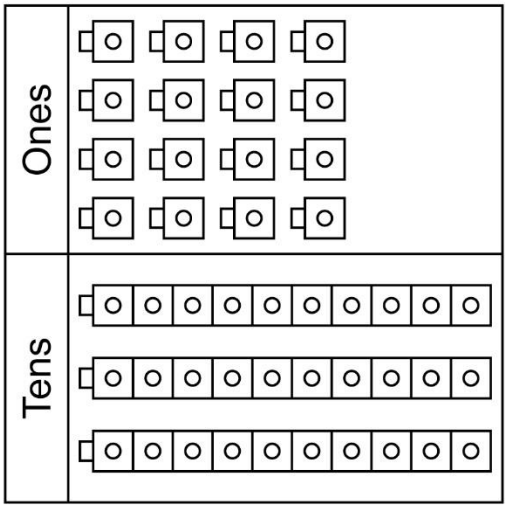
Master 69d

Matching Cards

2 tens 26 ones



46



Name_____ Date _____

Master 69e

Matching Cards

Number

Master 70: Activity 29 Assessment

Different Representations

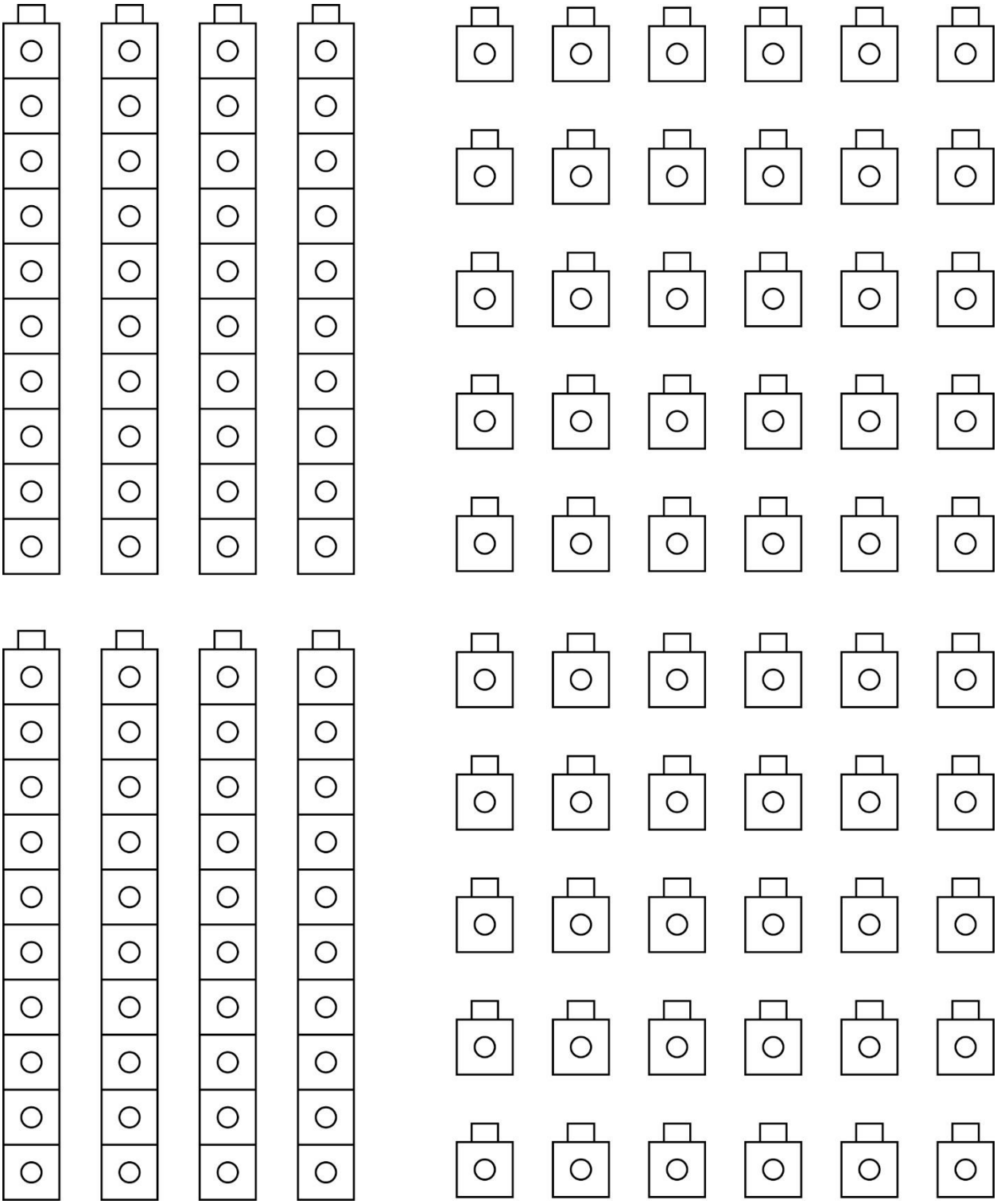
Recognizing Numbers with Different Representations Behaviours/Strategies		
Student is unable to say or recognize the numbers on the cards.	Student makes trains of ten but does not realize that 1 ten is the same as 10 ones.	Student knows a number when it is written in standard form (e.g., 25) but does not know the number when it written as "__ tens and __ ones." "I don't know what 2 tens and 5 ones is."
Observations/Documentation		

Student knows that 2 tens and 5 ones is 25, but does not know that 1 ten and 15 ones is also 25.	Student matches word cards but struggles to match a picture card with a word card.	Student recognizes and matches all numbers shown in different ways.
Observations/Documentation		

Name _____ Date _____

Master 71

Tens and Ones Cutouts

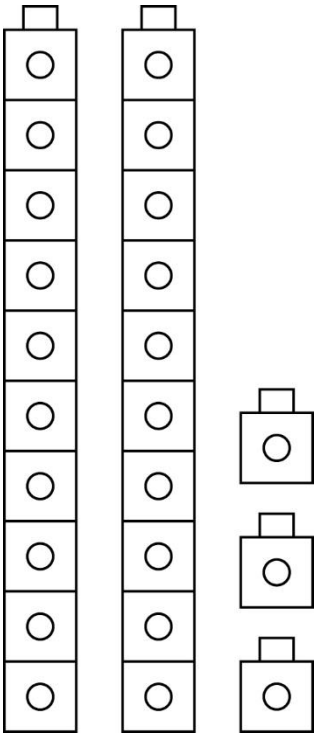


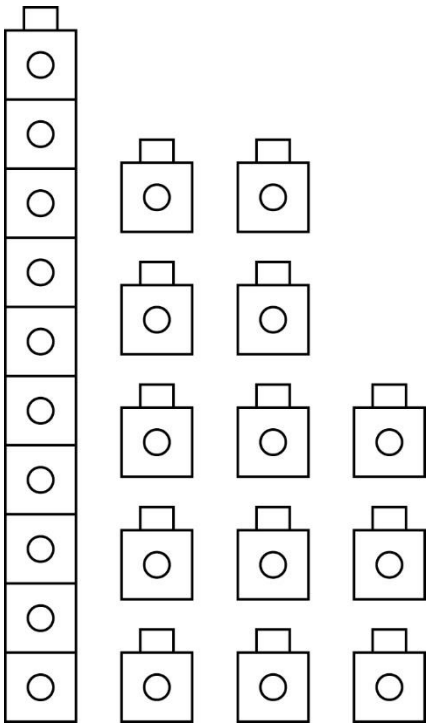
Name _____ Date _____

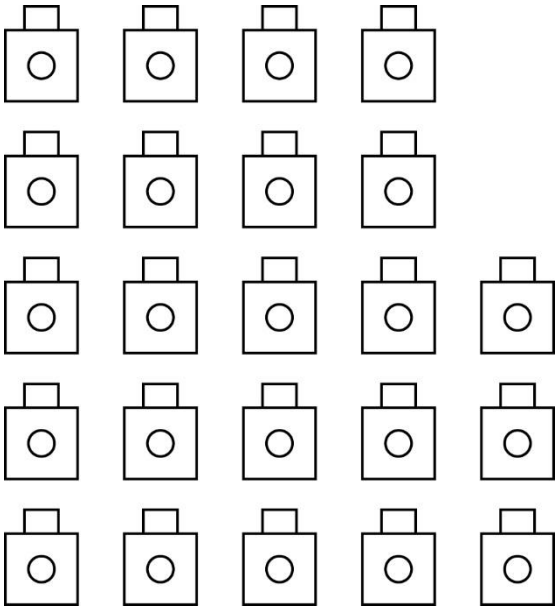
Master 72

Sample Number Poster

23







Number

Master 73: Activity 30 Assessment

Early Place Value: Consolidation

Showing and Comparing Numbers Behaviours/Strategies			
Student has difficulty saying or recognizing the given number.	Student recognizes a number but has difficulty building the number by grouping into tens and leftover ones.	Student makes trains of ten but does not realize that 1 ten is the same as 10 ones.	Student shows a number in one way but has difficulty showing the number in a different way by breaking apart a train to make 10 ones. "This number always has 2 tens and 4 ones."
Observations/Documentation			

Student shows a number in one way but has difficulty showing the number in a different way by combining 10 ones to make a train (ten). "I have 1 ten and 14 ones."	Student focuses on one type of representation (e.g., drawing pictures).	Student decides which number is greater by comparing the total number of cubes used to show each number.	Student shows all the different ways to represent a two-digit number, and successfully compares numbers.
Observations/Documentation			

Master 74a

Curriculum Correlation
Number Cluster 7: Operational Fluency

ON

Kindergarten
15.9 compose and decompose quantities to 10 (e.g., make multiple representations of numbers using two or more colours of linking cubes, blocks, dot strips, and other manipulatives; play “shake and spill” games) 15.10 investigate addition and subtraction in everyday experiences and routines through the use of modelling strategies and manipulatives (e.g., join two sets of objects, one containing a greater number than the other, and count all the objects; separate out the smaller number of objects and determine how many remain) and counting strategies (e.g., use a counting sequence to determine how many objects there are altogether; count backward from the largest number to determine how many objects remain)
Grade 1
Number Operational Sense – solve a variety of problems involving the addition and subtraction of whole numbers to 20, using concrete materials and drawings (e.g., pictures, number lines) (Sample problem: Miguel has 12 cookies. Seven cookies are chocolate. Use counters to determine how many cookies are not chocolate.) (Activities 28, 29, 30, 31, 32, 33, 34, 35) – solve problems involving the addition and subtraction of single-digit whole numbers, using a variety of mental strategies (e.g., one more than, one less than, counting on, counting back, doubles) (Activities 28, 29, 30, 31, 32, 33, 34, 35) Cross Strand: Patterning and Algebra Expressions and Equality – create a set in which the number of objects is greater than, less than, or equal to the number of objects in a given set – demonstrate examples of equality, through investigation, using a “balance” model – determine, through investigation using a “balance” model and whole numbers to 10, the number of identical objects that must be added or subtracted to establish equality
Grade 2
Number Operational Sense – solve problems involving the addition and subtraction of whole numbers to 18, using a variety of mental strategies (e.g., “To add 6 + 8, I could double 6 and get 12 and then add 2 more to get 14.”) – describe relationships between quantities by using whole-number addition and subtraction (e.g., “If you ate 7 grapes and I ate 12 grapes, I can say that I ate 5 more grapes than you did, or you ate 5 fewer grapes than I did.”) – represent and explain, through investigation using concrete materials and drawings, multiplication as the combining of equal groups (e.g., use counters to show that 3 groups of 2 is equal to 2 + 2 + 2 and to 3 x 2) – represent and explain, through investigation using concrete materials and drawings, division as the sharing of a quantity equally (e.g., “I can share 12 carrot sticks equally among 4 friends by giving each person 3 carrot sticks.”) – solve problems involving the addition and subtraction of two-digit numbers, with and without regrouping, using concrete materials (e.g., base ten materials, counters), student-generated algorithms, and standard algorithms

Master 74b

Curriculum Correlation
Number Cluster 7: Operational Fluency

BC/YT

Kindergarten
Decomposition of numbers to 10 • Part-part-whole thinking • Whole-class number talks Change in quantity to 10 using concrete materials • Generalizing change by adding 1 or 2 • Modeling and describing number relationships through change (e.g., build and change tasks - begin with four cubes, what do you need to do to change it to six? to change it to 3?)
Grade 1
Addition and subtraction to 20 (understanding of operation and process) • Decomposing 20 into parts (Activities 29, 30, 31, 33) • Mental math strategies: – counting on (Activities 28, 29, 31, 32, 33, 34, 35) – making 10 (Activities 29, 32, 33, 34, 35) – doubles (Activities 32, 34, 35) • Addition and subtraction are related (Activities 33, 34, 35) • Whole-class number talks (Activity 35) Cross Strands: Change in quantity to 20, concretely and verbally • Verbally describing a change in quantity (e.g., I can build 7 and make it 10 by adding 3) Meaning of equality and inequality • Demonstrating and explaining the meaning of equality and inequality • Recording equations symbolically using = and ≠
Grade 2
Addition and subtraction facts to 20 (introduction of computational strategies) • Adding and subtracting numbers to 20 • Fluency with math strategies for addition and subtraction (e.g., making or bridging 10, decomposing, identifying related doubles, adding on to find the difference) Addition and subtraction to 100 • Decomposing numbers to 100 • Estimating sums and differences to 100 • Using strategies such as looking for multiples of 10, friendly numbers (e.g., 48 + 37, 37 = 35 +2, 48 + 2, 50 + 35 = 85), decomposing into 10s and 1s and recomposing (e.g., 48 + 37, 40 + 30 = 70, 8 +7 = 15, 70 +15 = 85), and compensating (e.g., 48 + 37, 48 +2 = 50, 37 – 2 = 35, 50 + 35 = 80) • Adding up to find the difference • Using an open number line, hundred chart, ten-frames • Using addition and subtraction in real-life contexts and problem-based situations • Whole-class number talks

Master 74c

Curriculum Correlation
Number Cluster 7: Operational Fluency

NB/PEI/SK/NWT

Kindergarten
Number KN03. Relate a numeral, 1 to 10, to its respective quantity. KN04. Represent and describe numbers 2 to 10, concretely and pictorially.
Grade 1
Number 1N08. Identify the number, up to 20, that is one more, two more, one less and two less than a given number. (Activities 28, 31) 1N09. Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially and symbolically by: • using familiar and mathematical language to describe additive and subtractive actions from their experience • creating and solving problems in context that involve addition and subtraction • modelling addition and subtraction using a variety of concrete and visual representations, and recording the process symbolically. (Activities 28, 29, 30, 31, 32, 33, 34, 35) 1N10. Describe and use mental mathematics strategies (memorization not intended), such as: • counting on and counting back • making 10 • doubles • using addition to subtract to determine the basic addition facts to 18 and related subtraction facts. (Activities 28, 29, 30, 31, 32, 33, 34, 35) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). 1PR4. Record equalities using the equal symbol.

Master 74d

Curriculum Correlation
Number Cluster 7: Operational Fluency

NB/PEI/SK/NWT (con't)

Grade 2
Number 2N08. Demonstrate and explain the effect of adding zero to or subtracting zero from any number. 2N09. Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • using personal strategies for adding and subtracting with and without the support of manipulatives • creating and solving problems that involve addition and subtraction • explaining that the order in which numbers are added does not affect the sum • explaining that the order in which numbers are subtracted may affect the difference. 2N10. Apply mental mathematics strategies, such as: • using doubles • making 10 • one more, one less • two more, two less • building on a known double • addition for subtraction to determine basic addition facts to 18 and related subtraction facts.

Master 74e

Curriculum Correlation
Number Cluster 7: Operational Fluency

NS

Kindergarten
Number KN03. Students will be expected to relate a numeral, 1 to 10, to its respective quantity. KN04. Students will be expected to represent and describe numbers 2 to 10 in two parts, concretely and pictorially.
Grade 1
Number 1N08. Students will be expected to identify the number, up to 20, that is one more, two more, one less, and two less than a given number. (Activities 28, 31) 1N09. Students will be expected to demonstrate an understanding of the addition of two single-digit numbers and the corresponding subtraction, concretely, pictorially, and symbolically, in join, separate, equalize/compare, and part-part-whole situations. (Activities 28, 29, 30, 31, 32, 33, 34, 35) 1N10. Students will be expected to use and describe strategies to determine sums and differences using manipulatives and visual aids. Strategies include • counting on or counting back • one more or one less • making ten • doubles • near doubles (Activities 28, 29, 30, 31, 32, 33, 34, 35) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Students will be expected to describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). 1PR4. Students will be expected to record equalities using the equal symbol.
Grade 2
Number 2N08. Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number. 2N09. Students will be expected to demonstrate an understanding of addition (limited to one- and two-digit numerals) with answers to 100 and the corresponding subtraction by • using personal strategies for adding and subtracting with and without the support of manipulates • creating and solving problems that involve addition and subtraction • explaining and demonstrating that the order in which numbers are added does not affect the sum • explaining and demonstrating that the order in which numbers are subtracted matters when finding a difference 2N10. Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.

Master 74f

Curriculum Correlation
Number Cluster 7: Operational Fluency

AB/NU

Kindergarten
Number KN03. Relate a numeral, 1 to 10, to its respective quantity. KN04. Represent and describe numbers 2 to 10, concretely and pictorially.
Grade 1
Number 1N08. Identify the number, up to 20, that is one more, two more, one less and two less than a given number. (Activities 28, 31) 1N09. Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially and symbolically by: • using familiar and mathematical language to describe additive and subtractive actions from their experience • creating and solving problems in context that involve addition and subtraction • modelling addition and subtraction using a variety of concrete and visual representations, and recording the process symbolically. (Activities 28, 29, 30, 31, 32, 33, 34, 35) 1N10. Describe and use mental mathematics strategies (memorization not intended), such as: • counting on and counting back • making 10 • doubles • using addition to subtract to determine the basic addition facts to 18 and related subtraction facts. (Activities 28, 29, 30, 31, 32, 33, 34, 35) Cross Strands: Patterns and Relations (Variables and Equations) 1PR4. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). 1PR5. Record equalities using the equal symbol.

Master 74g

Curriculum Correlation
Number Cluster 7: Operational Fluency

AB/NU (con't)

Grade 2
Number 2N08. Demonstrate and explain the effect of adding zero to or subtracting zero from any number. 2N09. Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • using personal strategies for adding and subtracting with and without the support of manipulatives • creating and solving problems that involve addition and subtraction • explaining that the order in which numbers are added does not affect the sum • explaining that the order in which numbers are subtracted may affect the difference. 2N10. Apply mental mathematics strategies, such as: • using doubles • making 10 • one more, one less • two more, two less • building on a known double • addition for subtraction to determine basic addition facts to 18 and related subtraction facts.

Master 74h

Curriculum Correlation
Number Cluster 7: Operational Fluency

NFL

Kindergarten
Number KN03. Relate a numeral, 1 to 10, to its respective quantity. KN04. Represent and describe numbers 2 to 10, in two parts, concretely and pictorially.
Grade 1
Number 1N07. Identify the number, up to 20, that is: • one more • two more • one less • two less than a given number. (Activities 28, 31) 1N08. Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially and symbolically, by: • using familiar mathematical language to describe additive and subtractive actions • creating and solving problems in context that involve addition and subtraction • modelling addition and subtraction, using a variety of concrete and visual representations, and recording the process symbolically. (Activities 28, 29, 30, 31, 32, 33, 34, 35) 1N09. Describe and use mental mathematics strategies for basic addition facts and related subtraction facts to 18. (Activities 28, 29, 30, 31, 32, 33, 34, 35) Cross Strand: Patterns and Relations (Variables and Equations) 1PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). 1PR4. Record equalities using the equal symbol. (0 to 20).

Master 74i

Curriculum Correlation
Number Cluster 7: Operational Fluency

NFL (con't)

Grade 2
Number 2N08. Demonstrate and explain the effect of adding zero to or subtracting zero from any number. 2N09. Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • using personal strategies for adding and subtracting with and without the support of manipulatives • creating and solving problems that involve addition and subtraction • explaining that the order in which numbers are added does not affect the sum (Commutative Property) • explaining that the order in which numbers are subtracted may affect the difference.. 2N10. Apply mental mathematics strategies, such as: • counting on and counting back • making 10 • using Doubles • using addition to subtract for basic addition facts to 18 and related subtraction facts.

Master 74j

Curriculum Correlation
Number Cluster 7: Operational Fluency

MB

Kindergarten
Number KN03. Relate a numeral, 1 to 10, to its respective quantity. KN04. Represent and describe numbers 2 to 10, in two parts, concretely and pictorially.
Grade 1
Number 1N08. Identify the number, up to 20, that is one more, two more, one less, and two less than a given number. (Activities 28, 31) 1N09. Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially, and symbolically, by • using familiar and mathematical language to describe additive and subtractive actions from their experience • creating and solving problems in context that involve addition and subtraction • modelling addition and subtraction using a variety of concrete and visual representations, and recording the process symbolically. (Activities 28, 29, 30, 31, 32, 33, 34, 35) 1N10. Describe and use mental mathematics strategies, including • counting on, counting back • using one more, one less • making 10 • starting from known doubles • using addition to subtract to determine the basic addition and related subtraction facts to 18. (Activities 28, 29, 30, 31, 32, 33, 34, 35) Cross Strand: Patterns and Relations (Variables and Equations) PR03. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). PR04. Record equalities using the equal symbol. (0 to 20).

Master 74k

Curriculum Correlation
Number Cluster 7: Operational Fluency

MB (con't)

Grade 2
Number 2N08. Demonstrate and explain the effect of adding zero to or subtracting zero from any number. 2N09. Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by: • using personal strategies for adding and subtracting with and without the support of manipulatives • creating and solving problems that involve addition and subtraction • explaining that the order in which numbers are added does not affect the sum • explaining that the order in which numbers are subtracted may affect the difference 2N10. Apply mental mathematics strategies, including • using doubles • making 10 • using one more, one less • using two more, two less • building on a known double • using addition for subtraction to develop recall of basic addition facts to 18 and related subtraction facts

Name_____ Date _____

Master 75a

Bingo Card

Name_____ Date _____

Master 75b

Bingo Card

Name_____ Date _____

Master 76a

Caller's Sheet

Accommodations: Students write numbers 1 to 10 on the cards. Call numbers between 2 and 9 for "one more" or "one less" or between 3 and 8 for "two more" or "two less".

2, 1 more	2, 1 less		
3, 1 more	3, 1 less	3, 2 more	3, 2 less
4, 1 more	4, 1 less	4, 2 more	4, 2 less
5, 1 more	5, 1 less	5, 2 more	5, 2 less
6, 1 more	6, 1 less	6, 2 more	6, 2 less
7, 1 more	7, 1 less	7, 2 more	7, 2 less
8, 1 more	8, 1 less	8, 2 more	8, 2 less
9, 1 more	9, 1 less	9, 2 more	9, 2 less
10, 1 more	10, 1 less	10, 2 more	10, 2 less
11, 1 more	11, 1 less	11, 2 more	11, 2 less
12, 1 more	12, 1 less	12, 2 more	12, 2 less
13, 1 more	13, 1 less	13, 2 more	13, 2 less
14, 1 more	14, 1 less	14, 2 more	14, 2 less
15, 1 more	15, 1 less	15, 2 more	15, 2 less
16, 1 more	16, 1 less	16, 2 more	16, 2 less
17, 1 more	17, 1 less	17, 2 more	17, 2 less
18, 1 more	18, 1 less	18, 2 more	18, 2 less
19, 1 more	19, 1 less		

Name_____ Date _____

Master 76b

Caller's Sheet

Combined Grades Extension: Students write numbers 21 and 40 on the cards. Call numbers between 22 and 39 for "one more" or "one less" or between 23 and 38 for "two more" or "two less".

22, 1 more	22, 1 less		
23, 1 more	23, 1 less	23, 2 more	23, 2 less
24, 1 more	24, 1 less	24, 2 more	24, 2 less
25, 1 more	25, 1 less	25, 2 more	25, 2 less
26, 1 more	26, 1 less	26, 2 more	26, 2 less
27, 1 more	27, 1 less	27, 2 more	27, 2 less
28, 1 more	28, 1 less	28, 2 more	28, 2 less
29, 1 more	29, 1 less	29, 2 more	29, 2 less
30, 1 more	30, 1 less	30, 2 more	30, 2 less
31, 1 more	31, 1 less	31, 2 more	31, 2 less
32, 1 more	32, 1 less	32, 2 more	32, 2 less
33, 1 more	33, 1 less	33, 2 more	33, 2 less
34, 1 more	34, 1 less	34, 2 more	34, 2 less
35, 1 more	35, 1 less	35, 2 more	35, 2 less
36, 1 more	36, 1 less	36, 2 more	36, 2 less
37, 1 more	37, 1 less	37, 2 more	37, 2 less
38, 1 more	38, 1 less	38, 2 more	38, 2 less
39, 1 more	39, 1 less		

Number

Master 77: Activity 31 Assessment

More or Less

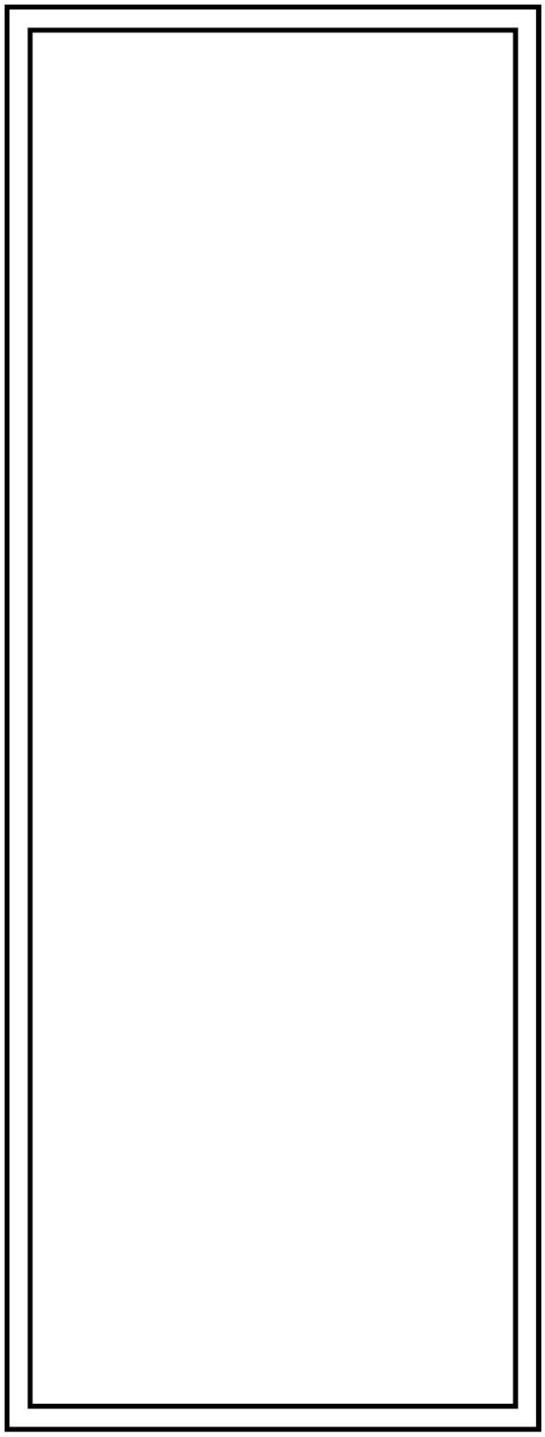
Conceptual Understanding of Counting Behaviours/Strategies			
Student says number word in between "touches" or does not say one number word for each counter counted.	Student does not know which number comes next in the counting-on or counting-back sequence. "15, 14, ?"	Student counts on to find one or two less. "2 less than 8, that's 8, 9, 10."	Student counts back but loses track of the number counted back. "9, 8, 7, 6. Did I count back 2?"
Observations/Documentation			

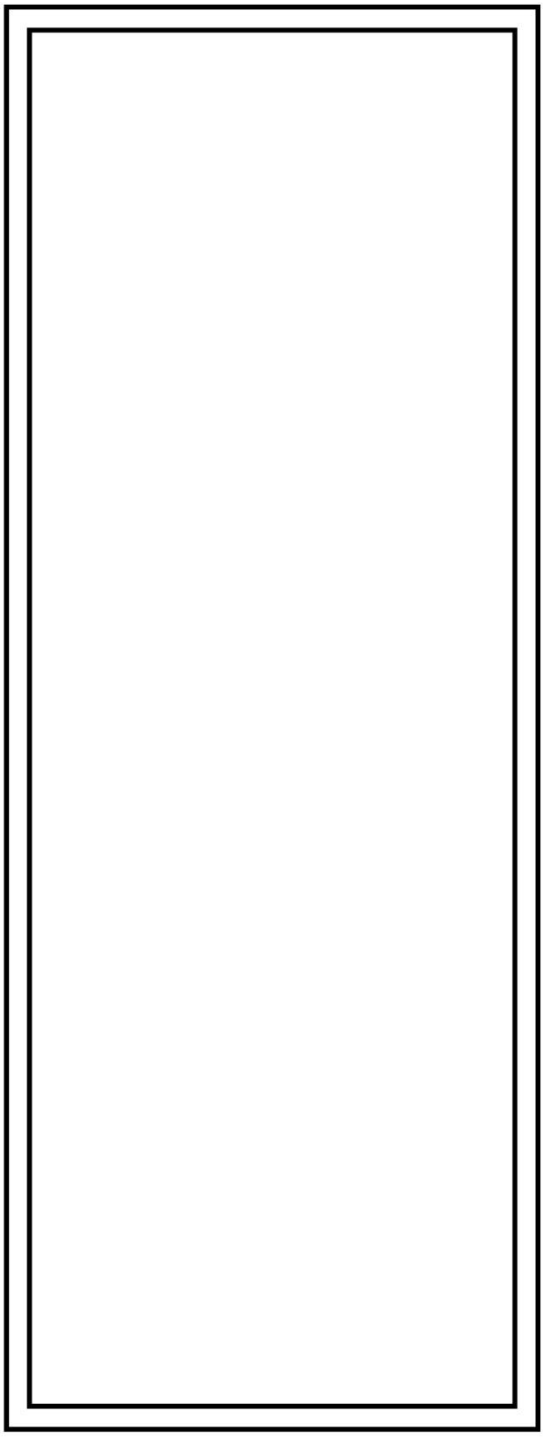
Adding and Subtracting One and Two Behaviours/Strategies			
Student does not understand the meaning of "more" or "less."	Student moves in the wrong direction on the number line.	Student uses the number line to count on or count back correctly.	Student uses mental math and the number relationships of one or two more or less. "2 more than 4 is 6."
Observations/Documentation			

Name _____ Date _____

Master 78

Planting Seeds



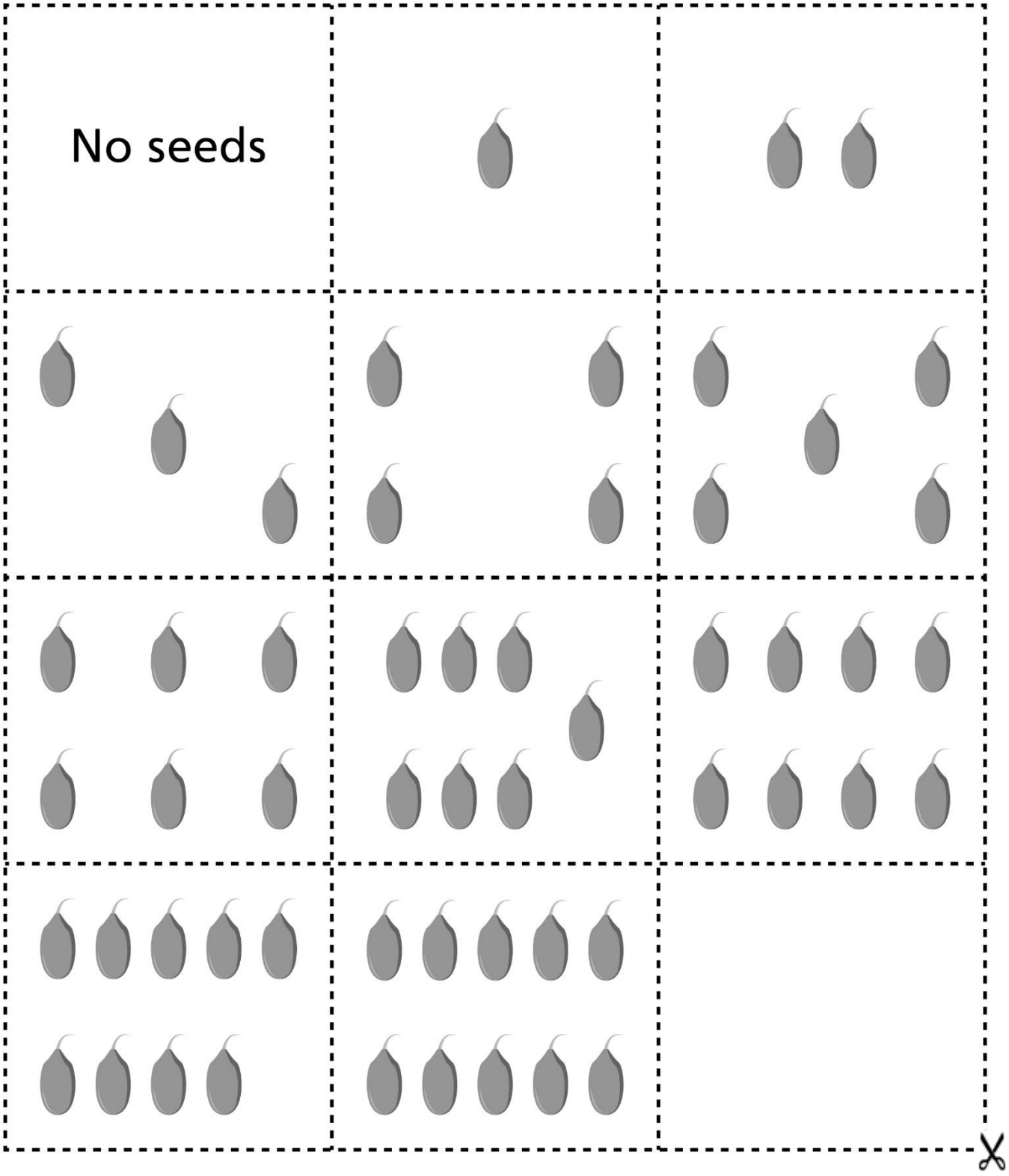


Seed 

Name _____ Date _____

Master 79

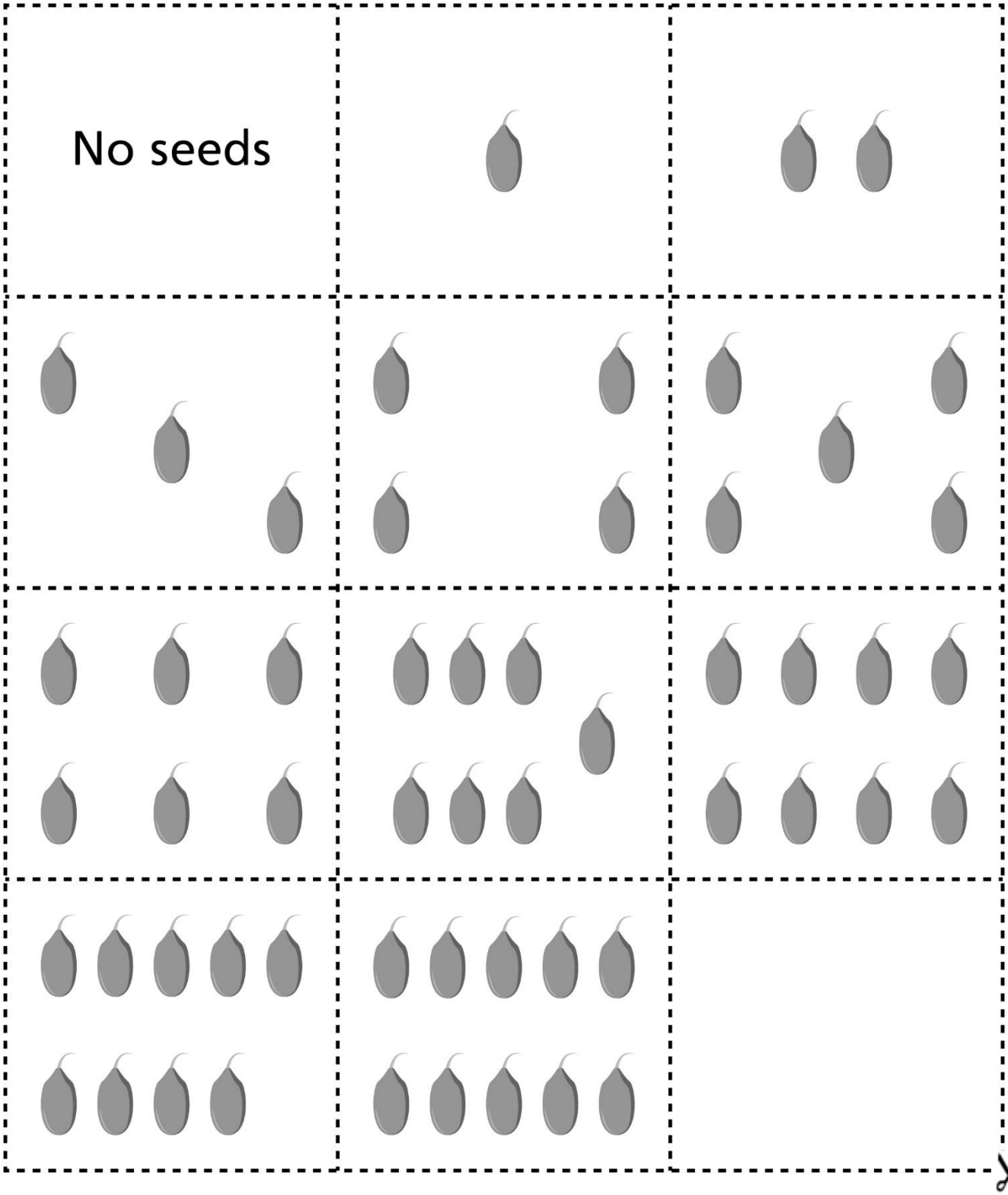
Seed Cards (0–10)



Name _____ Date _____

Master 80a

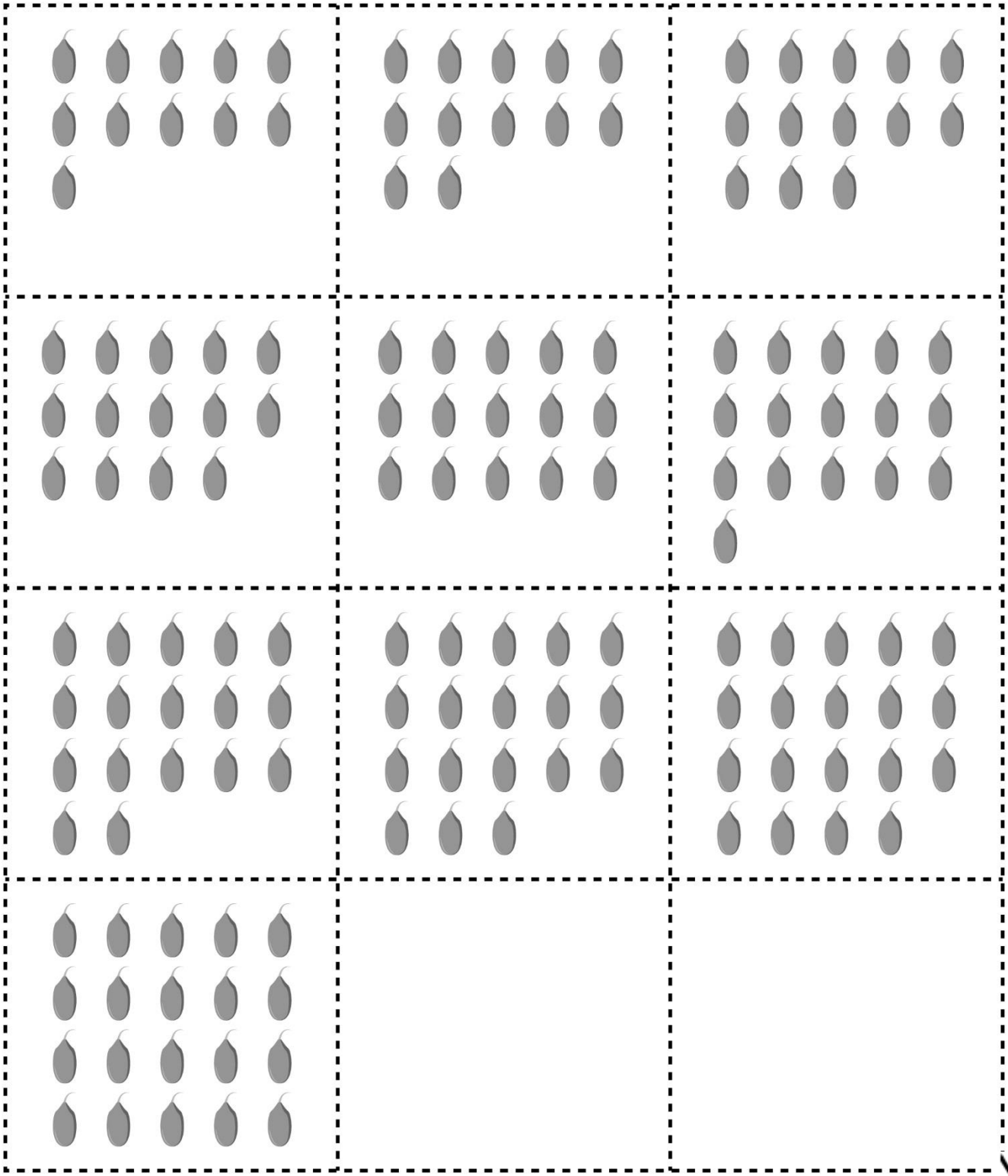
Seed Cards (0–20)



Name _____ Date _____

Master 80b

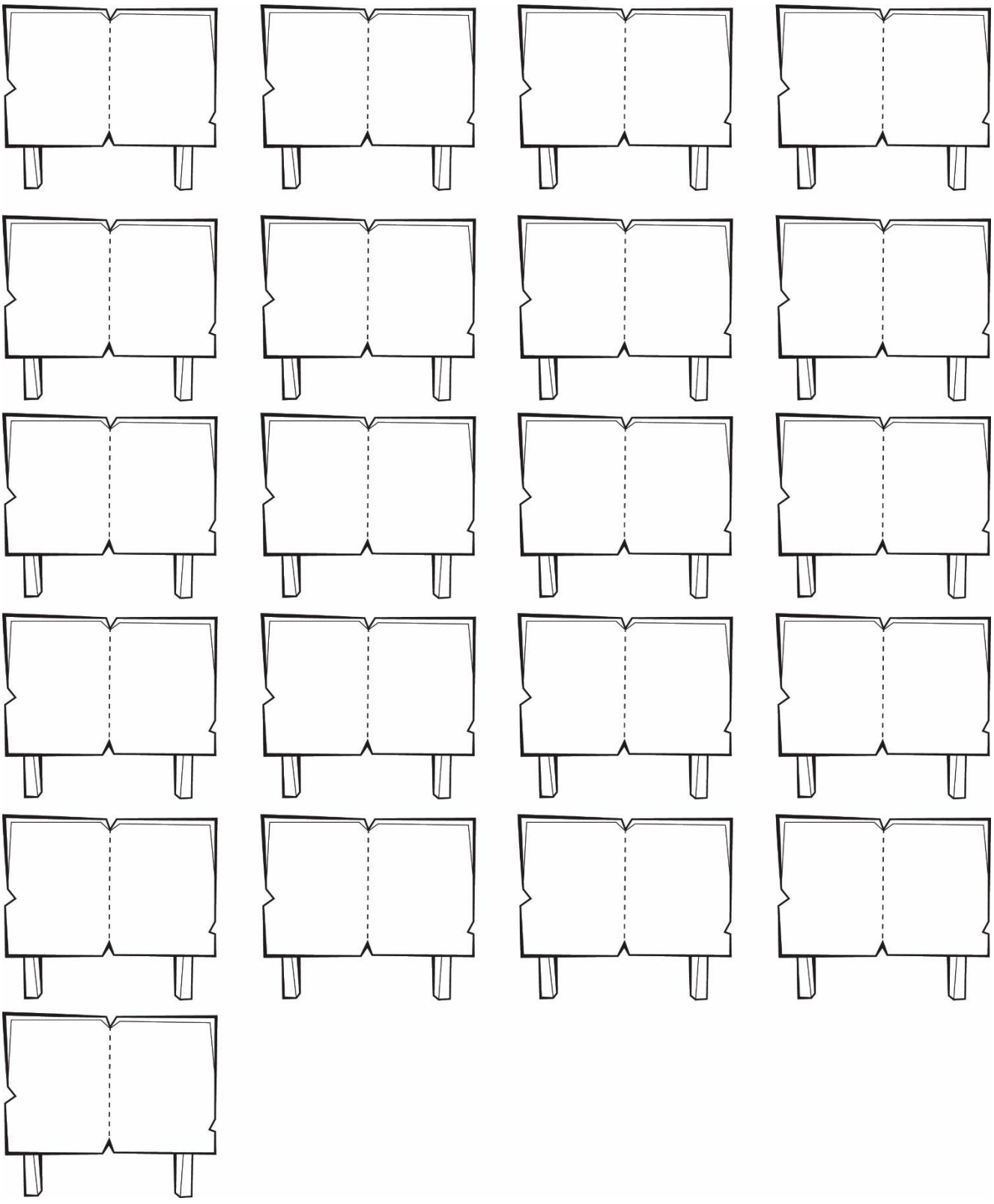
Seed Cards (0–20)



Name _____ Date _____

Master 81

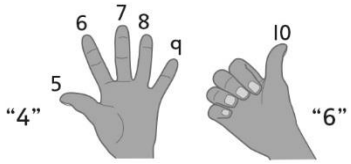
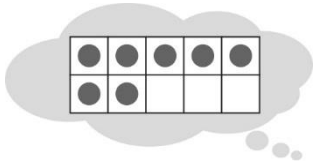
My 20 Garden



Number

Master 82: Activity 32 Assessment

Complements of 10

Recalling Complements of 10 Behaviours/Strategies		
1. Student says numbers randomly and is unable to find complements of 10. "4 seeds and 4 seeds"	2. Student finds complements of 10 by counting on with fingers.  	3. Student finds complements of 10 by visualizing a ten-frame. 
Observations/Documentation		
4. Student recalls many complements of 10, but struggles with 0. "I have 0 seeds. I don't know how many more are needed."	5. Student recalls complements of 10, but does not realize that the order of the numbers does not matter (e.g., 7 + 3 and 3 + 7 are the same).	6. Student fluently recalls complements of 10.
Observations/Documentation		

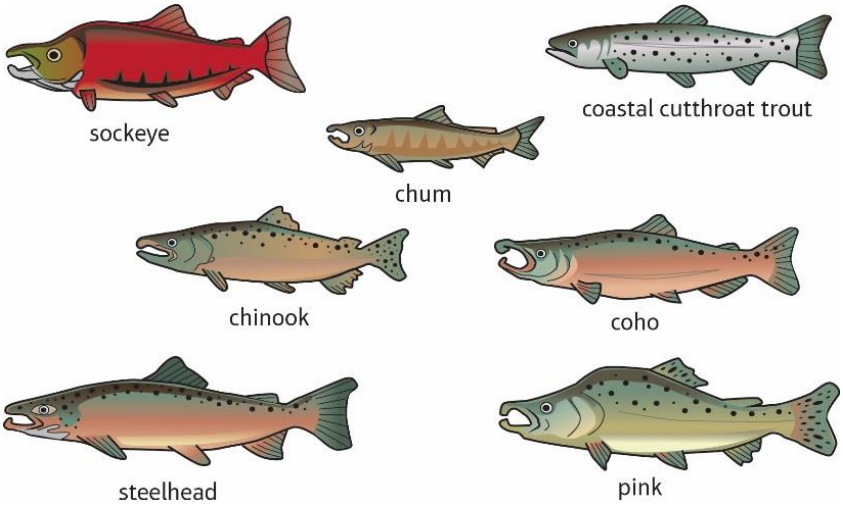
Name_____ Date _____

Master 83

Fish Weirs Story

By Pam Spooner and Colin Williams

Most First Nations people know a lot about the different fish species in the waters of their land. Nations who fish in the same river are only allowed to catch a certain number of fish.

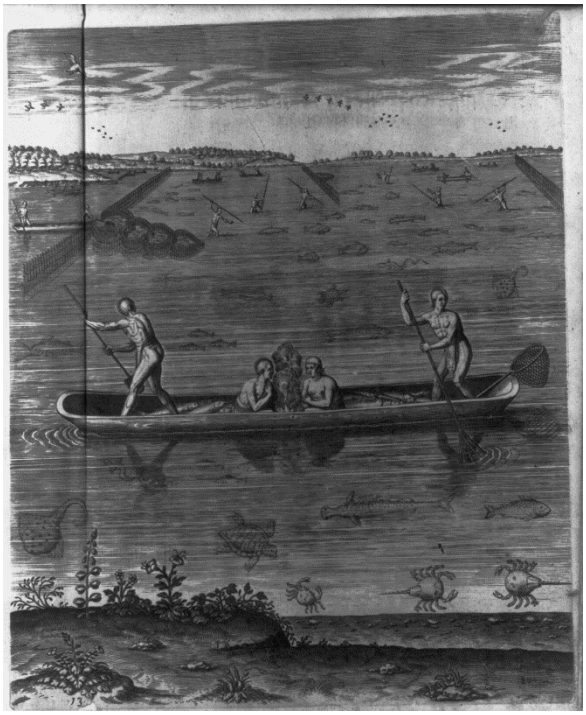


It is very important to protect the salmon populations. We must take care of the environment so the salmon survive, as many people in the world eat salmon.

Name_____ Date _____

A weir acts as a fence across a river to trap fish. First Nations people use stones, large rocks, and wood to build weirs.

Men would travel down the river in canoes and others would walk on the shore beside the canoes. Traps full of fish would then be lifted out of the *toh'* (water).



Name_____ Date _____

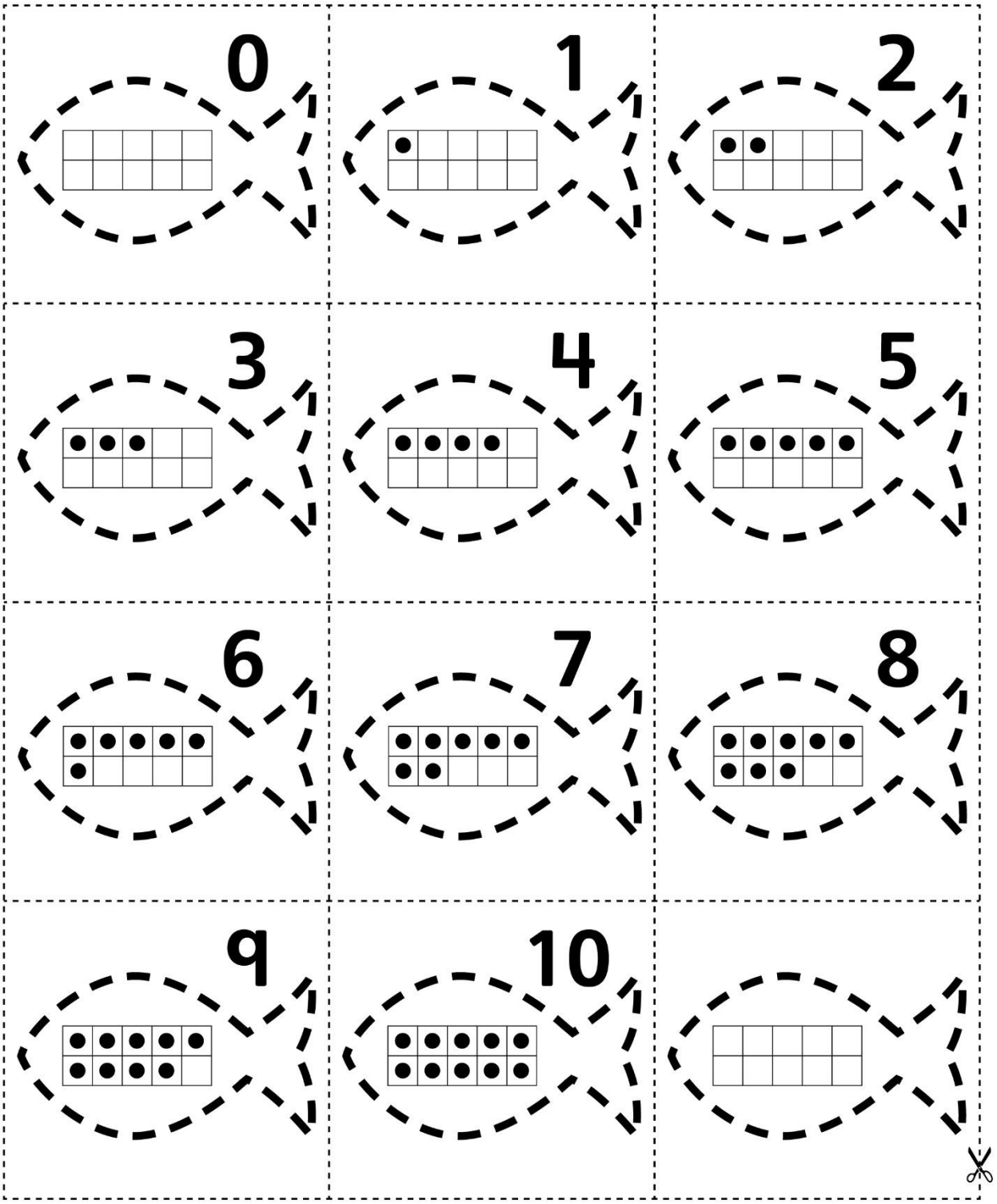
The fish would be brought to the shore, where *Ts'oh* (grandma) and her children would clean the *Th'lok* (fish).

After cleaning, the women would put the fish on poles and prepare them for the smokehouse.

Name _____ Date _____

Master 84a

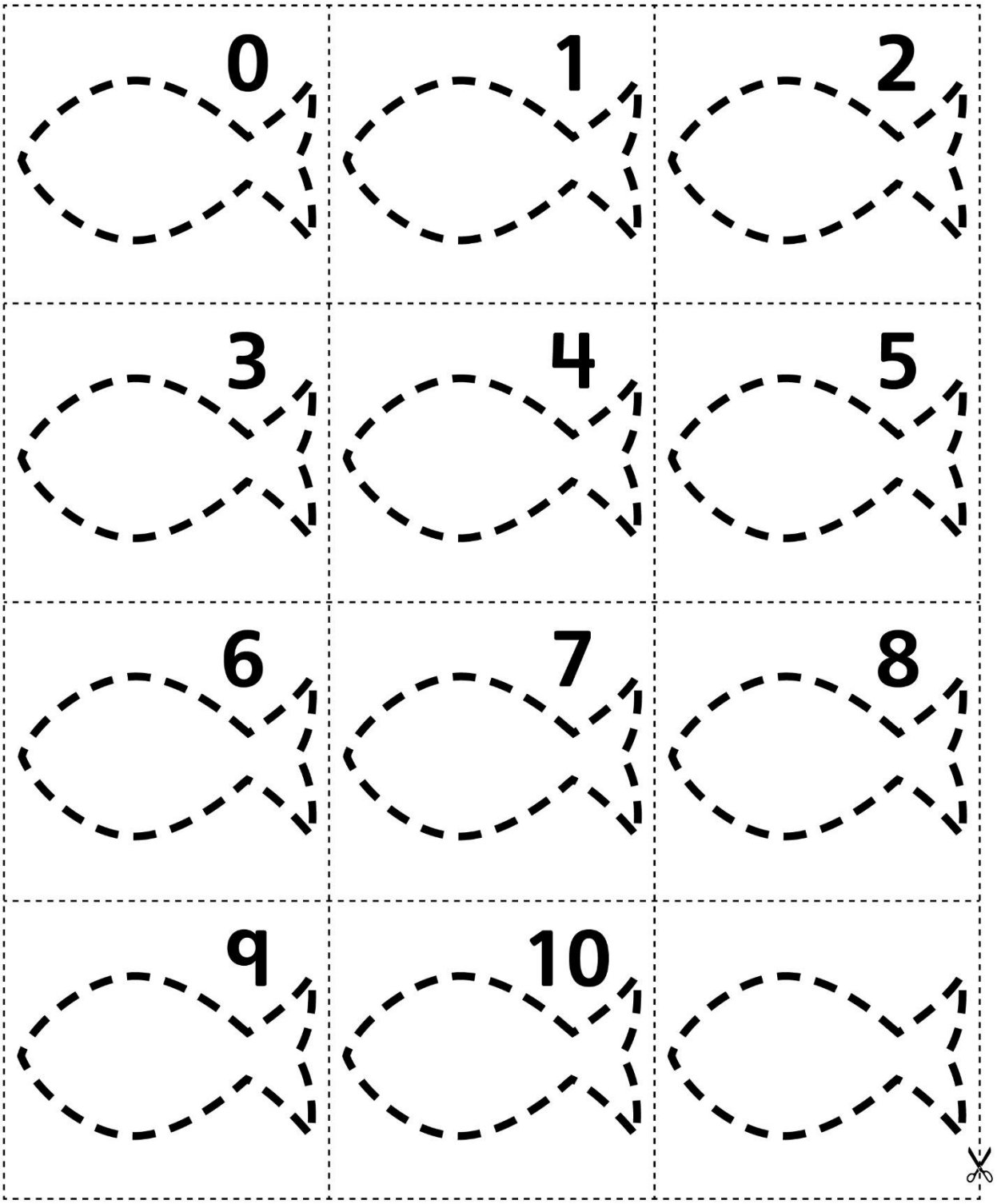
Salmon Cards



Name _____ Date _____

Master 84b

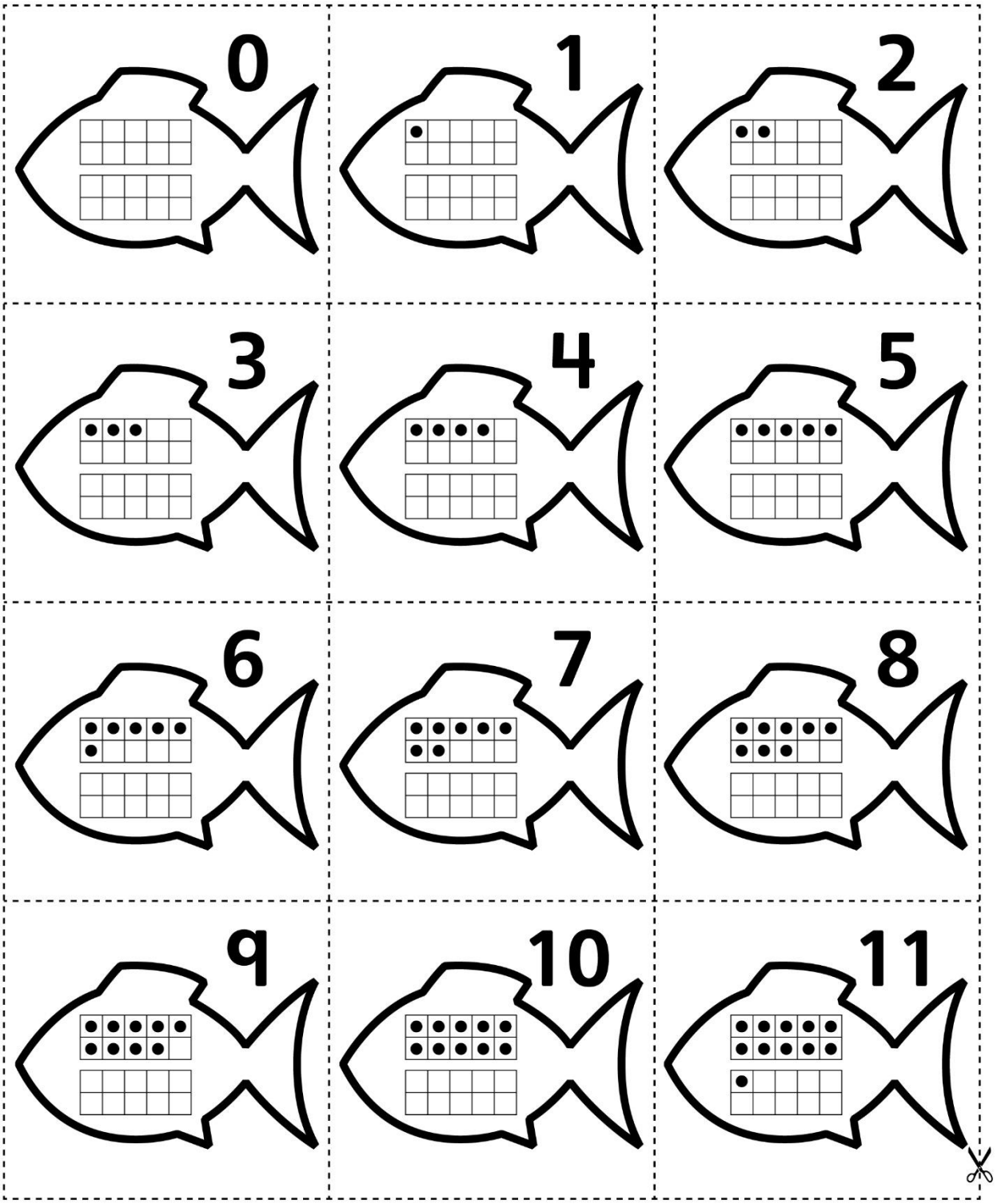
Salmon Cards



Name _____ Date _____

Master 85a

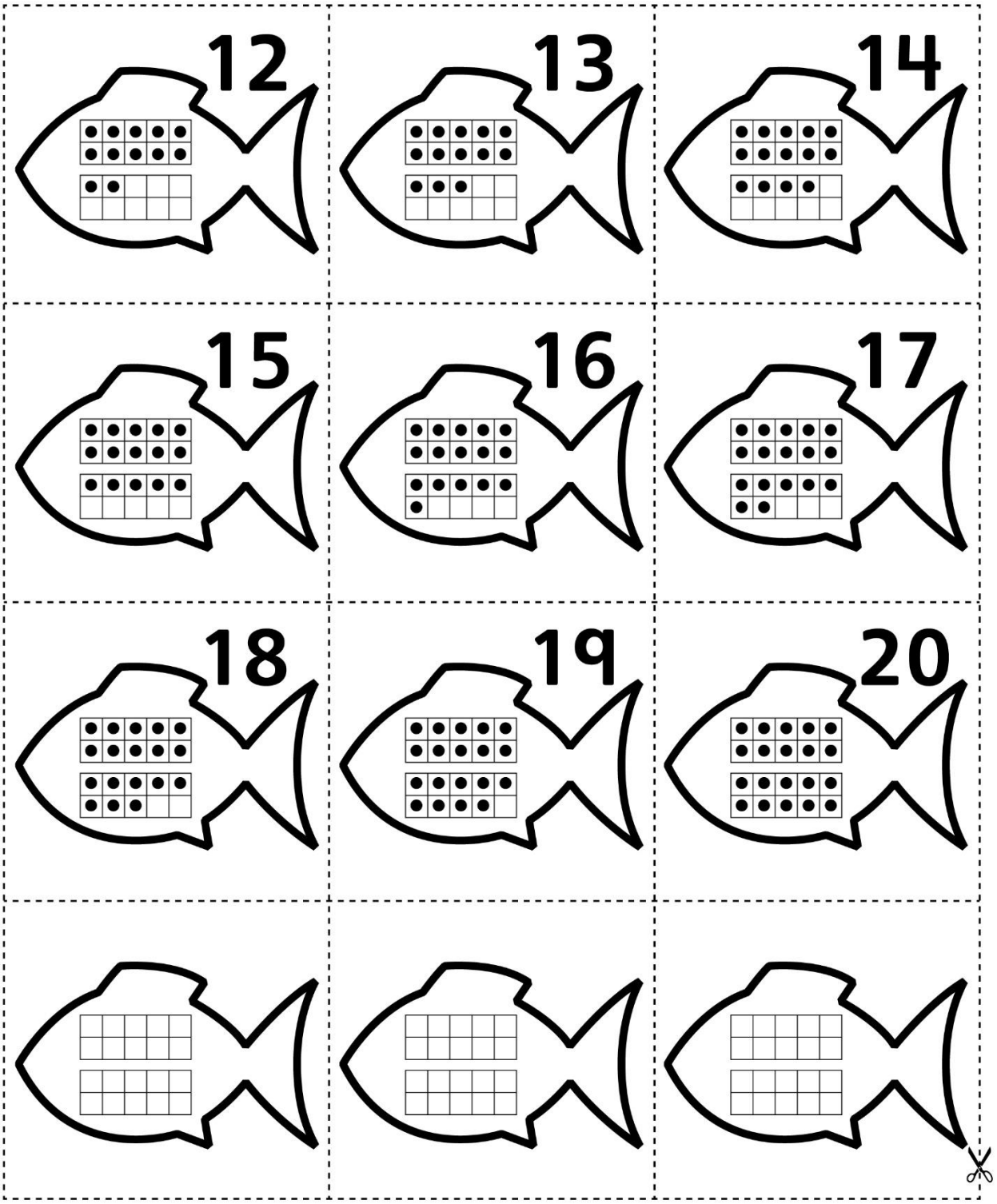
Answer Cards



Name _____ Date _____

Master 85b

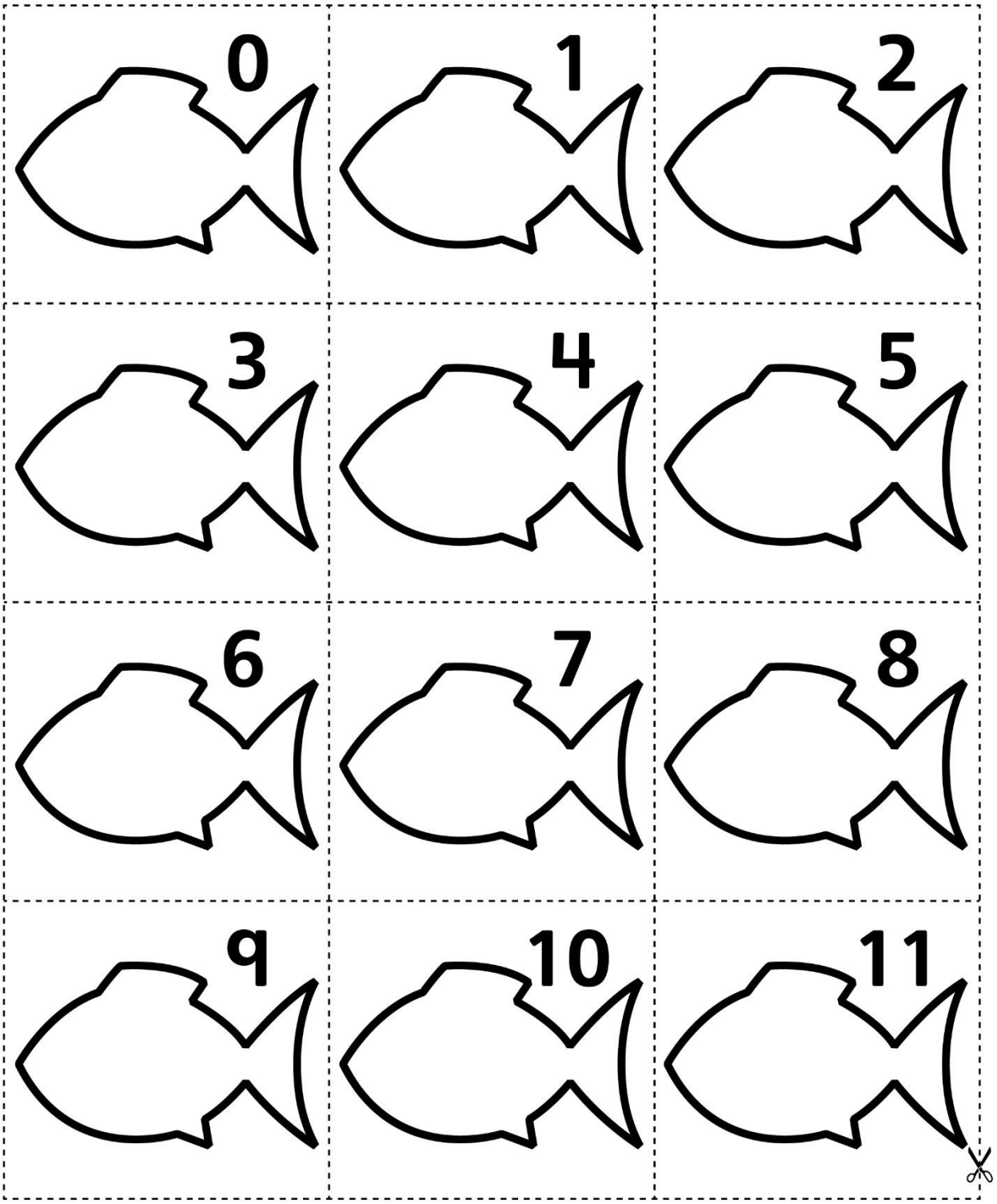
Answer Cards



Name _____ Date _____

Master 85c

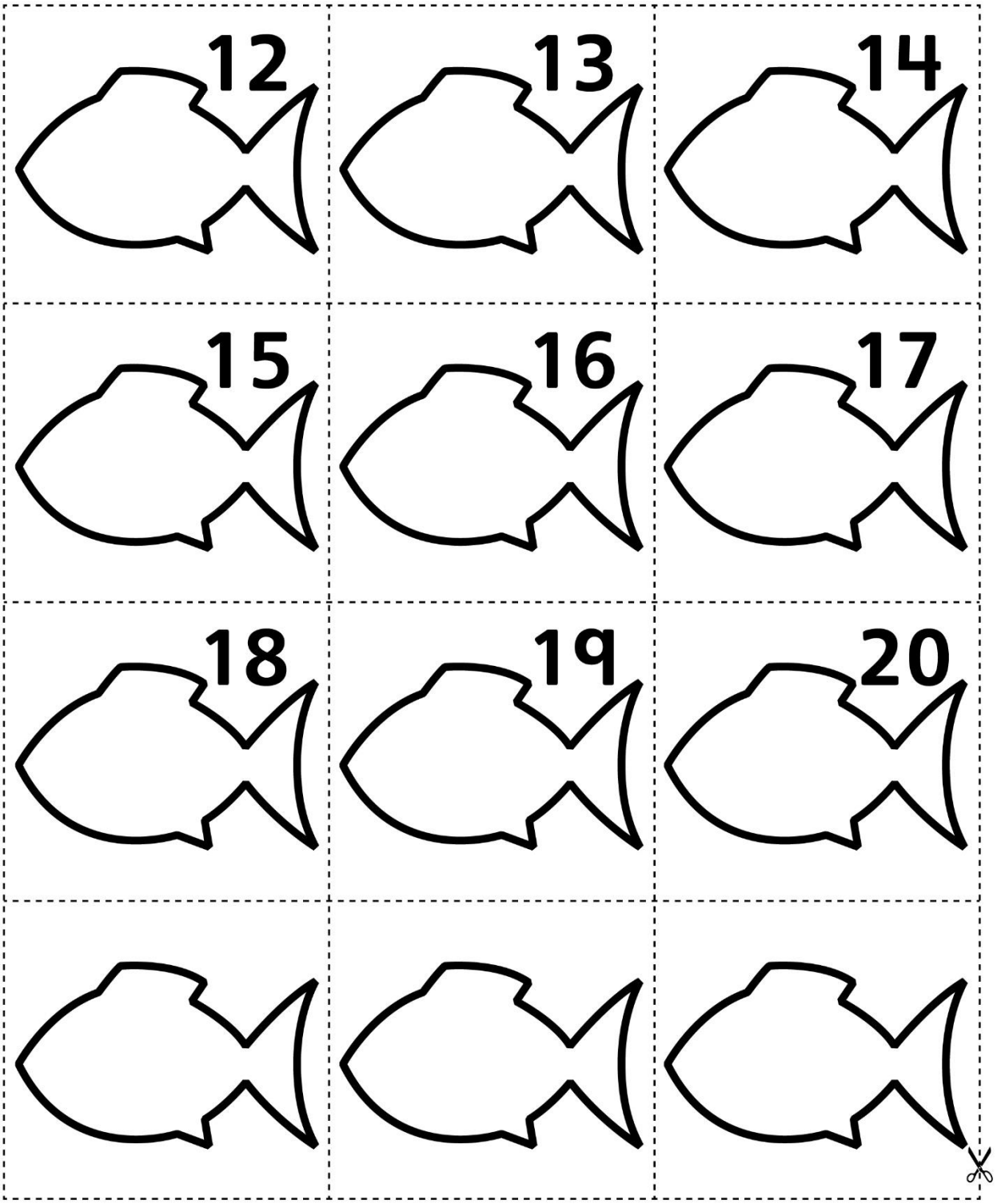
Answer Cards



Name _____ Date _____

Master 85d

Answer Cards

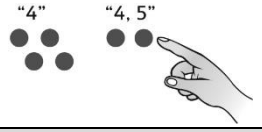
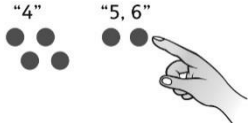


Number

Master 86: Activity 33 Assessment

Adding to 20

Conceptual Understanding of Addition Behaviours/Strategies			
Student does not say one number word for each counter counted, or says number word in between "touches."	Student mixes up the number sequence when counting on. "8, 9, 11"	Student counts on but loses track of the number counted on. "6, 7, 8, 9. Did I count on 2?"	Student always counts on from the first set. 2 + 8 "3, 4, 5, 6, 7, 8, 9, 10" 8 + 2 "9, 10"
Observations/Documentation			

Adding Numbers Behaviours/Strategies			
Student adds the two numbers using counters and counts three times.	When counting on, student begins the count of the second set with the last number in the first set. 	Student uses counters to count on correctly. 	Student uses efficient addition strategies (e.g., 1 and 2 more, doubles, making ten, visualizing a number line) to find the sums.
Observations/Documentation			

Name_____ Date _____

Master 87a

Subtracting to 20 Recording Sheet

Number	Number of Cubes Removed	Number of Cubes Left

Name _____ Date _____

Master 87b

Subtracting to 50 Recording Sheet

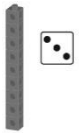
Number	Number of Cubes Removed	Number of Cubes Left

Number

Master 88: Activity 34 Assessment

Subtracting to 50

Conceptual Understanding of Subtraction Behaviours/Strategies			
Student has difficulty keeping track of the number of cubes removed. "1, 2, 3, 4. Did I remove 3?"	Student mixes up the number sequence when counting back. "19, 18, 16, 14, 15"	Student recounts the cubes in the tower before removing cubes (does not trust the count in between rolls).	Student counts backward fluently and keeps track of the number of cubes with ease.
Observations/Documentation			

Subtracting Numbers Behaviours/Strategies			
Student counts from 1 to remove cubes from the tower, then counts the cubes left in the tower from 1.	When counting back, student begins the count with the number of cubes in the tower.  "9, 8, 7"	Student removes more cubes from the tower than are in the tower and says there are no cubes left.  "I took away 5 cubes and I have none left."	Student subtracts cubes with ease and uses math language to describe her or his actions.
Observations/Documentation			

Name_____ Date _____

Master 89a

Math Problem Cards

12 + 6	9 + 4
13 + 3	3 + 5
14 + 1	15 + 5
4 + 3	2 + 6
17 + 2	8 + 9

Name _____ Date _____

Master 89b

Math Problem Cards

2 + 10	19 + 1
13 – 4	20 – 7
19 – 5	17 – 6
18 – 8	15 – 4
12 – 8	10 – 3

Name_____ Date _____

Master 89c

Math Problem Cards

$7 - 1$	$8 - 3$
$9 - 6$	$6 - 5$
$24 + 13$	$27 + 1$
$20 + 9$	$27 + 6$
$28 - 6$	$23 + 5$

Name_____ Date _____

Master 89d

Math Problem Cards

$23 - 2$	$34 + 16$
$39 - 3$	$33 + 5$
$31 + 9$	$30 + 6$
$20 - 11$	$25 - 3$
$21 - 18$	$27 + 14$

Name_____ Date _____

Master 89e

Math Problem Cards

$49 - 8$	$50 - 10$
$37 - 4$	$47 + 3$
$44 + 6$	$42 + 5$
$40 - 5$	$45 - 2$
$43 + 3$	$33 - 20$

Number

Master 90: Activity 35 Assessment

The Number Line

Conceptual Understanding of Addition and Subtraction Behaviours/Strategies		
Student does not say one number word for each space moved.	Student counts back to solve an addition problem or counts on to solve a subtraction problem. "9 plus 4 is 5." "10 take away 3 is 13."	Student counts on and back but loses track of the number counted on or back. "9, 8, 7, 6. Did I count back 2?"
Observations/Documentation		

Adding and Subtracting Numbers Behaviours/Strategies		
Student counts from 1 when modelling the amount added or subtracted.	Student counts on or back from the start number.	Student fluently uses the number line to solve addition and subtraction problems to 20 and relates each problem to the correct number sentence.
Observations/Documentation		

Name _____ Date _____

Master 91

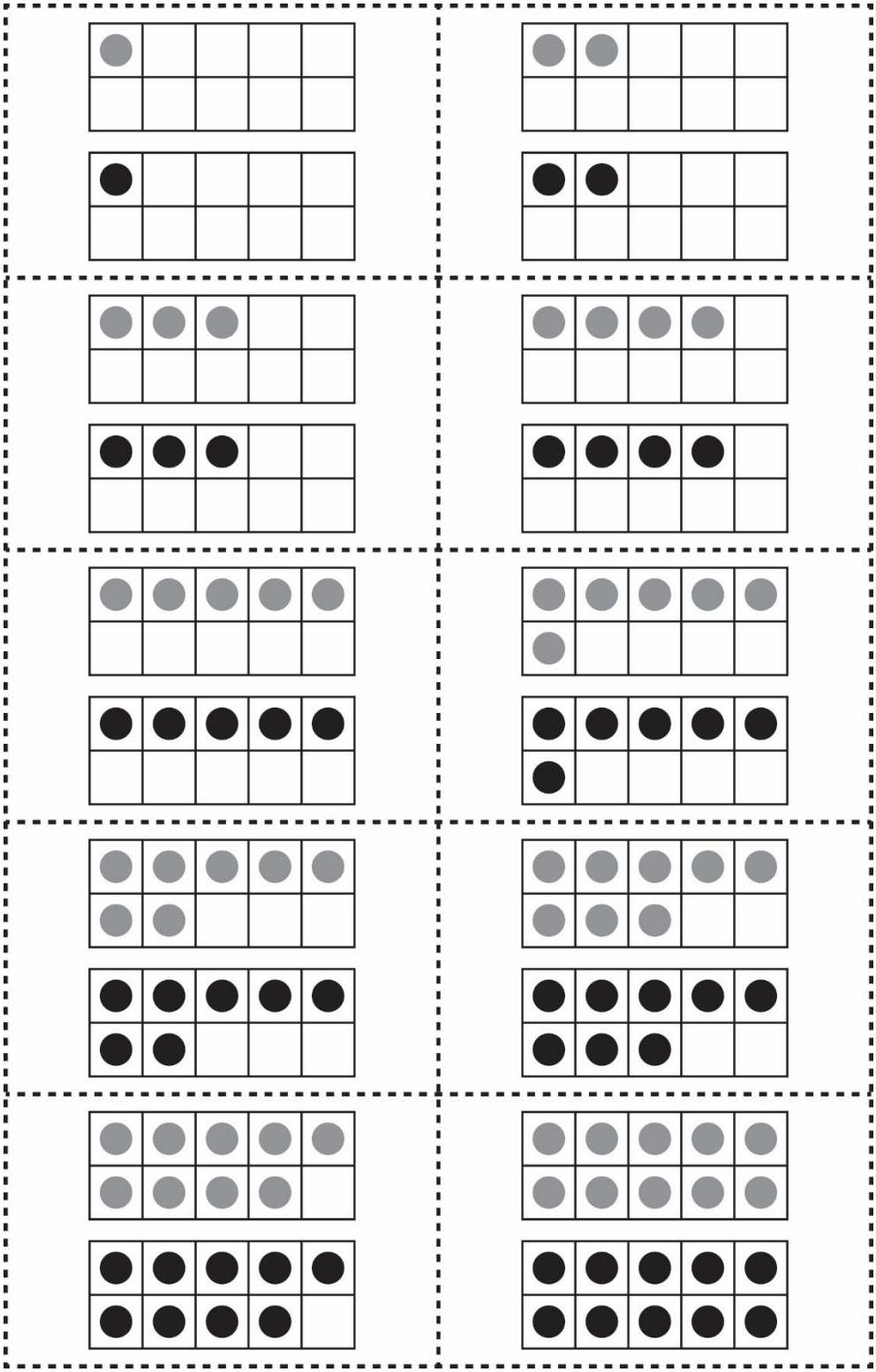
Even-Number Cards

2	4
6	8
10	12
14	16
18	20

Name _____ Date _____

Master 92

Doubles with Ten-Frames Cards



Name _____ Date _____

Master 93

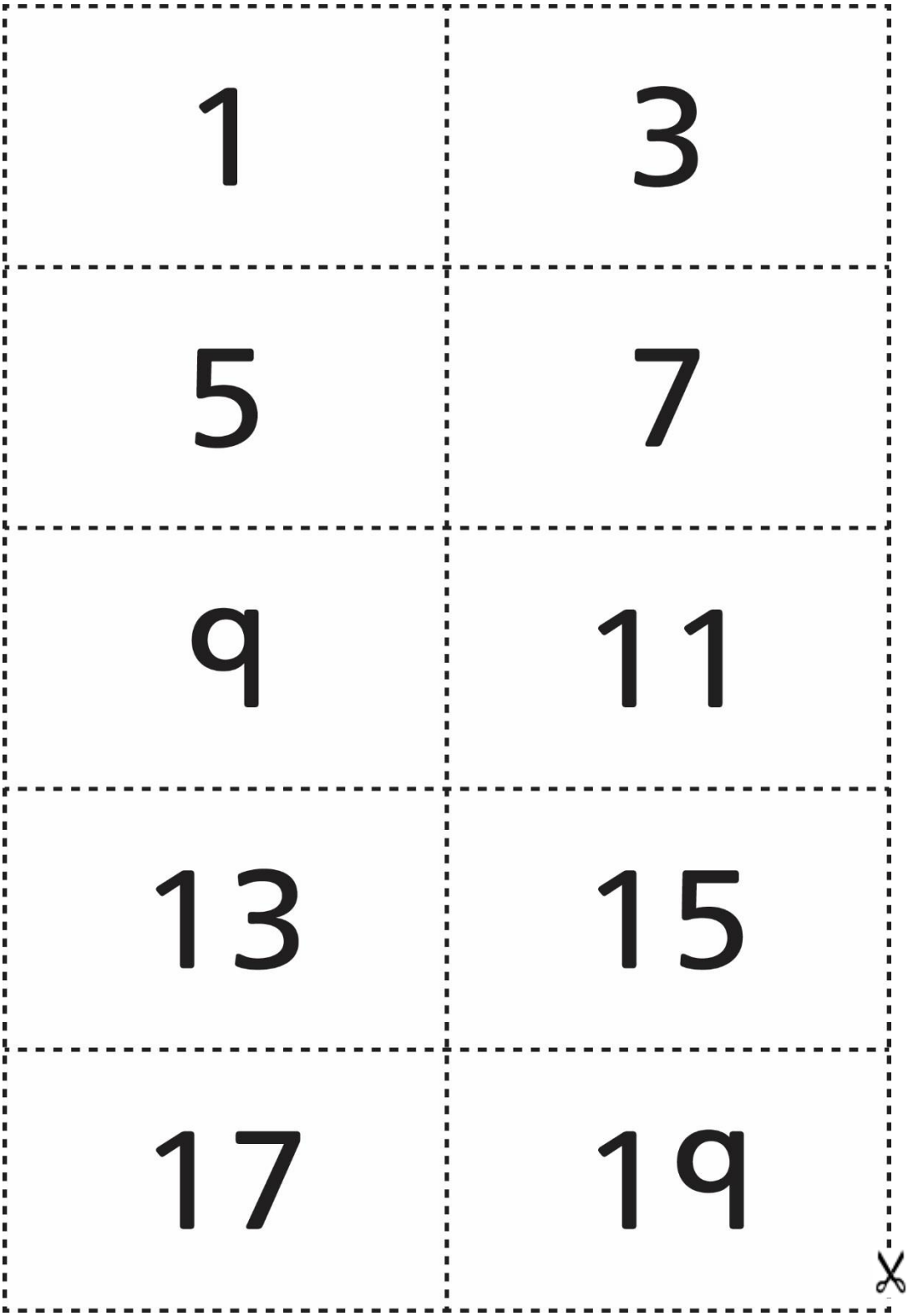
Doubles Cards

1 + 1	2 + 2
3 + 3	4 + 4
5 + 5	6 + 6
7 + 7	8 + 8
9 + 9	10 + 10

Name _____ Date _____

Master 94

Odd-Number Cards



Name _____ Date _____

Master 95

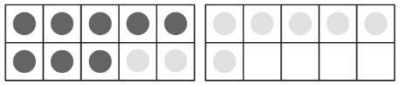
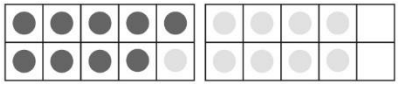
Near-Doubles Cards

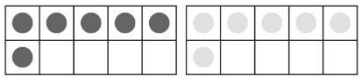
1 + 2	2 + 3
3 + 4	4 + 5
5 + 6	6 + 7
7 + 8	8 + 9
9 + 10	

Number

Master 96: Activity 36 Assessment

Doubles

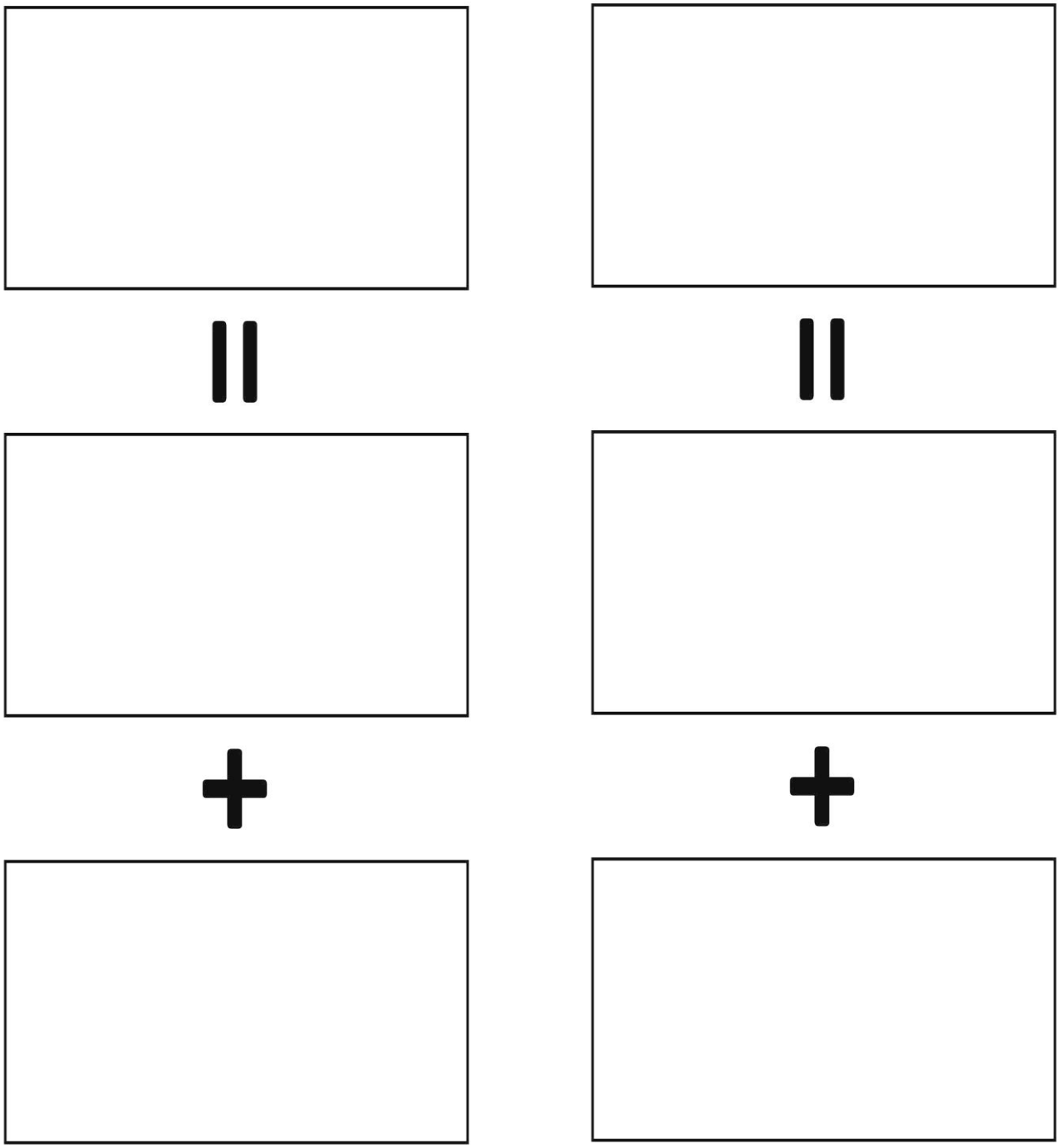
Conceptual Understanding of Addition Behaviours/Strategies			
Student does not say one number word for each counter counted, or says number word in between "touches."	For doubles of 1–5, student uses one ten-frame and counts all the counters.  "1, 2, 3, 4, 5, 6, 7, 8"	Student uses 2 ten-frames, fills one to "make 10," then counts from 1.  "1, 2, 3, …, 14, 15, 16"	For doubles of 6–10, student uses 2 ten-frames and counts on by 1s from 10. 
Observations/Documentation			

Finding Doubles Behaviours/Strategies			
Student counts three times to determine the double.  "1, 2, 3, 4" "1, 2, 3, 4" "1, 2, 3, 4, 5, 6, 7, 8"	For doubles of 6–10, student counts on from the number in the first set to determine the double.  "6, 7, …, 11, 12"	Student successfully uses counters, with or without ten-frames, to determine the doubles of numbers 1–10.	Student knows the doubles of numbers 1–10 without using counters.
Observations/Documentation			

Name _____ Date _____

Master 97a

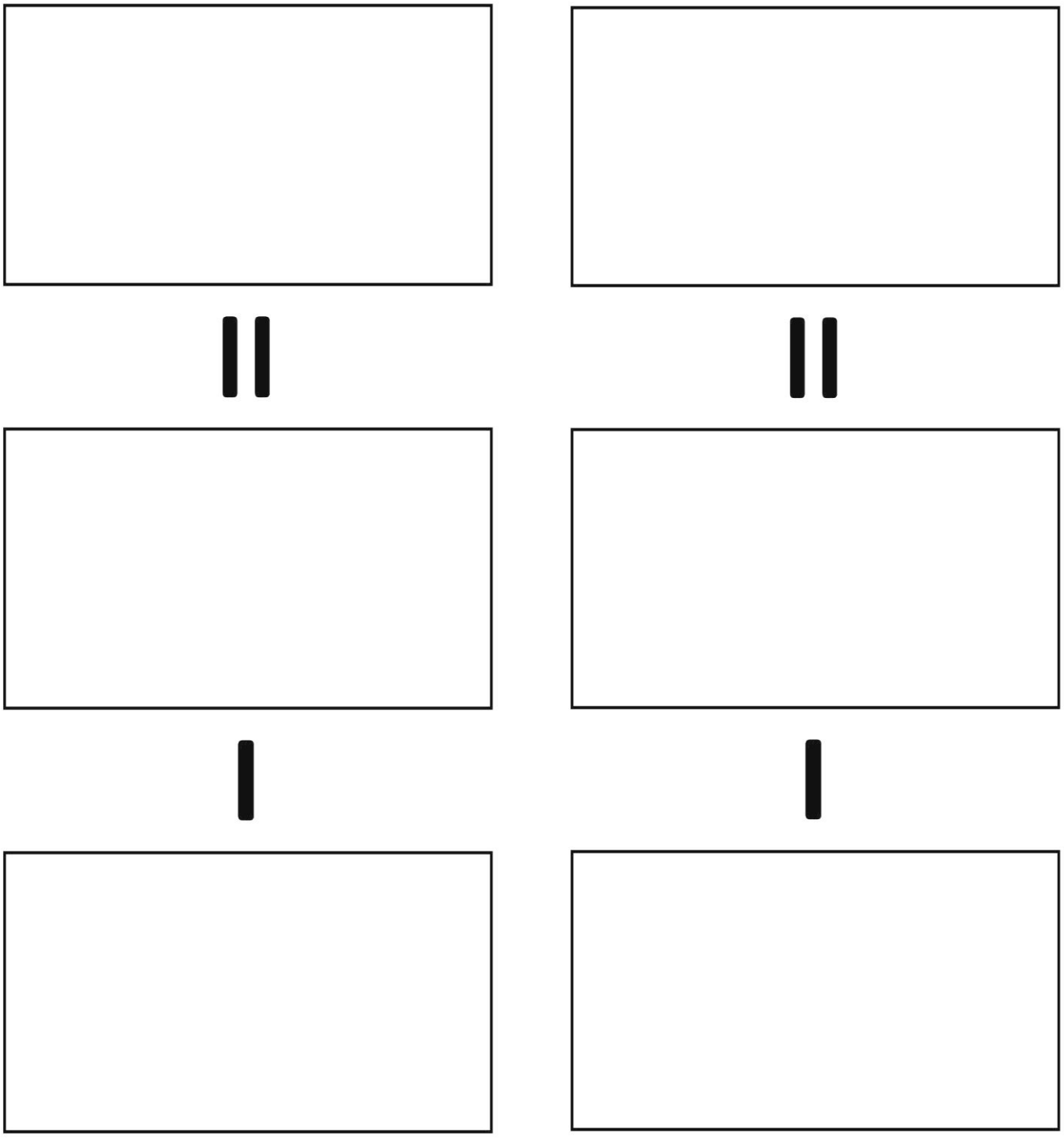
Number Sentences



Name _____ Date _____

Master 97b

Number Sentences



Number

Master 98: Activity 37 Assessment

Part-Part-Whole

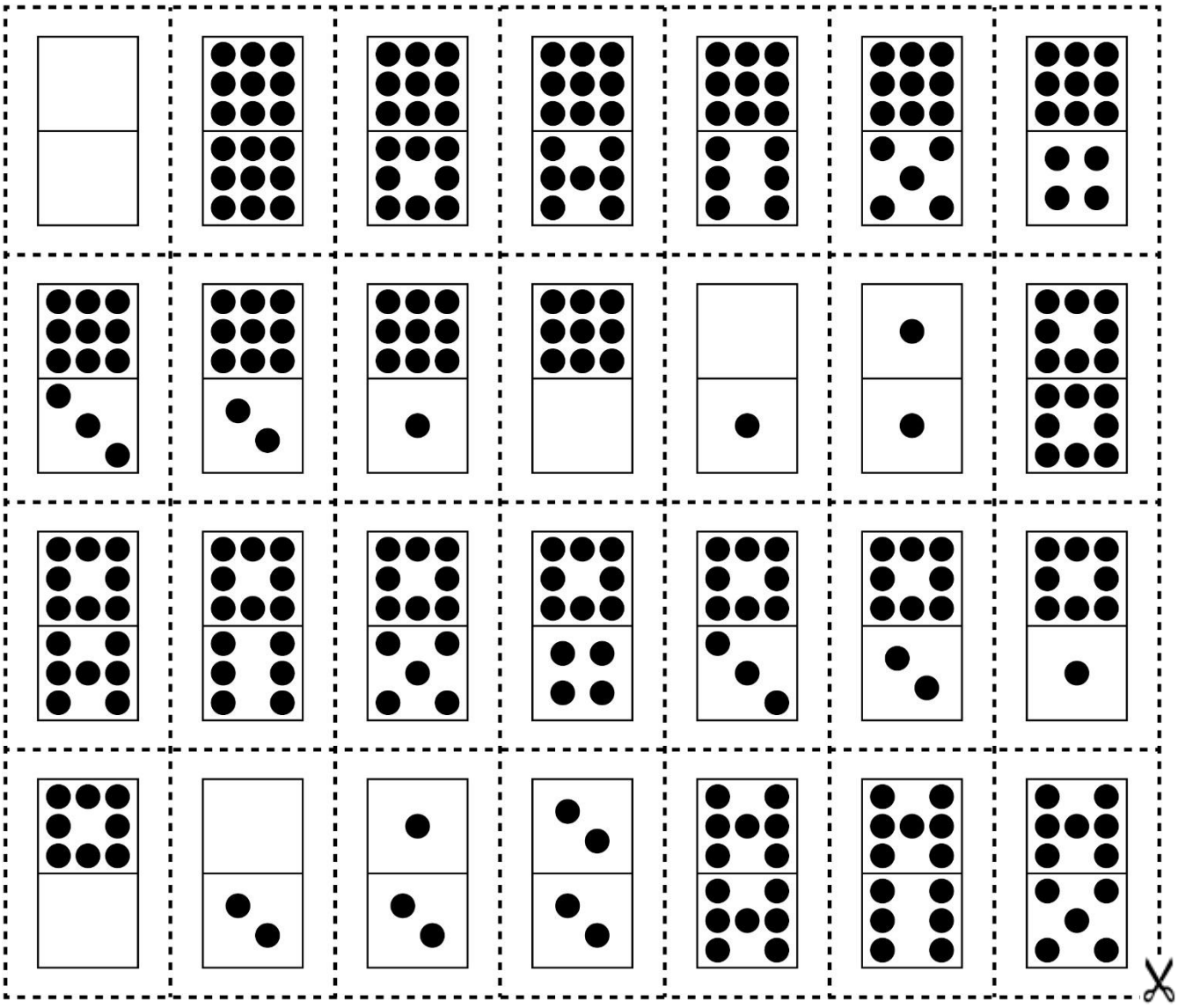
Conceptual Understanding/Computational Behaviours/Strategies		
Student guesses, then counts on to check. 11 – ? = 6 Guess 6: 7, 8, 9, 10, 11, 12 Too many. Guess 5: 7, 8, 9, 10, 11 Right!	Student counts three times to find the number of counters hidden.	Student adds the whole and the part to find the number of counters hidden. "There are 8 altogether and 5 in the cup. 8 and 5 make 13."
Observations/Documentation		

Student records the whole as a part.	Student counts on or back with counters or fingers.	Student counts on and counts back fluently to find the number of hidden counters. Student writes an addition or subtraction sentence to represent the problem and uses the inverse operation to check the answer.
Observations/Documentation		

Name _____ Date _____

Master 99a

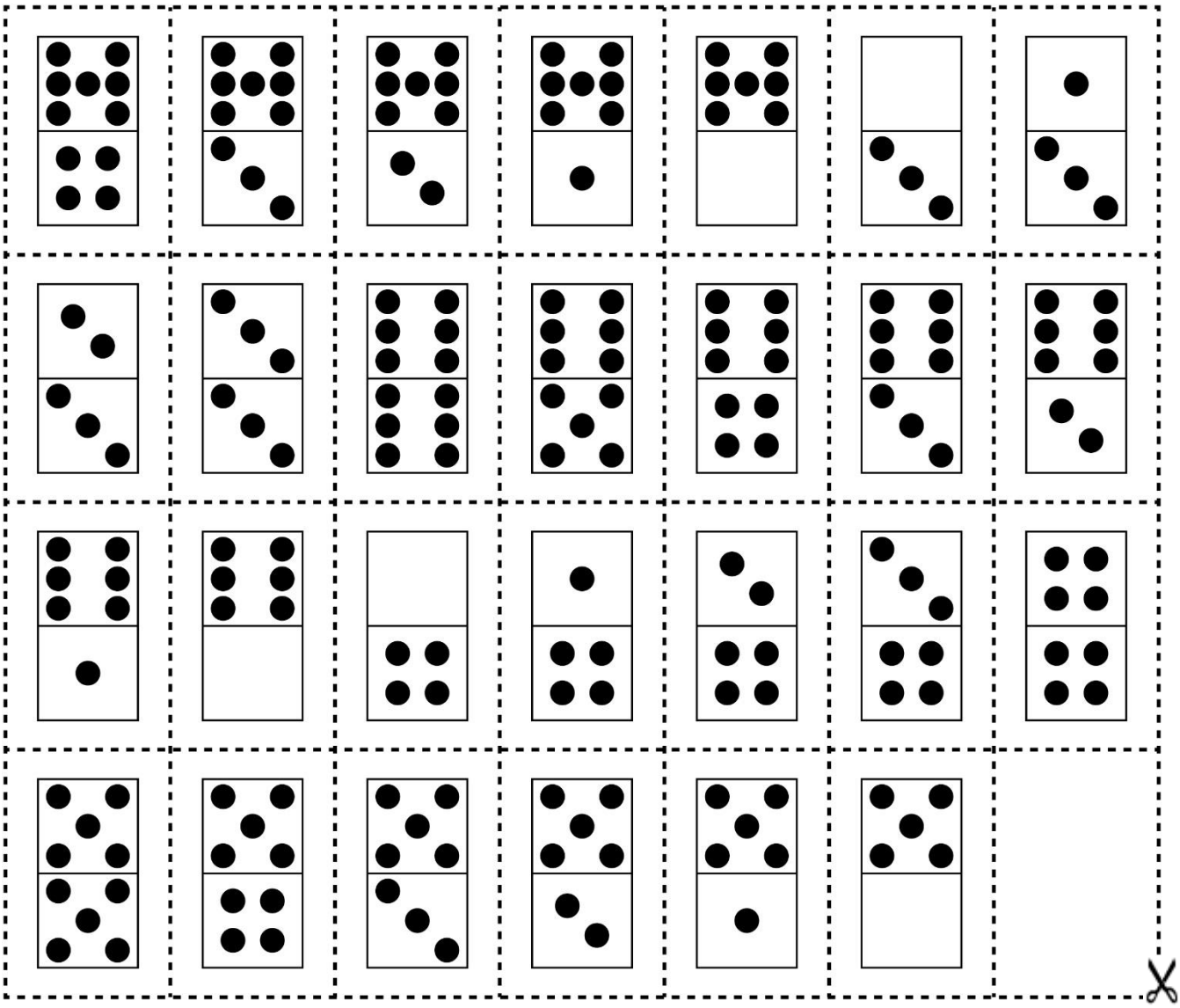
Domino Cards



Name _____ Date _____

Master 99b

Domino Cards

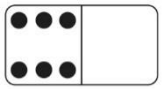


Number

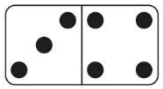
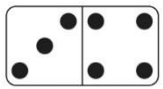
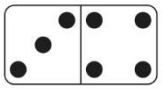
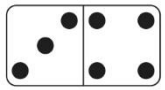
Master 100: Activity 38 Assessment

Exploring Properties

Operational Sense Behaviours/Strategies

1.	2.	3.	4.
Student turns over a domino, but is unable to use symbols and equations to represent an addition situation. "I don't know how to write an addition sentence for a domino."	Student uses symbols and equations to represent some addition situations, but struggles when one of the addends is zero.  "I don't know what to write."	Student uses symbols and equations to represent an addition situation in one way, but does not use the commutative property to represent it another way. "3 + 4 = 7. I don't know another sentence."	Student successfully uses symbols and equations to represent addition and subtraction situations and shows understanding of the zero and commutative properties. 7 + 0 = 7 0 + 7 = 7 7 – 0 = 7
Observations/Documentation			

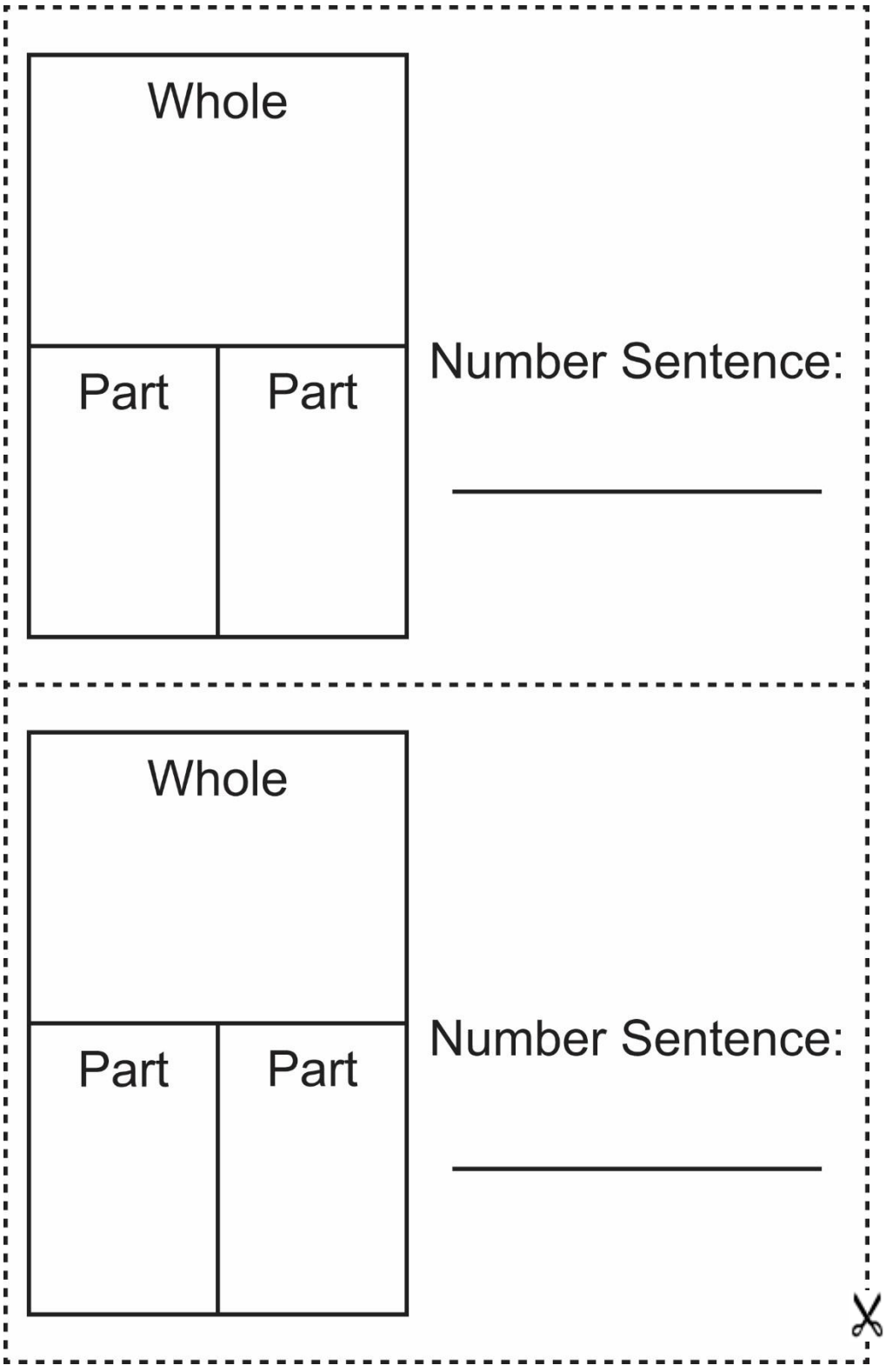
Mental Math and Computational Behaviours/Strategies

1.	2.	3.	4.
Student counts three times to add quantities (find the total number of dots). "1, 2, 3" "1, 2, 3, 4"  "1, 2, 3, 4, 5, 6, 7"	Student counts on from the smaller number to add quantities.  "3" "4, 5, 6, 7"	Student uses a known fact, doubles, or skip-counting to add quantities.  "I know 3 + 3 = 6, so 3 + 4 = 7."	Student fluently adds and subtracts with quantities to 20.  "I know 3 + 4 = 7."
Observations/Documentation			

Name _____ Date _____

Master 101

Math in Pictures Recording Sheet



Name _____ Date _____

Master 102a

Math in Pictures

Name _____ Date _____

Master 102b

Math in Pictures

Name _____ Date _____

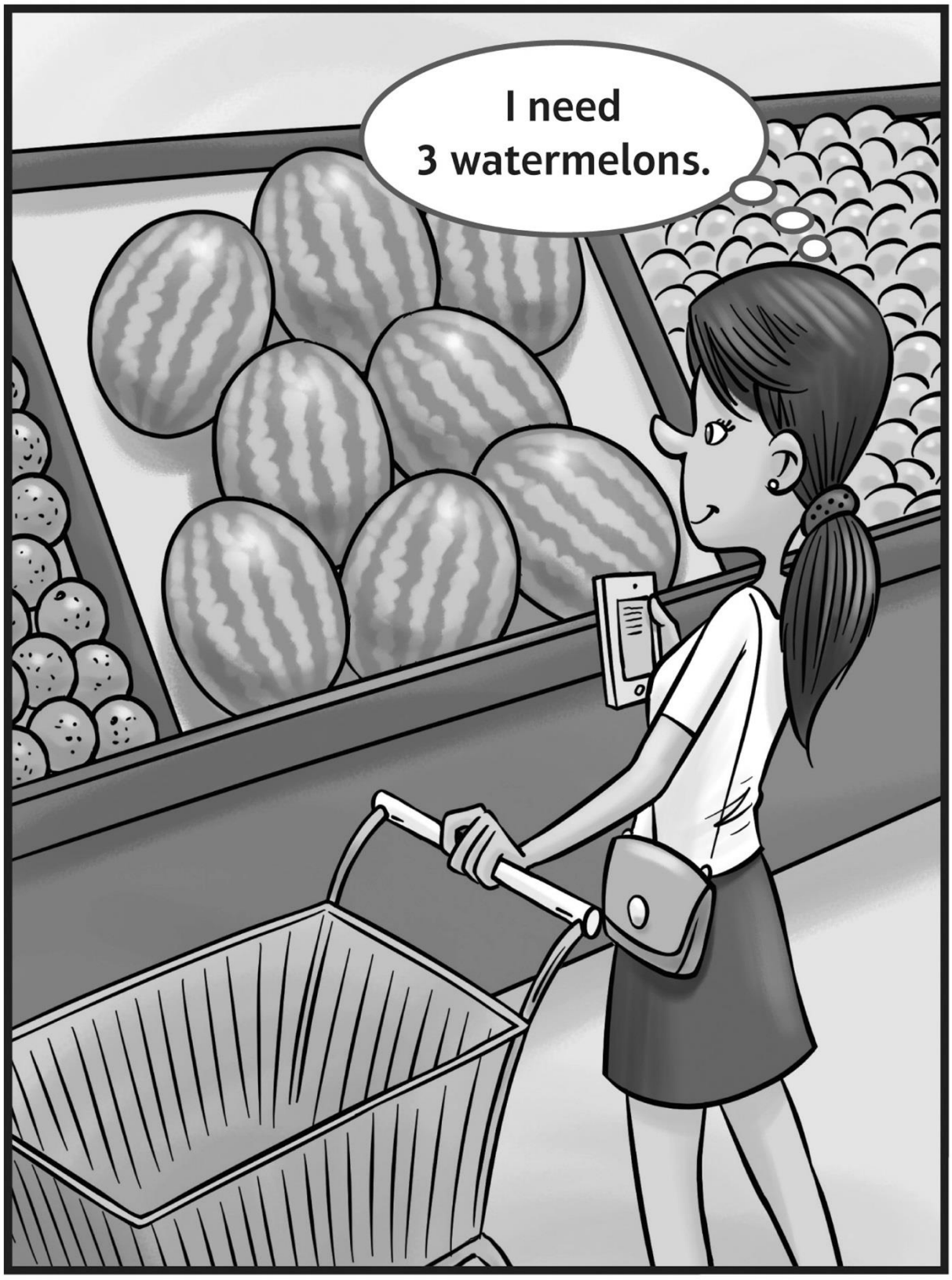
Master 102c

Math in Pictures

Name _____ Date _____

Master 102d

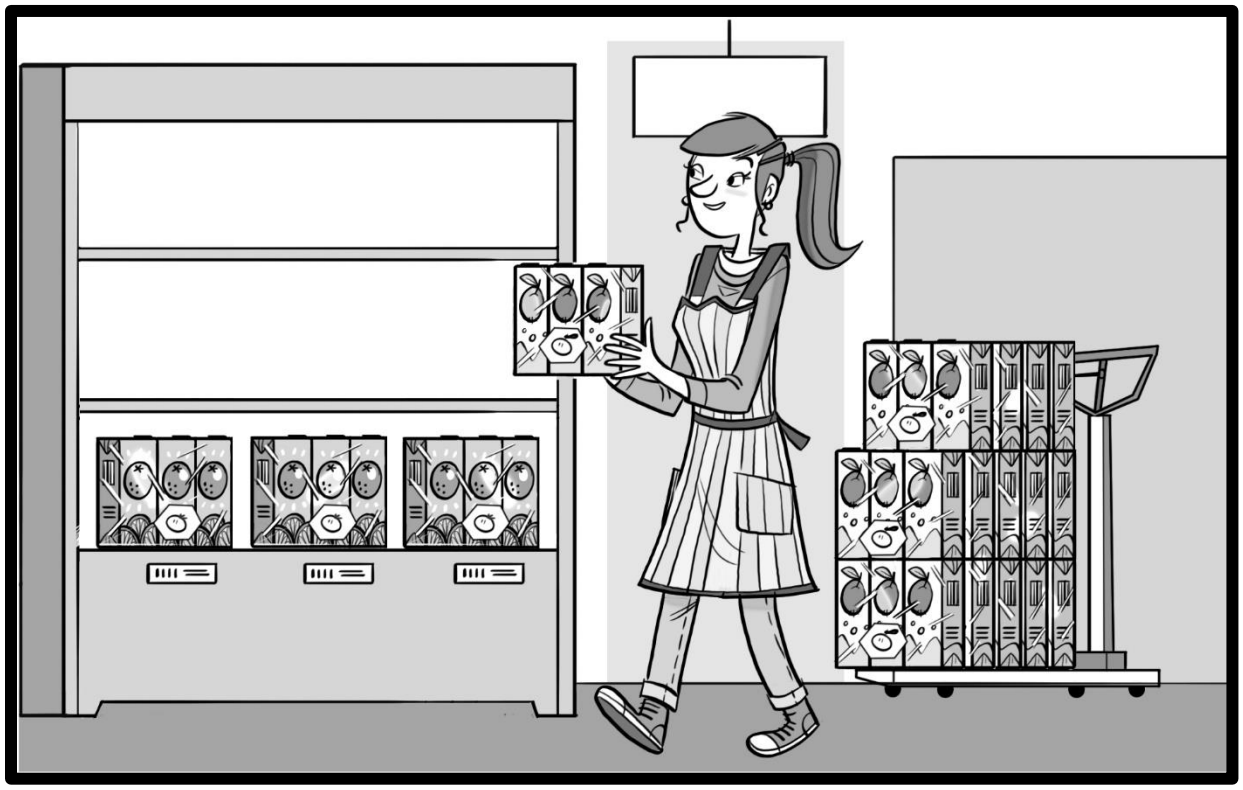
Math in Pictures



Name _____ Date _____

Master 102e

Math in Pictures



Name _____ Date _____

Master 102f

Math in Pictures

Name _____ Date _____

Master 102g

Math in Pictures

Name _____ Date _____

Master 102h

Math in Pictures

Number

Master 103: Activity 39 Assessment

Solving Story Problems

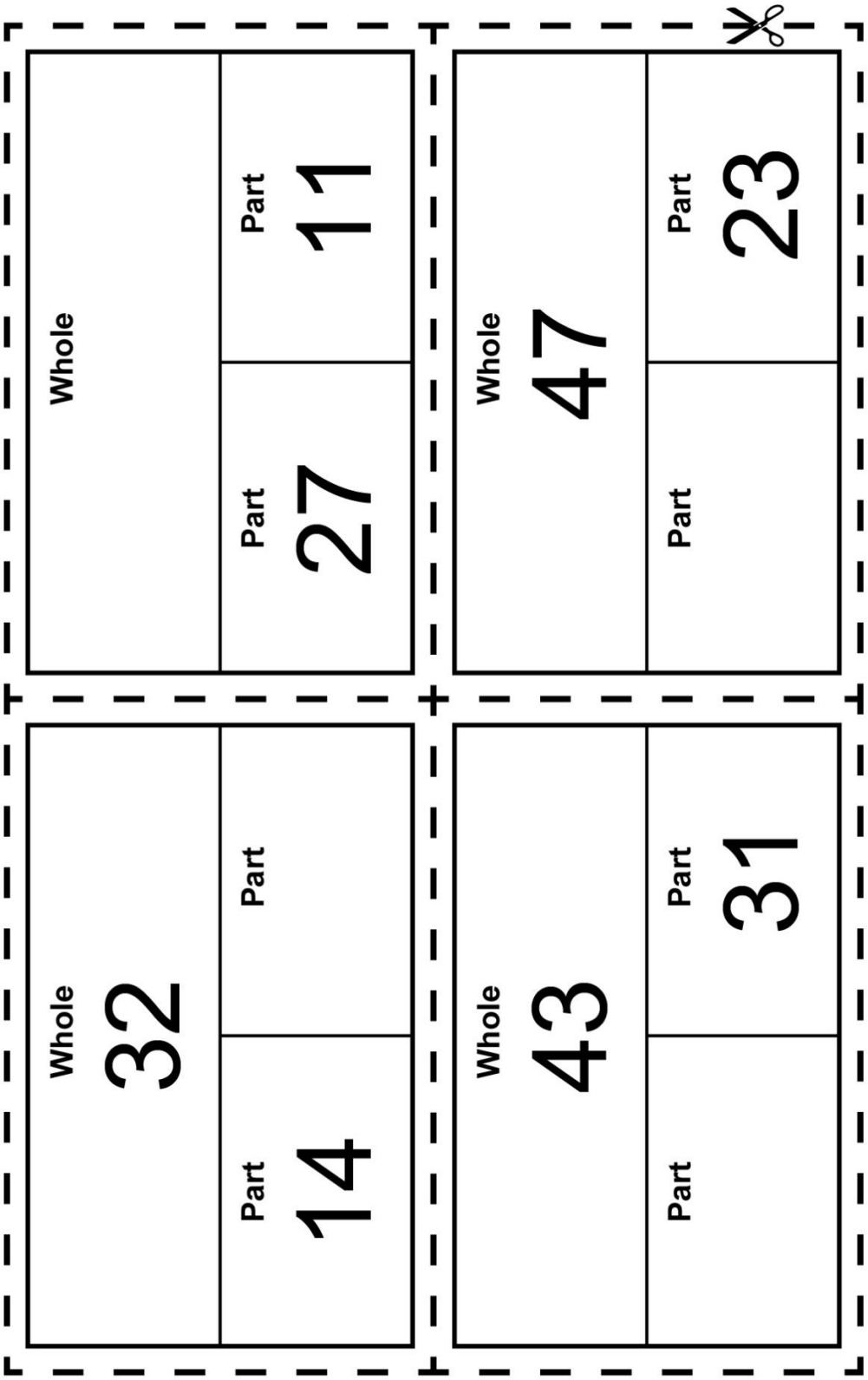
Conceptual Understanding of Addition and Subtraction Situations Behaviours/Strategies			
Student has difficulty creating a story problem for a picture.	Student identifies an addition problem, but has difficulty identifying a subtraction problem.	Student identifies some subtraction problems, but has difficulty identifying a "find the missing part" picture as a subtraction problem.	Student identifies addition and subtraction problems with ease.
Observations/Documentation			

Fluency of Addition and Subtraction Computational Behaviours/Strategies			
Student adds two numbers using counters and counts three times.	Student guesses, then counts on or back to check.	Student successfully solves the addition and subtraction problems but is unable to record the corresponding number sentence.	Student successfully solves the addition and subtraction problems and correctly writes the number sentences.
Observations/Documentation			

Name _____ Date _____

Master 104a

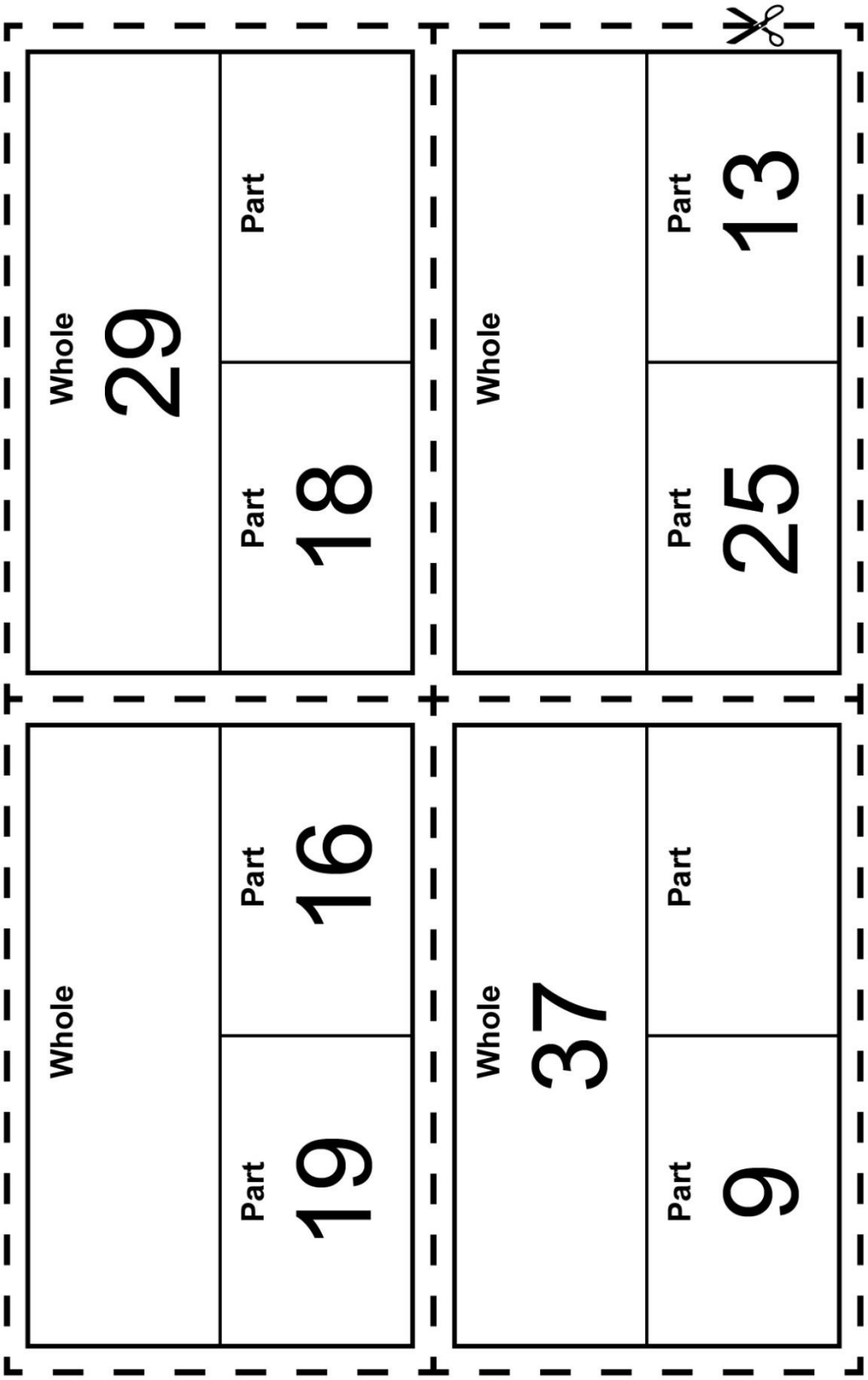
Part-Part-Whole Cards



Name _____ Date _____

Master 104b

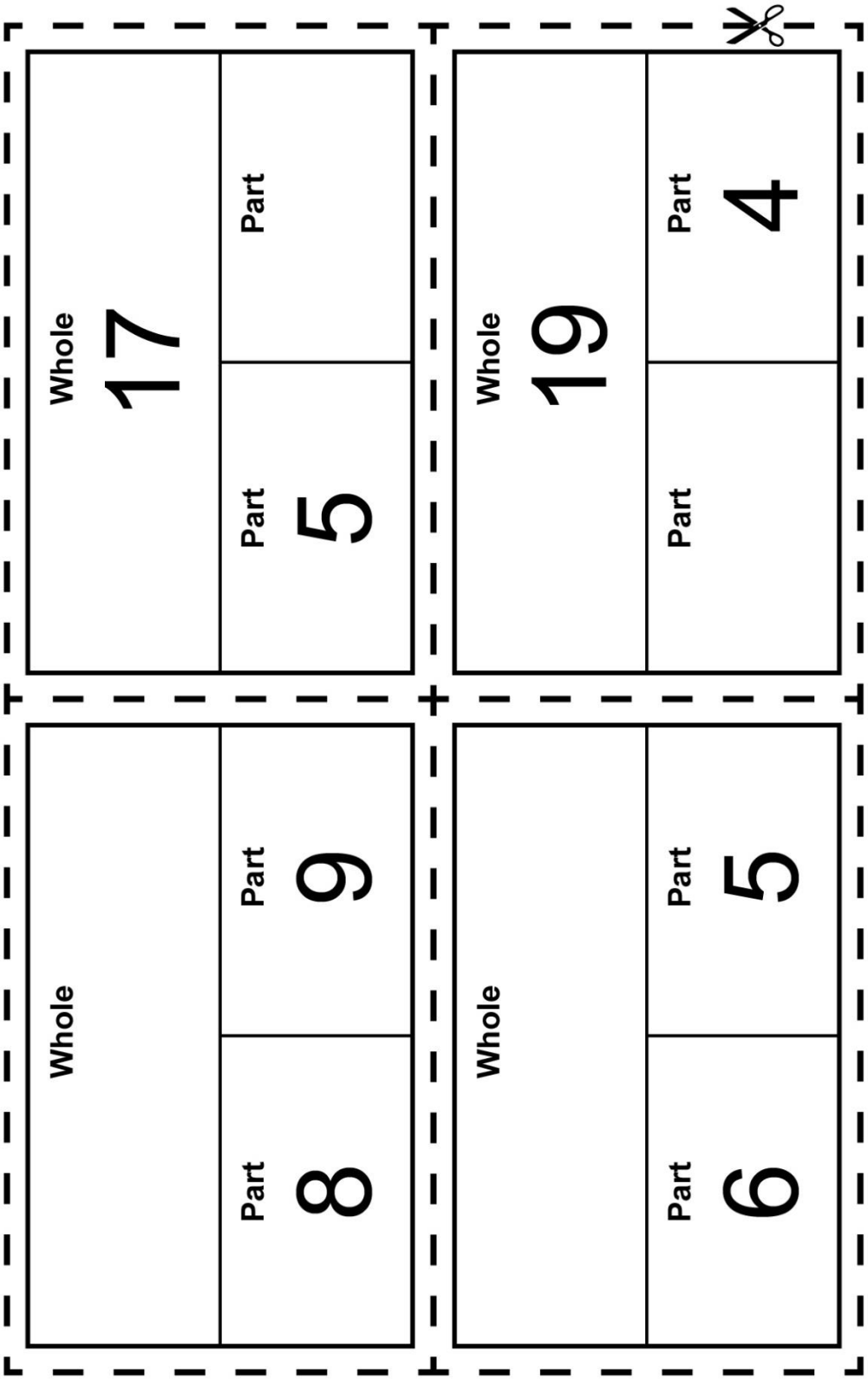
Part-Part-Whole Cards



Name _____ Date _____

Master 104c

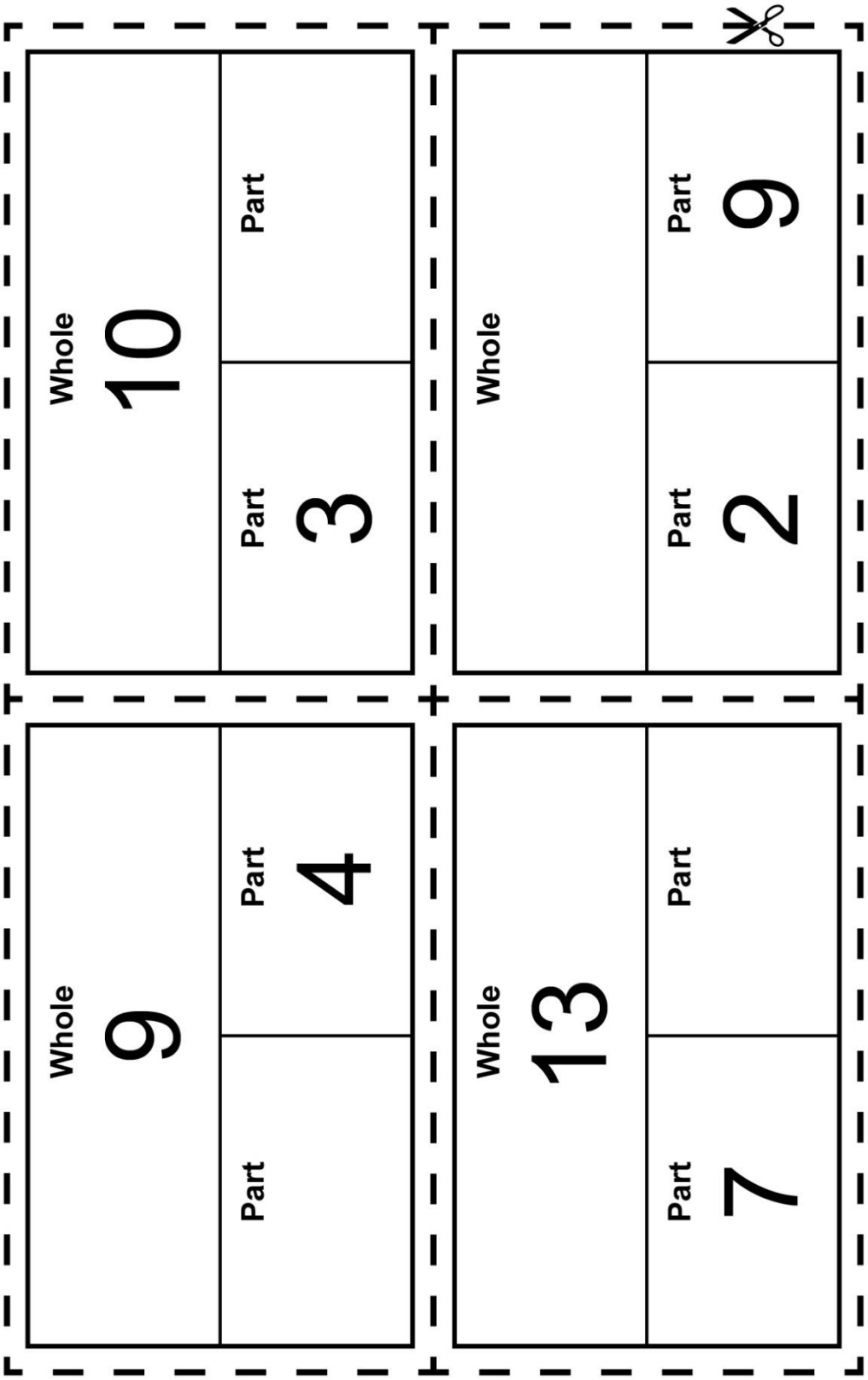
Part-Part-Whole Cards (Accommodation)



Name _____ Date _____

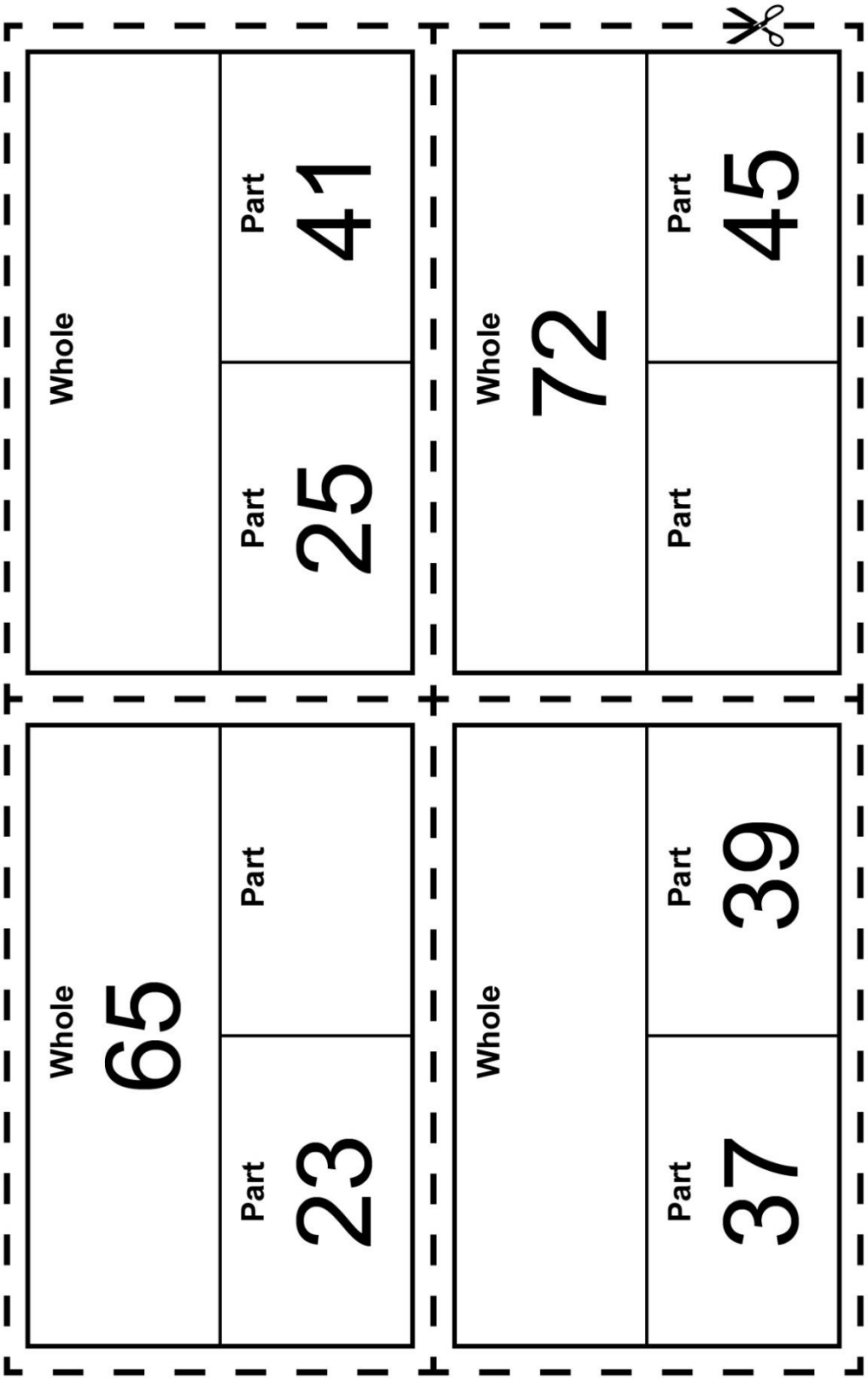
Master 104d

Part-Part-Whole Cards (Accommodation)



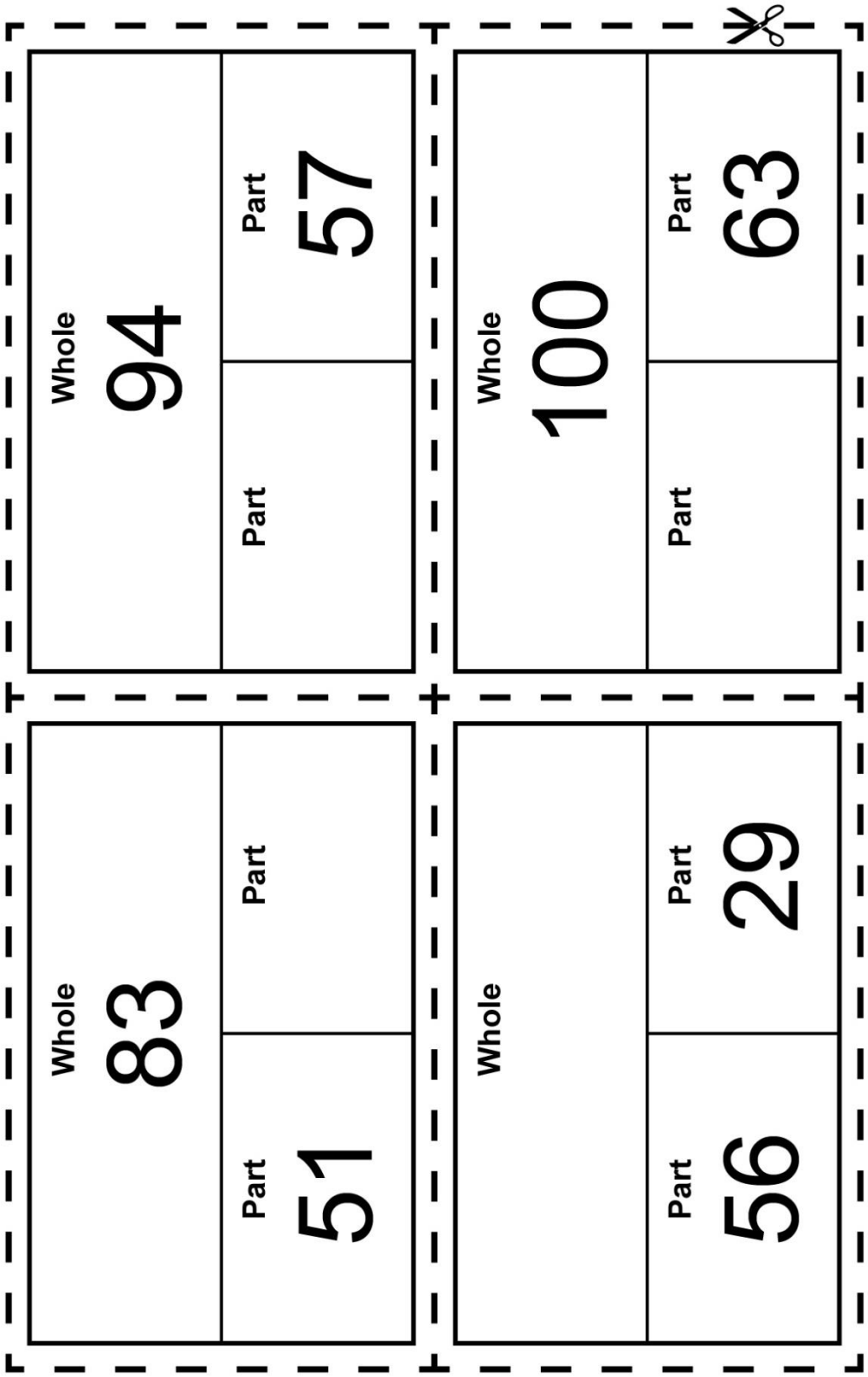
Name _____ Date _____

Master 104e Part-Part-Whole Cards (Combined Grades)



Name _____ Date _____

Master 104f Part-Part-Whole Cards (Combined Grades)



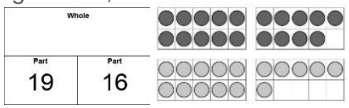
Number

Master 105: Activity 40 Assessment

Adding and Subtracting to 50

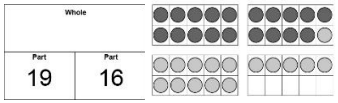
Adding and Subtracting to 50 Behaviours/Strategies

1. Student guesses, then counts to check.



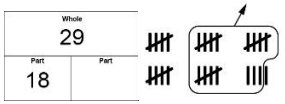
"I think the whole is 40. Let me count by1s to check. No, the whole is 35."

2. Student uses counters to add or subtract.



"10, 20, 30, 31, 32, 33, 34, 35. The whole is 35."

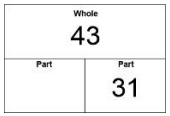
3. Student uses a drawing to help add or subtract.



"I drew 29 tally marks then removed 18 of them. I was left with 11."

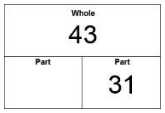
Observations/Documentation

4. Student uses part-part-whole thinking to find the unknown.



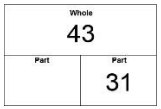
"To find the missing part, I subtract: 41 – 31 = 12."

5. Student uses inverse relationship of addiction and subtraction to find the unknown.



"I rewrote the subtraction sentence as an addition sentence: 31 + ? + 43."

6. Student fluently uses symbols and equations that matches the action in a situation.



"43 people were on the bus. Some got off at the next stop. 31 people are still on the bus. How many people got off?"

Observations/Documentation

Name_____ Date _____

Master 106

Number Talks

4 + 1 4 + 2 4 – 1 4 – 2	5 + 5 5 + 6 6 + 6 6 + 7
5 + 5 5 + 4 6 + 6 6 + 5	1 + 2 2 + 1 2 + 3 3 + 2 4 + 1 1 + 4
4 – 1 4 – 2 5 – 2 5 – 3 3 – 1 3 – 2	12 – 2 12 – 4 14 – 4 14 – 6

Name_____ Date _____

Master 107

Number Sentences

Student Card Side A	Student Card Side B
$15 - ? = 8$	$7 - 3 = ?$
$15 - 7 = ?$	$7 + 3 = ?$
$8 + 7 = ?$	

Name_____ Date _____

Master 108

Picture Problems

Story Problems	Answers
15  were on the  . 16  got on. How many  are now on the  ?	
33  were in the  . Some  hopped away. Now 25  are in the  . How many  hopped away?	
43  were in a  . 17  fell off the  . How many  were left in the  ?	

Number

Master 109: Activity 41 Assessment

Operational Fluency: Consolidation

Demonstrating Conceptual Understanding of Story Problems Behaviours/Strategies			
Student does not know where to start.	Student uses addition to solve all the problems.	Student solves the problems but does not use math language to explain the process used.	Student identifies addition and subtraction story problems and uses math language to explain the processes used.
Observations/Documentation			

Fluency of Addition and Subtraction Computational Behaviours/Strategies			
Student uses two sets of counters to model a subtraction problem, removes the part from the whole, then counts the part that remains.	Student successfully counts on or back to solve the problem.	Student counts on to find the sum of 7 and 8.	Student uses known number relationships (e.g., doubles, making 10) to solve the problems.
Observations/Documentation			

Master 110a

Curriculum Correlation
Number Cluster 8: Financial Literacy

ON

Kindergarten
15.8 explore different Canadian coins, using coin manipulatives (e.g., role-play the purchasing of items at the store in the dramatic play area; determine which coin will purchase more – a loonie or a quarter)
Grade 1
Number Quantity Relationships – identify and describe various coins (i.e., penny, nickel, dime, quarter, $1 coin, $2 coin), using coin manipulatives or drawings, and state their value (e.g., the value of a penny is one cent; the value of a toonie is two dollars) (Activity 36) – represent money amounts to 20¢, through investigation using coin manipulatives (Activities 37, 40) Counting – count forward by 1s, 2s, 5s, and 10s to 100, using a variety of tools and strategies (e.g., move with steps; skip count on a number line; place counters on a hundred chart; connect cubes to show equal groups; count groups of pennies, nickels, or dimes) (Activities 37, 40) Cross Strand: Patterning and Algebra Patterns and Relationships – identify and extend, through investigation, numeric repeating patterns (e.g., 1, 2, 3, 1, 2, 3, 1, 2, 3, …) – describe numeric repeating patterns in a hundred chart
Grade 2
Number Quantity Relationships – estimate, count, and represent (using the ¢ symbol) the value of a collection of coins with a maximum value of one dollar Operational Sense – add and subtract money amounts to 100¢, using a variety of tools (e.g., concrete materials, drawings) and strategies (e.g., counting on, estimating, representing using symbols)

Master 110b

Curriculum Correlation
Number Cluster 8: Financial Literacy

BC/YT

Kindergarten
Financial literacy — attributes of coins and financial role-play • noticing attributes of the Canadian coins (colour, size, pictures) • identifying the names of coins • role-playing financial transactions, such as in a restaurant, bakery, or store, using whole numbers to combine purchases (e.g., a muffin is $2.00 and a juice is $1.00), and integrating the concept of wants and needs
Grade 1
Number concepts to 20 • Counting – skip-counting by 2 and 5 (Activities 37, 40) Addition and subtraction to 20 (understanding of operation and process) • Nature scavenger hunt in Kaska Counting Book (http://yukon-ed-show-me-your-math.wikispaces.com/file/detail/Kaska Counting Book.pdf) (Activity 38) Financial literacy – values of coins and monetary exchanges • Identifying values of coins (nickels, dimes, quarters, loonies, and toonies) (Activities 36, 37, 40) • Counting multiples of the same denomination (nickels, dimes, loonies, and toonies) (Activities 37, 40) • Money is a medium of exchange (Activity 40) • Role-playing financial transactions (e.g., using coins and whole numbers), integrating the concept of wants and needs (Activities 39, 40) • Trade games, with understanding that objects have variable value or worth (shells, beads, furs, tools) (Activity 38) Cross Strand: Repeating patterns with multiple elements and attributes – patterns using visuals (ten-frames, hundred charts) – investigating numerical patterns (e.g., skip-counting by 2s or 5s on a hundred chart)
Grade 2
Financial literacy — coin combinations to 100 cents, and spending and saving • counting simple mixed combinations of coins to 100 cents • introduction to the concepts of spending and saving, integrating the concept of wants and needs • role-playing financial transactions (e.g., using bills and coins)

Number

Master 111: Activity 42 Assessment

Value of Coins

Identifying the Values of Coins Behaviours/Strategies		
Student identifies coins by their size or physical attributes.  "moose, moose, moose"	Student identifies coins but cannot call them by name.	Student knows the names of coins but cannot remember their values.
Observations/Documentation		

Student is able to match a value to a physical coin but cannot match a value to the name of a coin.	Student can match a value to a coin but cannot compare the values of different coins.	Student knows the names and values of the coins and can compare pairs of coins with ease.
Observations/Documentation		

Name_____ Date _____

Master 112a

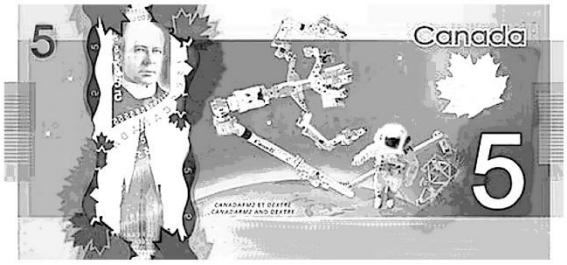
Money Attribute Cards

	
$1	Gold
	
$2	Gold and Silver

Name _____ Date _____

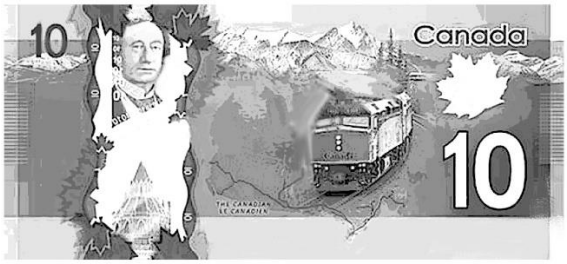
Master 112b

Money Attribute Cards



$5

Blue



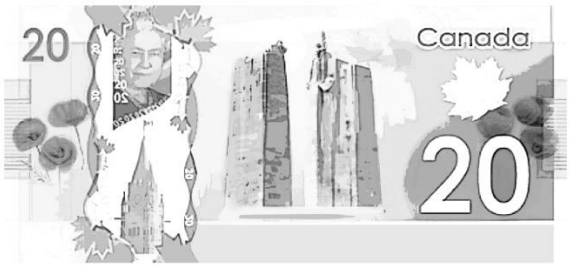
$10

Purple

Name _____ Date _____

Master 112c

Money Attribute Cards



$20

Green

$50

Pink

Number

Master 113: Activity 43 Assessment

Value of Bills

Skip-Counting Backward Behaviours/Strategies			
Student sorts coins and bills, but has difficulty identifying their names.  "I'm not sure what each coin/bill is called."	Student sorts coins and bills by colour and name, but cannot identify their values.  "I know these are all blue bills, but I am not sure what they are worth."	Student knows the value of loonies, toonies and bills, but struggles to compare their values. "This is a toonie and this is a loonie. I don't know which one is worth more."	Student successfully identifies names and values of coins and bills, and compares them in different ways.  "I ordered the collection from greatest to least value."
Observations/Documentation			

Number

Master 114: Activity 44 Assessment

Counting Collections

Determining the Value of a Collection Behaviours/Strategies		
Student is unable to sort the coins.	Student knows the names of coins but cannot identify their values.	Student knows the values of coins but cannot skip-count to find the value of a collection.
Observations/Documentation		

Student can skip-count by 2s and 10s, but has difficulty skip-counting by 5s.	Student skip-counts to determine the value of each collection but cannot compare their total values.	Student sorts the coins, skip-counts to determine the value of each collection, then compares the total values of the collections.
Observations/Documentation		

Name _____ Date _____

Master 115a

Object Pictures

 berries 20	 bark 10	 bark 10
 shell 5	 shell 5	 shell 5
 shell 5	 feather 3	 feather 3
 feather 3	 feather 3	 feather 3

Name _____ Date _____

Master 115b

Object Pictures

 acorn 2	 acorn 2	 acorn 2
 acorn 2	 acorn 2	 acorn 2
 pinecone 1	 pinecone 1	 pinecone 1
 pinecone 1	 pinecone 1	 pinecone 1

Number

Master 116: Activity 45 Assessment

Fair Trades

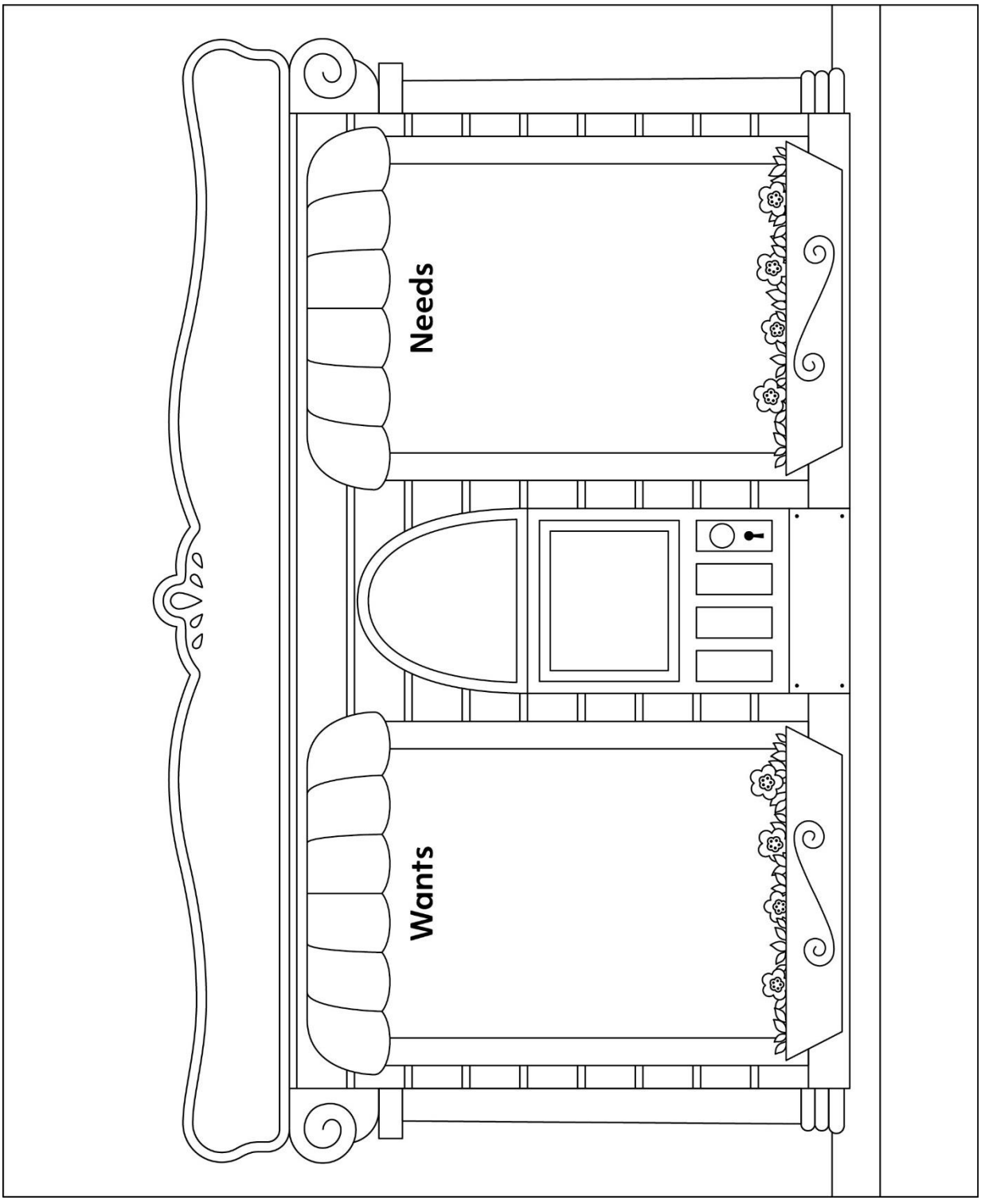
Making Fair Trades Behaviours/Strategies		
Student is unable able to choose an item to trade for.	Student chooses an object to trade for but struggles to determine which objects could be selected to make the trade.	Student is unable to determine the total value of the traded objects.
Observations/Documentation		

Student makes a fair trade but struggles to explain or show why it is fair.	Student makes a fair trade but struggles to find another way to make a fair trade for the object.	Student finds more than one way to make a fair trade for an object and explains why the trade is fair.
Observations/Documentation		

Name_____ Date _____

Master 117a

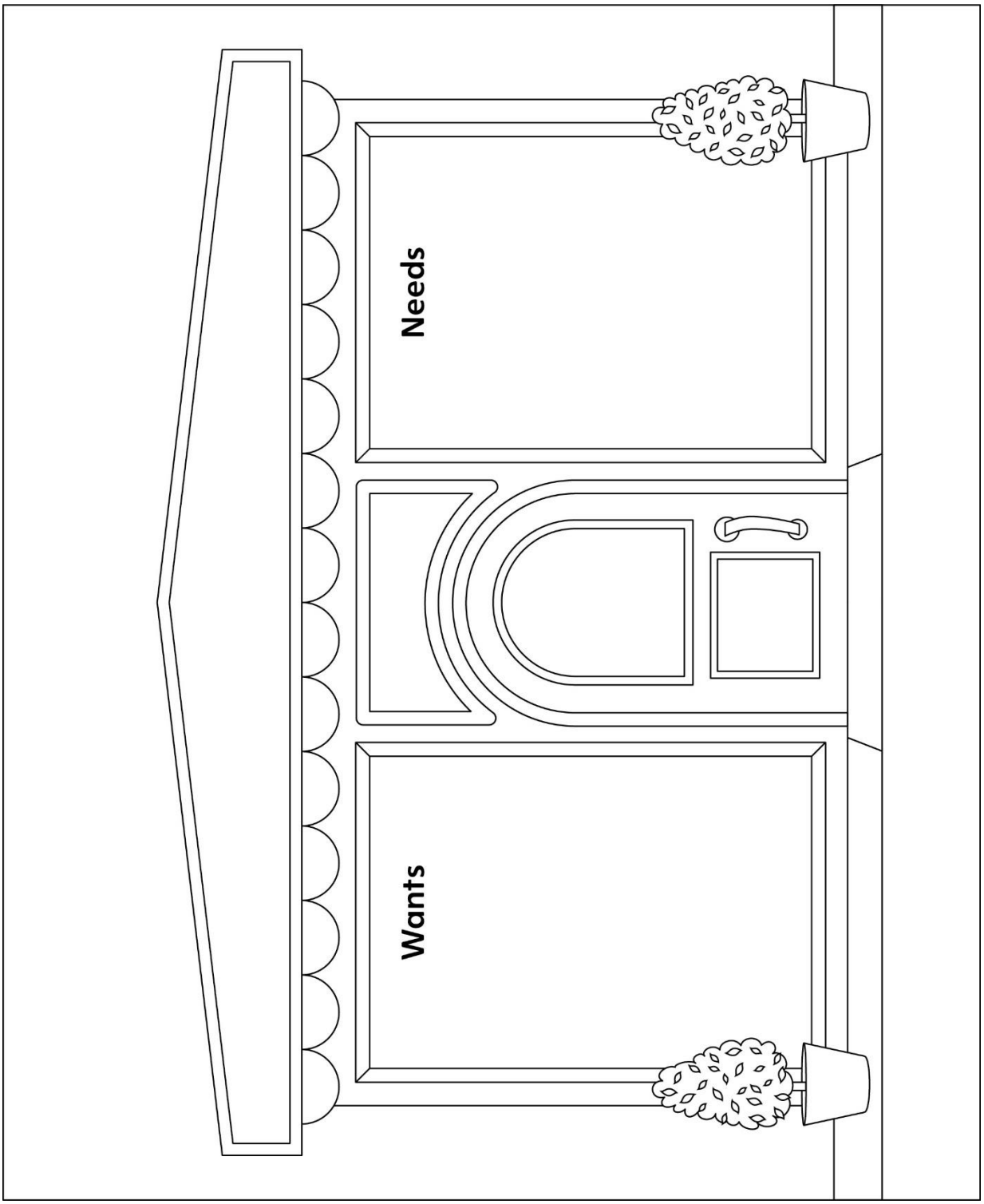
Our Stores



Name _____ Date _____

Master 117b

Our Stores



Number

Master 118: Activity 46 Assessment

Wants and Needs

Identifying Wants and Needs Behaviours/Strategies			
Student has difficulty identifying the difference between wants and needs.	Student draws items that are needs and wants but is unable to explain why they are needs or wants.	Student draws items that are needs and wants for one store but struggles with the second type of store.	Student draws items that are needs and wants for each store and explains why the chosen items are needs or wants.
Observations/Documentation			

Number

Master 119: Activity 47 Assessment

Financial Literacy: Consolidation

Distinguishing Between Wants and Needs Behaviours/Strategies			
Student has difficulty identifying the difference between wants and needs.	Student chooses five items that are needs but is unable to explain why they are needs.	Student chooses five items that are needs but struggles to explain why an item was chosen over another item.	Student explains and justifies why the chosen items are needs.
Observations/Documentation			

Exchanging Money Behaviours/Strategies			
Student has difficulty choosing appropriate coins to make the amount needed.	Student chooses a coin but has difficulty using skip-counting to determine how many are needed.	Student shows the amount needed for an item in one way but has difficulty finding a different way to show the same amount.	Student shows the amount needed in different ways.
Observations/Documentation			

Master 1a

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

ON

Kindergarten
18.2 explore and extend patterns (e.g., fill in missing elements of a repeating pattern) using a variety of materials (e.g., beads, shapes, words in a poem, beat and rhythm in music, objects from the natural world) 18.3 identify the smallest unit (the core) of a pattern (e.g., ABBABBABB – the core is ABB) and describe why it is important (e.g., it helps us to know what comes next; it helps us make generalizations)
Grade 1
Patterning and Algebra Patterns and Relationships – identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute (e.g., colour, size, shape, thickness, orientation); (Activities 1, 5) – identify and extend, through investigation, numeric repeating patterns (e.g., 1, 2, 3, 1,2, 3, 1, 2, 3, ...); (Activities 2, 4, 5) – describe numeric repeating patterns in a hundreds chart; (Activity 4) – identify a rule for a repeating pattern (e.g., “We’re lining up boy, girl, boy, girl, boy, girl.”); (Activities 1, 2, 5) – represent a given repeating pattern in a variety of ways (e.g., pictures, actions, colours, sounds, numbers, letters) (Sample problem: Make an ABA, ABA, ABA pattern using actions like clapping or tapping). (Activities 1, 2, 5) Cross Strands: Number Counting – count forward by 1’s, 2’s, 5’s, and 10’s to 100, using a variety of tools and strategies (e.g., move with steps; skip count on a number line; place counters on a hundreds chart; connect cubes to show equal groups; count groups of pennies, nickels, or dimes) (Activity 4) Geometry and Spatial Sense Geometric Properties – identify and describe common two-dimensional shapes (e.g., circles, triangles, rectangles, squares) and sort and classify them by their attributes (e.g., colour; size; texture; number of sides), using concrete materials and pictorial representations (e.g., “I put all the triangles in one group. Some are long and skinny, and some are short and fat, but they all have three sides.”); (Activities 1, 5)

Master 1b

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

ON (con't)

Grade 2
Patterning and Algebra Patterns and Relationships – identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart (e.g., the numbers 90, 80, 70, 60, 50, 40, 30, 20, 10 are in a straight line on a hundreds chart) – identify, describe, and create, through investigation, growing patterns and shrinking patterns involving addition and subtraction, with and without the use of calculators (e.g., 3 + 1 = 4, 3 + 2 = 5, 3 + 3 = 6, …) – identify repeating, growing, and shrinking patterns found in real-life contexts (e.g., a geometric pattern on wallpaper, a rhythm pattern in music, a number pattern when counting dimes) – represent a given growing or shrinking pattern in a variety of ways (e.g., using pictures, actions, colours, sounds, numbers, letters, number lines, bar graphs) (Sample problem: Show the letter pattern A,AA, AAA,AAAA, … by clapping or hopping.) – demonstrate, through investigation, an understanding that a pattern results from repeating an operation (e.g., addition, subtraction) or making a repeated change to an attribute (e.g., colour, orientation).

Master 1c

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

BC/YT

Kindergarten
Repeating patterns with two or three elements • Sorting and classifying using a single attribute • Identifying patterns in the world • Repeating patterns with 2-3 elements • Identifying the core • Representing repeating patterns in various ways • Noticing and identifying repeating patterns in First Peoples and local art and textiles, including beadwork and beading, and frieze work in borders
Grade 1
Repeating patterns with multiple elements and attributes • repeating patterns with multiple elements/attributes (Activities 1, 2, 3, 4, 5) • translating patterns from one representation to another (e.g., an orange blue pattern could be translated to a circle square pattern) (Activity 5) • letter coding of pattern (Activities 1, 2, 5) • predicting an element in repeating patterns using a variety of strategies (Activity 3) • patterns using visuals (ten-frames, hundred charts) (Activity 4) • investigating numerical patterns (e.g., skip-counting by 2s or 5s on a hundred chart) (Activities 2, 4) Cross Strands: Counting • skip-counting by 2 and 5 (Activity 4) Comparison of 2D shapes and 3D objects • sorting 3D objects and 2D shapes using one attribute, and explaining the sorting rule (Activities 1, 5)
Grade 2
Repeating and increasing patterns • exploring more complex repeating patterns (e.g., positional patterns, circular patterns) • identifying the core of repeating patterns (e.g., the part of the pattern that repeats over and over) • increasing patterns using manipulatives, sounds, actions, and numbers (0 to 100) • First Peoples head/armband patterning

Master 1d

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

SK

Kindergarten
Patterns and Relations PK.1 Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations P1.1 Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds, and actions. (Activities 1, 2, 3, 4, 5) P1.2 Translate repeating patterns from one form of representation to another. (Activities 1, 2, 5) Cross Strands: Number N1.1 Say the number sequence, 0 to 100, by: • 1s forward and backward between any two given numbers • 2s to 20, forward starting at 0 • 5s and 10s to 100, forward starting at 0. Shape and Space SS1.2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations P2.1 Demonstrate understanding of repeating patterns (three to five elements) by: • describing • representing patterns in alternate modes • extending • comparing • creating patterns using manipulatives, pictures, sounds, and actions.

Master 1e

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NS

Kindergarten
Patterns and Relations PR01: Students will be expected to demonstrate an understanding of repeating patterns (two or three elements) by identifying, reproducing, extending, and creating patterns using manipulatives, sounds, and actions.
Grade 1
Patterns and Relations PR01: Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions. (Activities 1, 2, 3, 4, 5) PR02 Students will be expected to translate repeating patterns from one representation to another. (Activities 1, 2, 5) Cross Strands: Number N01 Students will be expected to say the number sequence by • 1s, forward and backward between any two given numbers, 0 to 100 • 2s to 20, forward starting at 0 • 5s to 100, forward starting at 0, using a hundred chart or a number line • 10s to 100, forward starting at 0, using a hundred chart or a number line Geometry G01 Students will be expected to sort 3-D objects and 2-D shapes using one attribute and explain the sorting rule.
Grade 2
Patterns and Relations PR01: Students will be expected to demonstrate an understanding of repeating patterns (three to five elements) by describing, extending, comparing, and creating patterns using manipulatives, diagrams, sounds, and actions.

Master 1f

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NB/PEI

Kindergarten
Patterns and Relations KPR1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5) 1PR2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5) Cross Strands: Number N1: Say the number sequence, 0 to 100, by: • 1s forward and backward between any two given numbers • 2s to 20, forward starting at 0 • 5s and 10s to 100, forward starting at 0. Shape and Space SS2 : Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations 2PR1. Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions. 2PR2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions (numbers to 100).

Master 1g

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NFL

Kindergarten
Patterns and Relations KPR1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5) 1PR2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5) Cross Strands: Number 1N1 Say the number sequence 0 to 100 by: • 1s forward between any two given numbers • 1s backward from 20 to 0 • 2s forward from 0 to 20 • 5s and 10s forward from 0 to 100. Shape and Space 1SS2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule.

Master 1h

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NFL (con't)

Grade 2
Patterns and Relations 2PR1. Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions. 2PR2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating numerical (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions.

Master 1i

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

MB

Kindergarten
Patterns and Relations K.PR1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds, and actions.
Grade 1
Patterns and Relations 1.PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5) 1.PR2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5) Cross Strands: Number 1.N.1. Say the number sequence by • 1s forward and backward between any two given numbers (0 to 100) • 2s to 30, forward starting at 0 • 5s and 10s to 100, forward starting at 0 Shape and Space 1.SS.2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations 2.PR.1. Predict an element in a repeating pattern using a variety of strategies. 2.PR.2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds, and actions (numbers to 100).

Master 1j

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

AB/NWT/NU

Kindergarten
Patterns and Relations 1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions. 2. Sort a set of objects based on a single attribute, and explain the sorting rule.
Grade 1
Patterns and Relations 1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5) 2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5) 3. Sort objects, using one attribute, and explain the sorting rule. (Activity 1) Cross Strands: Number 1. Say the number sequence 0 to 100 by: • 1s forward between any two given numbers • 1s backward from 20 to 0 • 2s forward from 0 to 20 • 5s and 10s forward from 0 to 100. Shape and Space 2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule.

Master 1k

Curriculum Correlation
Patterning and Algebra Cluster 1: Investigating Repeating Patterns

AB/NWT/NU (con't)

Grade 2
Patterns and Relations 1. Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions. 2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating numerical (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions. 3. Sort a set of objects, using two attributes, and explain the sorting rule.

Patterning and Algebra

Master 2: Activity 1 Assessment

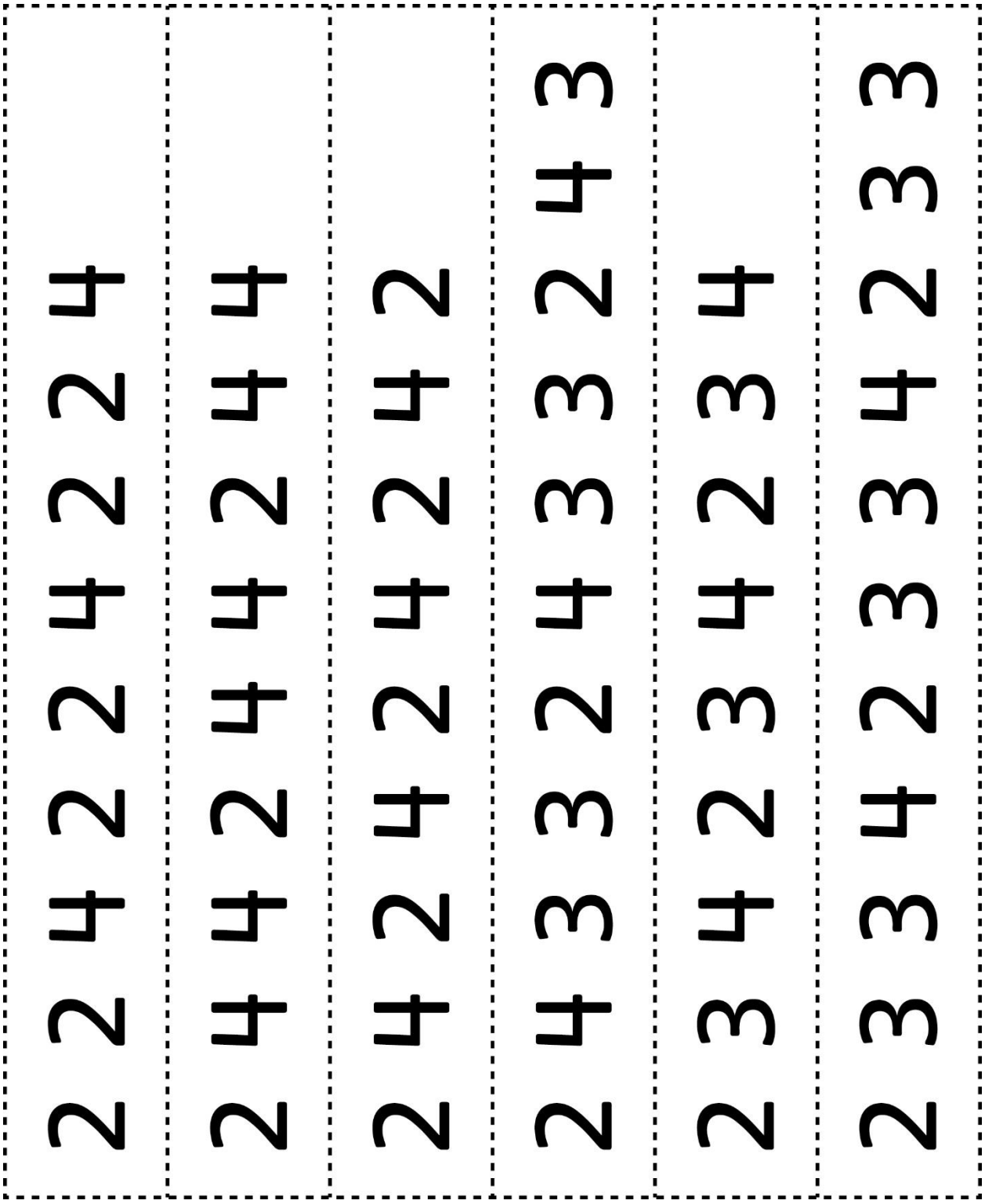
Repeating the Core

Describing and Extending Repeating Patterns Behaviours/Strategies		
Student randomly selects Attribute Blocks to extend the pattern. Pattern Core Student's Pattern	Student repeats only the last block in the pattern. Pattern Core Student's Pattern	Student uses the correct blocks but places them in the wrong order. Pattern Core Student's Pattern
Observations/Documentation		
Student accurately extends the pattern by pointing to each element or by identifying the pattern core. Pattern Core Student's Pattern	Student accurately extends the pattern but has difficulty describing the pattern.	Student accurately extends and describes the pattern.
Observations/Documentation		

Name _____ Date _____

Master 3a

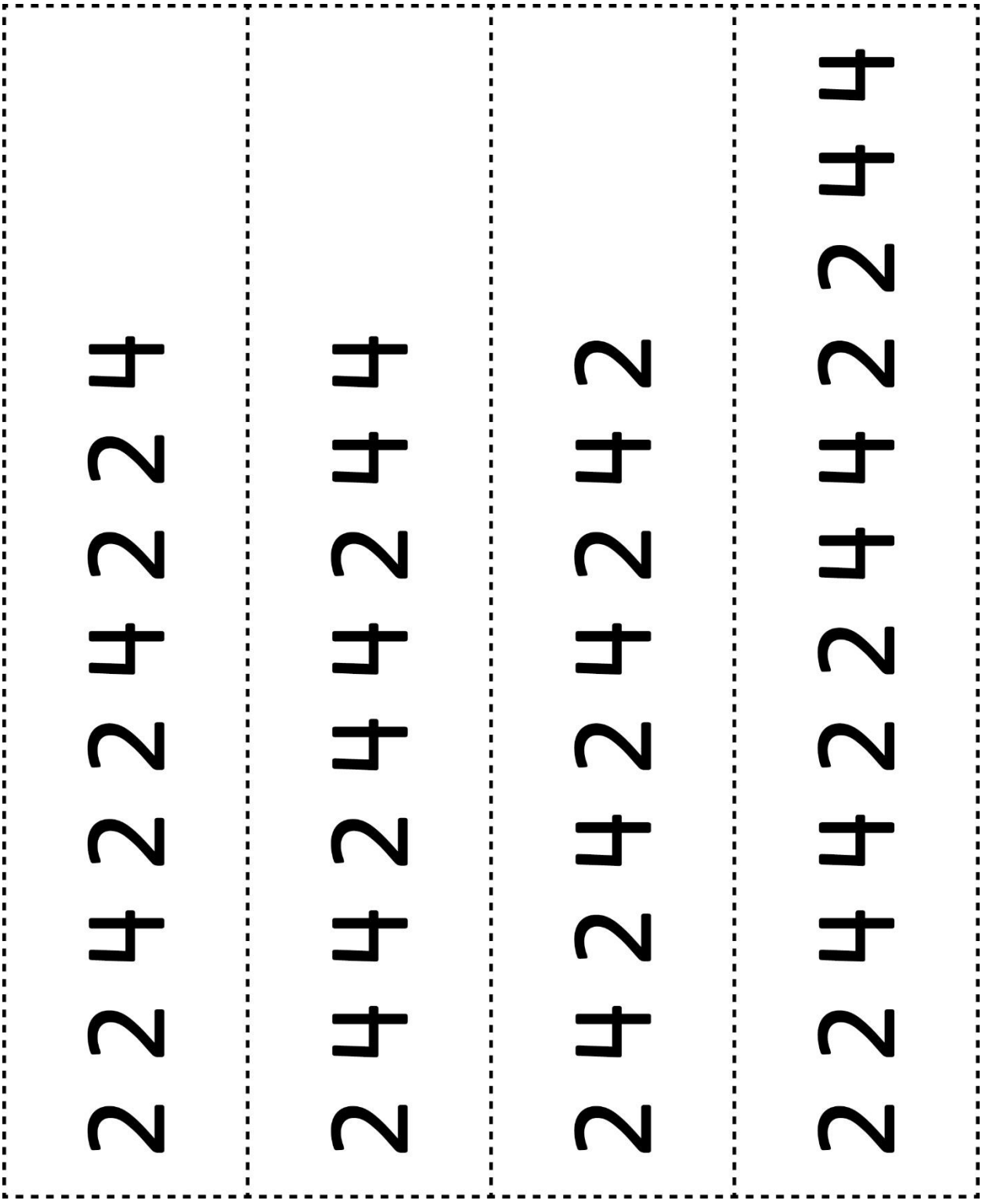
Pattern Cards



Name _____ Date _____

Master 3b

Pattern Cards



Name _____ Date _____

Master 4a

Core Cards

A A B

A B B

A B

A B C C

A B C

Name _____ Date _____

Master 4b

Core Cards

Patterning and Algebra

Master 5: Activity 2 Assessment

Representing Patterns

Matching Patterns to Cores Behaviours/Strategies		
Student randomly pairs cards with no regard to identifying the core.	Student has difficulty identifying the core of the numeric patterns.	Student identifies the core when it has two or three elements but has difficulty when it has four.
Observations/Documentation		

Student accurately identifies the cores of the numeric patterns but has difficulty matching them to the core cards.	Student correctly identifies the cores of the patterns and matches them to the core cards. Student has difficulty explaining why the cards match.	Student correctly identifies the cores of the patterns, matches them to the core cards, and explains why the cards match.
Observations/Documentation		

Patterning and Algebra

Master 6: Activity 3 Assessment

Predicting Elements

Predicting Elements Behaviours/Strategies		
Student randomly names a shape or number without any regard for the pattern.	Student has difficulty identifying the core of a repeating pattern.	Student identifies the core but has difficulty extending the pattern.
Observations/Documentation		

Student can extend patterns but has difficulty predicting the required element or identifying the missing element.	Student loses track of the shapes or numbers in the core when predicting the required element.	Student identifies the core, correctly predicts the required element, and extends the pattern to check. Student identifies the missing element.
Observations/Documentation		

Patterning and Algebra

Master 7: Activity 4 Assessment

Finding Patterns

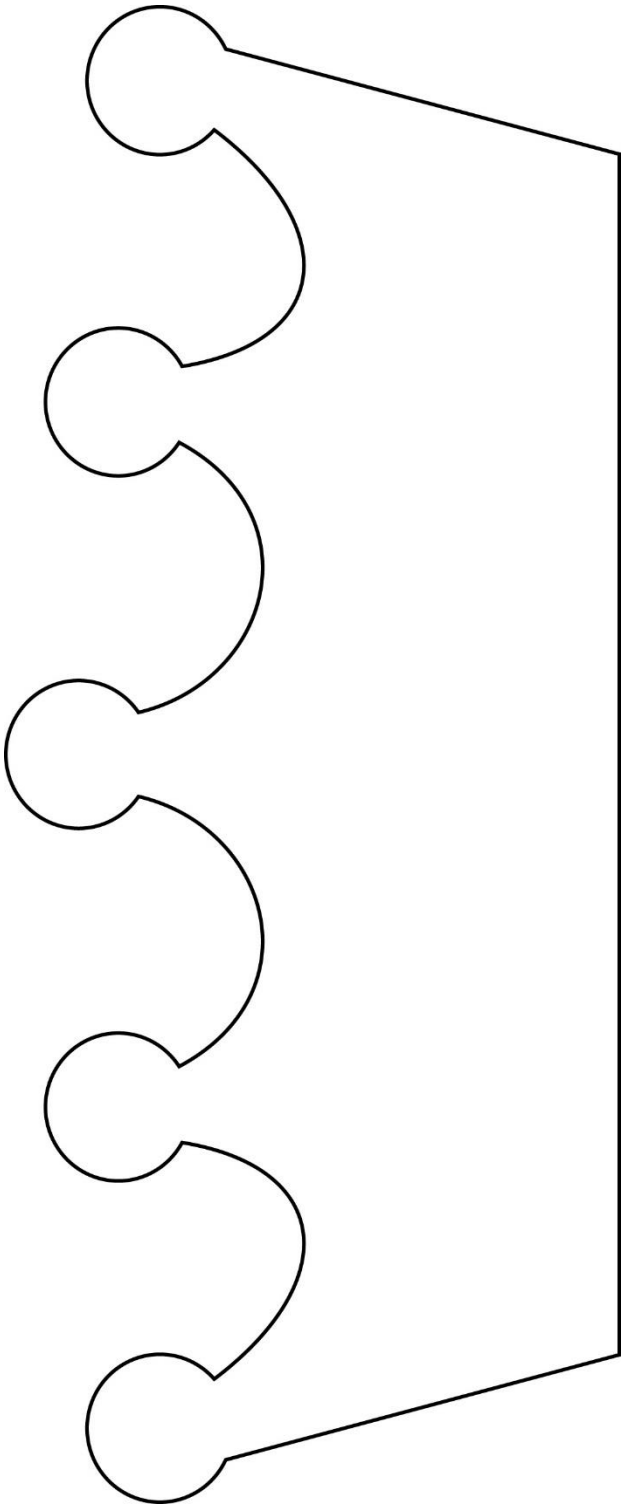
Finding Patterns Behaviours/Strategies		
Student has difficulty finding patterns on the chart.	Student finds some patterns but has difficulty seeing the repeating pattern in the rows/columns because the core has more elements than he or she has been working with.	Student finds patterns but has difficulty deciding whether or not a pattern is a repeating pattern.
Observations/Documentation		

Student sees the pattern when skip-counting by 2s as “not circled, circled, not circled, circled, ...” and has difficulty identifying the pattern within the numbers.	Student finds repeating, non-repeating, and skip-counting patterns on the number chart but has difficulty using math language to describe them.	Student finds repeating, non-repeating, and skip-counting patterns on the number chart and uses math language to describe them.
Observations/Documentation		

Name_____ Date _____

Master 8

Crown Cut-Out



Patterning and Algebra

Master 9: Activity 5 Assessment

Investigating Repeating Patterns: Consolidation

Extending and Describing Behaviours/Strategies		
Student randomly draws circles to extend the pattern. Pattern Core  Student's Pattern 	Student repeats only the last jewel in the core. Pattern Core  Student's Pattern 	Student draws the jewels with the correct colours but places them in the wrong order. Pattern Core  Student's Pattern 
Observations/Documentation		

Student accurately extends the pattern but has difficulty describing the pattern. Pattern Core  Student's Pattern 	Student accurately extends and describes the pattern but has difficulty representing it with letters.	Student accurately extends and describes the pattern and represents it with letters.
Observations/Documentation		

Master 10a

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

ON

Kindergarten
18.2 explore and extend patterns (e.g., fill in missing elements of a repeating pattern) using a variety of materials (e.g., beads, shapes, words in a poem, beat and rhythm in music, objects from the natural world) 18.3 identify the smallest unit (the core) of a pattern (e.g., ABBABBABB – the core is ABB) and describe why it is important (e.g., it helps us to know what comes next; it helps us make generalizations) 18.4 create and translate patterns (e.g., re-represent "red-blue-blue, red-blue-blue, red-blue-blue" as "circle-square-square, circle-square-square, circle-square-square")
Grade 1
Patterning and Algebra Patterns and Relationships – identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute (e.g., colour, size, shape, thickness, orientation); (Activities 6, 7, 9) – identify and extend, through investigation, numeric repeating patterns (e.g., 1, 2, 3, 1, 2, 3, 1, 2, 3, ...); (Activities 6, 7, 9) – identify a rule for a repeating pattern (e.g., "We're lining up boy, girl, boy, girl, boy, girl."); (Activities 6, 7, 9) – create a repeating pattern involving one attribute (e.g., colour, size, shape, sound) (Sample problem: Use beads to make a string that shows a repeating pattern involving one attribute.); (Activities 7, 9) – represent a given repeating pattern in a variety of ways (e.g., pictures, actions, colours, sounds, numbers, letters) (Sample problem: Make an ABA, ABA, ABA pattern using actions like clapping or tapping.) (Activities 7, 9) Cross Strand: Geometry Geometric Properties – identify and describe common two-dimensional shapes (e.g., circles, triangles, rectangles, squares) and sort and classify them by their attributes (e.g., colour; size; texture; number of sides), using concrete materials and pictorial representations (e.g., "I put all the triangles in one group. Some are long and skinny, and some are short and fat, but they all have three sides."); (Activities 6, 7, 9)

Master 10b

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

ON (con't)

Grade 2
Patterning and Algebra Patterns and Relationships – identify and describe, through investigation, growing patterns and shrinking patterns generated by the repeated addition or subtraction of 1's, 2's, 5's, 10's, and 25's on a number line and on a hundreds chart (e.g., the numbers 90, 80, 70, 60, 50, 40, 30, 20, 10 are in a straight line on a hundreds chart) – identify, describe, and create, through investigation, growing patterns and shrinking patterns involving addition and subtraction, with and without the use of calculators (e.g., 3 + 1 = 4, 3 + 2 = 5, 3 + 3 = 6, …) – identify repeating, growing, and shrinking patterns found in real-life contexts (e.g., a geometric pattern on wallpaper, a rhythm pattern in music, a number pattern when counting dimes) – represent a given growing or shrinking pattern in a variety of ways (e.g., using pictures, actions, colours, sounds, numbers, letters, number lines, bar graphs) (Sample problem: Show the letter pattern A,AA, AAA,AAAA, … by clapping or hopping.) – create growing or shrinking patterns (Sample problem: Create a shrinking pattern using cut-outs of pennies and/or nickels, starting with 20 cents.) – create a repeating pattern by combining two attributes (e.g., colour and shape; colour and size) (Sample problem: Use attribute blocks to make a train that shows a repeating pattern involving two attributes.) – demonstrate, through investigation, an understanding that a pattern results from repeating an operation (e.g., addition, subtraction) or making a repeated change to an attribute (e.g., colour, orientation)

Master 10c

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

BC/YT

Kindergarten
Repeating patterns with two or three elements • Sorting and classifying using a single attribute • Identifying patterns in the world • Repeating patterns with 2-3 elements • Identifying the core • Representing repeating patterns in various ways • Noticing and identifying repeating patterns in First Peoples and local art and textiles, including beadwork and beading, and frieze work in borders
Grade 1
Repeating patterns with multiple elements and attributes • repeating patterns with multiple elements/attributes (Activities 6, 7, 8, 9) • translating patterns from one representation to another (e.g., an orange-blue pattern could be translated to a circle-square pattern) (Activities 7, 9) • letter coding of pattern (Activities 7, 9) • predicting an element in repeating patterns using a variety of strategies (Activities 8, 9) Cross Strands: Comparison of 2D shapes and 3D objects - sorting 3D objects and 2D shapes using one attribute, and explaining the sorting rule Likelihood of familiar life events, using comparative language • cycles (Elder or knowledge keeper to speak about ceremonies and life events) (Activity 7)
Grade 2
Repeating and increasing patterns • exploring more complex repeating patterns (e.g., positional patterns, circular patterns) • identifying the core of repeating patterns (e.g., the part of the pattern that repeats over and over) • increasing patterns using manipulatives, sounds, actions, and numbers (0 to 100) • Metis finger weaving • First Peoples head/armband patterning • Online video and text: Small Number Counts to 100 (mathcatcher.irmacs.sfu.ca/story/small-number-counts-100)

Master 10d

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

SK

Kindergarten
Patterns and Relations PK.1 Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations P1.1 Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds, and actions. (Activities 6, 7, 8, 9) P1.2 Translate repeating patterns from one form of representation to another. (Activities 7, 9) Cross Strand: Shape and Space SS1.2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations P2.1 Demonstrate understanding of repeating patterns (three to five elements) by: • describing • representing patterns in alternate modes • extending • comparing • creating patterns using manipulatives, pictures, sounds, and actions. P2.2 Demonstrate understanding of increasing patterns by: • describing • reproducing • extending • creating patterns using manipulatives, pictures, sounds, and actions (numbers to 100).

Master 10e

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

NS

Kindergarten
Patterns and Relations PR01: Students will be expected to demonstrate an understanding of repeating patterns (two or three elements) by identifying, reproducing, extending, and creating patterns using manipulatives, sounds, and actions
Grade 1
Patterns and Relations PR01: Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions. (Activities 6, 7, 8, 9) PR02 Students will be expected to translate repeating patterns from one representation to another. (Activities 7, 9) Cross Strand: Geometry G01 Students will be expected to sort 3-D objects and 2-D shapes using one attribute and explain the sorting rule.
Grade 2
Patterns and Relations PR01: Students will be expected to demonstrate an understanding of repeating patterns (three to five elements) by describing, extending, comparing, and creating patterns using manipulatives, diagrams, sounds, and actions. PR02: Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, and creating numerical patterns (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds, and actions.

Master 10f

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

NB/PEI

Kindergarten
Patterns and Relations KPR1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 6, 7, 8, 9) 1PR2. Translate repeating patterns from one representation to another. (Activities 7, 9) Cross Strand Shape and Space SS2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations 2PR1. Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions. 2PR2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions (numbers to 100).

Master 10g

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

NFL

Kindergarten
Patterns and Relations KPR1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations 1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 6, 7, 8, 9) 1PR2. Translate repeating patterns from one representation to another. (Activities 7, 9) Cross Strand: Shape and Space 1SS2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations 2PR1. Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions. 2PR2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating numerical (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions.

Master 10h

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

MB

Kindergarten
Patterns and Relations K.PR1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations 1.PR1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 6, 7, 8, 9) 1.PR2. Translate repeating patterns from one representation to another. (Activities 7, 9) Cross Strand Shape and Space 1.SS.2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations 2.PR.1. Predict an element in a repeating pattern using a variety of strategies. 2.PR2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions (numbers to 100).

Master 10i

Curriculum Correlation

Patterning and Algebra Cluster 2: Creating Patterns

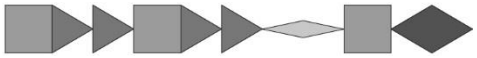
AB/NWT/NU

Kindergarten
Patterns and Relations 1. Demonstrate an understanding of repeating patterns (two or three elements) by: • identifying • reproducing • extending • creating patterns using manipulatives, sounds and actions.
Grade 1
Patterns and Relations 1. Demonstrate an understanding of repeating patterns (two to four elements) by: • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds and actions. (Activities 6, 7, 8, 9) 2. Translate repeating patterns from one representation to another. (Activities 7, 9) Cross Strand: Shape and Space 2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule.
Grade 2
Patterns and Relations 1. Demonstrate an understanding of repeating patterns (three to five elements) by: • describing • extending • comparing • creating patterns using manipulatives, diagrams, sounds and actions. 2. Demonstrate an understanding of increasing patterns by: • describing • reproducing • extending • creating numerical (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions. 3. Sort a set of objects, using two attributes, and explain the sorting rule.

Patterning and Algebra

Master 11: Activity 6 Assessment

Extending Patterns

Extending Patterns Behaviours/Strategies		
Student randomly extends the pattern. 	Student has difficulty recognizing the core of a pattern.	Student identifies the core when it has two elements but has difficulty when it has three.
Observations/Documentation		

Student completes only part of the pattern or makes errors when extending it. 	Student accurately extends the patterns but has difficulty describing them.	Student accurately extends the patterns and uses math language to describe them.
Observations/Documentation		

Name_____ Date _____

Master 12

The Number Four (Newo) Story

By Teri Foureyes-Awasis

The author would like to acknowledge and recognize a few people from her Maskwacis community who helped her with information for the activities and stories she wrote. Teri thanks Patricia Johnson and Shauna Smith for their support through the writing process. She thanks Brian Lee for sharing his knowledge of the circle and providing information passed down from the late ceremonialist Wayne Roan. She also thanks the elderly segment and community members who helped out whenever possible. Ay hay!

One day, Mrs. Lee was going over the numbers from 1 to 10. When she said the number four, Tayla jumped up from her desk, waving her arms in the air. “Mrs. Lee, Mrs. Lee!” said Tayla. “Yes, Tayla,” said Mrs. Lee. “I told my Mosom (grandfather) last night that we were learning how to count to 10. When I said the number four, he told me that four is a very important number in our Plains Cree culture,” said Tayla. Mrs. Lee was very happy to hear this and asked Tayla to share what she had learned with the class. Tayla took a piece of paper from her pocket and gave it to Mrs. Lee to read aloud. Mrs. Lee read, “We are known as the Nehwiyaw people, meaning four bodies. In our culture, everything comes in fours and is often in a circular pattern. We call this the natural law. For example, we have four seasons (spring, summer, fall, and winter), four stages of life (child, youth, adult, and elder) and four directions (north, east, south, and west).” Mrs. Lee and all of the children in the class found the information very interesting. Mrs. Lee said, “Tayla, please thank your Mosom for sharing this with us!” Tayla smiled and said, “My Mosom also told me that our circle has four colours and the colours can represent many different things. We use the colours blue, green, yellow, and white to represent the four seasons. Blue is for spring, green is for summer, yellow is for fall, and white is for winter.” Mrs. Lee was very pleased and said, “Your culture definitely has a special connection to newo!”

Patterning and Algebra

Master 13: Activity 7 Assessment

Translating Patterns

Translating Patterns Behaviours/Strategies		
Student has difficulty selecting objects to make another pattern.	Student has difficulty using the given pattern core to make another pattern using different materials.	Student uses the given core in letters to create the pattern. Pattern Core: **ABB** Student's Pattern: **ABBABBABB**
Observations/Documentation		

Student uses objects that are not exactly the same to represent the same letter. Pattern Core: **ABB** Student's Core: 	Student thinks that two patterns that look/sound different have a different core. Pattern A:  Pattern B: 	Student represents a pattern in different ways and understands how the patterns are alike or different.
Observations/Documentation		

Name_____ Date _____

Master 14

Fancy Dance Story

By Teri Foureyes-Awasis

The author would like to acknowledge and recognize a few people from her Maskwacis community who helped her with information for the activities and stories she wrote. Teri thanks Patricia Johnson and Shauna Smith for their support through the writing process. She thanks Brian Lee for sharing his knowledge of the circle and providing information passed down from the late ceremonialist Wayne Roan. She also thanks the elderly segment and community members who helped out whenever possible. Ay hay!

Sage invited her school friend Elizabeth to go to the local pow wow with her. Elizabeth was excited because she had never gone to a pow wow before, and she was especially excited to be invited to watch her friend dance. “So, tell me more about the pow wow,” said Elizabeth. “It is a First Nations social gathering where we dance, celebrate life, and honour our traditions. I dance the fancy shawl dance!” said Sage. “What is the fancy shawl dance?” asked Elizabeth. “Well, there are many dances you can dance at a pow wow, and there are different ones for boys and girls. I dance fancy because I love to hop and twirl!” replied Sage. “Can you show me before we go to the pow wow?” asked Elizabeth. Sage went to her closet and carefully took out some of her regalia to show Elizabeth the dance. “Wow! Your cape is beautiful!” said Elizabeth with excitement. Sage giggled and said, “Oh no, Elizabeth, this isn’t a cape. This is a shawl!” Elizabeth giggled back, feeling a bit embarrassed, and said, “Oh, sorry Sage! Your fancy shawl is very beautiful! I love all the colours, the different shapes, and the many patterns!” Sage responded, “Thank you. My mom made it especially for me!” Sage put the shawl over her back and started to dance. Elizabeth loved watching the beautiful patterns Sage was creating with her footwork. It was amazing!

Patterning and Algebra

Master 15: Activity 8 Assessment

Errors and Missing Elements

Finding Errors and Missing Elements Behaviours/Strategies		
Student is not able to identify repeating patterns.	Student identifies the core when it has two or three elements but has difficulty when it has four.	Student identifies a repeating pattern but has difficulty finding the error.
Observations/Documentation		

Student identifies a repeating pattern but has difficulty finding a missing element.	Student successfully finds the errors and what's missing but has difficulty explaining how an error or missing element was found.	Student successfully finds the errors and what's missing and uses math language to explain how an error or missing element was found.
Observations/Documentation		

Patterning and Algebra

Master 16: Activity 9 Assessment

Creating Patterns: Consolidation

Creating Patterns Behaviours/Strategies		
Student has difficulty creating repeating patterns.	Student creates another pattern but has difficulty using the given pattern core.	Student can create a repeating pattern but has difficulty creating a pattern with a missing element or error.
Observations/Documentation		

Student identifies a repeating pattern but has difficulty finding an error.	Student identifies a repeating pattern but has difficulty identifying a missing element.	Student extends repeating patterns, represents them in different ways, and finds errors and missing elements.
Observations/Documentation		

Master 17a

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

ON

Kindergarten
15.2 investigate some concepts of quantity and equality through identifying and comparing sets with more, fewer, or the same number of objects (e.g., find out which of two cups contains more or fewer beans [i.e., the concept of one-to-one correspondence]; investigate the ideas of more, less, or the same, using concrete materials such as counters or five and ten frames; recognize that the last number counted represents the number of objects in the set [i.e., the concept of cardinality])
Grade 1
Patterning and Algebra Expressions and Equality – create a set in which the number of objects is greater than, less than, or equal to the number of objects in a given set (Activity 10) – demonstrate examples of equality, through investigation, using a “balance” model (Sample problem: Demonstrate, using a pan balance, that a train of 7 attached cubes on one side balances a train of 3 cubes and a train of 4 cubes on the other side.) (Activities 12 and 13) – determine, through investigation using a “balance” model and whole numbers to 10, the number of identical objects that must be added or subtracted to establish equality (Sample problem: On a pan balance, 5 cubes are placed on the left side and 8 cubes are placed on the right side. How many cubes should you take off the right side so that both sides balance?) (Activity 11) Cross Strand: Number Quantity Relationships – represent, compare, and order whole numbers to 50, using a variety of tools (e.g., connecting cubes, ten frames, base ten materials, number lines, hundreds charts) and contexts (e.g., real-life experiences, number stories)

Master 17b

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

ON (con't)

Grade 2
Patterning and Algebra Expressions and Equality – demonstrate an understanding of the concept of equality by partitioning whole numbers to 18 in a variety of ways, using concrete materials (e.g., starting with 9 tiles and adding 6 more tiles gives the same result as starting with 10 tiles and adding 5 more tiles) – represent, through investigation with concrete materials and pictures, two number expressions that are equal, using the equal sign (e.g., "I can break a train of 10 cubes into 4 cubes and 6 cubes. I can also break 10 cubes into 7 cubes and 3 cubes. This means 4 + 6 = 7 + 3.") – determine the missing number in equations involving addition and subtraction to 18, using a variety of tools and strategies (e.g., modelling with concrete materials, using guess and check with and without the aid of a calculator) (Sample problem: Use counters to determine the missing number in the equation 6 + 7 = + 5.) – identify, through investigation, and use the commutative property of addition (e.g., create a train of 10 cubes by joining 4 red cubes to 6 blue cubes, or by joining 6 blue cubes to 4 red cubes) to facilitate computation with whole numbers (e.g., "I know that 9 + 8 + 1 = 9 + 1 + 8. Adding becomes easier because that gives 10 + 8 = 18.") – identify, through investigation, the properties of zero in addition and subtraction (i.e., when you add zero to a number, the number does not change; when you subtract zero from a number, the number does not change)

Master 17c

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

BC/YT

Kindergarten
Change in quantity to 10 using concrete materials • generalizing change by adding 1 or 2 • modeling and describing number relationships through change (e.g., build and change tasks - begin with four cubes, what do you need to do to change it to six? to change it to 3?) • Equality as a balance and inequality as an imbalance • modeling equality as balanced and inequality as imbalanced using concrete and visual models (e.g., using a pan balance with cubes on each side to show equal and not equal)
Grade 1
Change in quantity to 20, concretely and verbally • verbally describing a change in quantity (e.g., I can build 7 and make it 10 by adding 3) (Activity 11) Meaning of equality and inequality • demonstrating and explaining the meaning of equality and inequality (Activities 10, 11, 12, 13) • recording equations symbolically using = and ≠ (Activities 12 and 13) Cross Strand: Ways to make 10 - decomposing 10 into parts Addition and subtraction to 20 (understanding - decomposing 20 into parts - addition and subtraction are related
Grade 2
Change in quantity using pictorial and symbolic representation • numerically describing a change in quantity (e.g., for 6 + n = 10, visualize the change in quantity by using ten-frames, hundred charts, etc.) Symbolic representation of equality and inequality

Master 17d

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

SK

Kindergarten
Grade 1
Patterns and Relations (Variables and Equations) P1.3 Describe equality as a balance and inequality as an imbalance, concretely, physically, and pictorially (0 to 20). (Activities 10, 11, 12, 13) P1.4 Record equalities using the equal symbol. (Activities 12, 13) Cross Strand: Number N1.3 Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count using the counting on strategy • using parts or equal groups to count sets. N1.5 Compare sets containing up to 20 elements to solve problems using: • referents (known quantity) • one-to-one correspondence.
Grade 2
Patterns and Relations (Variables and Equations) P2.3 Demonstrate understanding of equality and inequality concretely and pictorially (0 to 100) by: • relating equality and inequality to balance • comparing sets • recording equalities with an equal sign • recording inequalities with a not equal sign • solving problems involving equality and inequality.

Master 17e

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

NS

Kindergarten
Grade 1
Patterns and Relations PR03: Students will be expected to describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). (Activities 10, 11, 12, 13) PR04: Students will be expected to record equalities using the equal symbol. (Activities 12, 13) Cross Strand: Number N03. Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. N05. Compare sets containing up to 20 elements, using: • referents • one-to-one correspondence to solve problems.
Grade 2
Patterns and Relations PR03: Students will be expected to demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100). PR04: Students will be expected to record equalities and inequalities symbolically, using the equal symbol or not equal symbol.

Master 17f

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

NB/PEI/NFL

Kindergarten
Grade 1
Patterns and Relations (Variables and Equations) 1PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). (Activities 10, 11, 12, 13) 1PR4. Record equalities using the equal symbol (0 to 20). (Activities 12, 13) Cross Strand: Number N3: Demonstrate an understanding of counting by: • indicating that the last number said identifies “how many” • showing that any set has only one count • using the counting on strategy • using parts or equal groups to count sets. N5: Compare sets containing up to 20 elements to solve problems using: • referents • one-to-one correspondence.
Grade 2
Patterns and Relations (Variables and Equations) 2PR3. Demonstrate and explain the meaning of equality and inequality, concretely and pictorially (0 – 100). 2PR4. Record equalities and inequalities symbolically, using the equal symbol or the not equal symbol.

Master 17g

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

MB

Kindergarten
Grade 1
Patterns and Relations (Variables and Equations) 1.PR3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). (Activities 10, 11, 12, 13) 1.PR4. Record equalities using the equal symbol (0 to 20). (Activities 12, 13) Cross Strand: - Number 1.N3: Demonstrate an understanding of counting by: • using the counting-on strategy • using parts or equal groups to count sets. 1.N5: Compare and order sets containing up to 20 elements to solve problems by using • referents • one-to-one correspondence.
Grade 2
Patterns and Relations (Variables and Equations) 2.PR3. Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 – 100). 2.PR4. Record equalities and inequalities symbolically, using the equal symbol or the not equal symbol.

Master 17h

Curriculum Correlation
Patterning and Algebra Cluster 3: Equality and Inequality

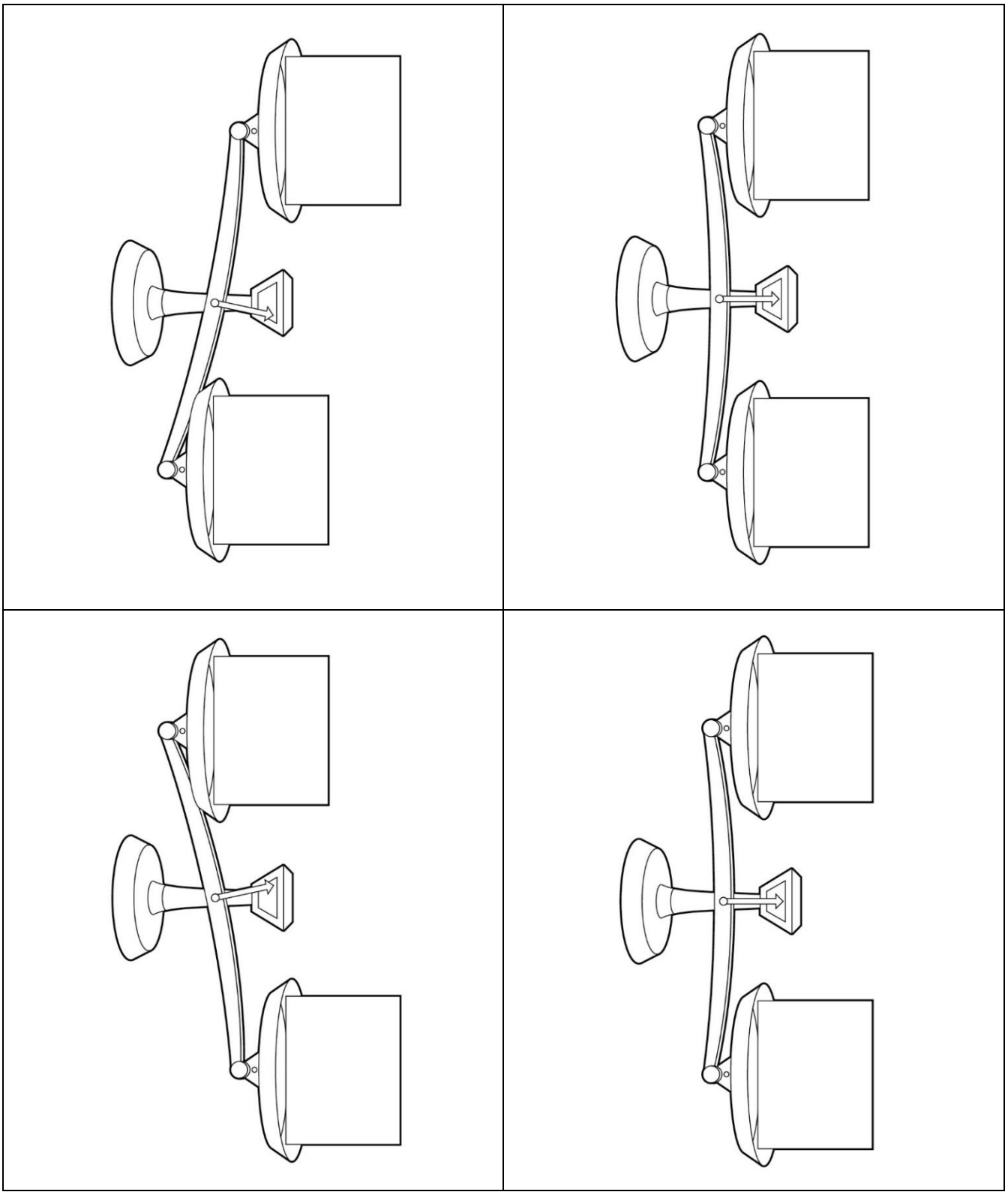
AB/NWT/NU

Kindergarten
Grade 1
Patterns and Relations (Variables and Equations) 4. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). (Activities 10, 11, 12, 13) 5. Record equalities, using the equal symbol. (Activities 12, 13) Cross Strand: Number 3. Demonstrate an understanding of counting by: • indicating that the last number said identifies "how many" • showing that any set has only one count • using counting-on • using parts or equal groups to count sets. 5. Compare sets containing up to 20 elements, using: • referents • one-to-one correspondence to solve problems.
Grade 2
Patterns and Relations (Variables and Equations) 4. Demonstrate and explain the meaning of equality and inequality, concretely and pictorially. 5. Record equalities and inequalities symbolically, using the equal symbol or the not equal symbol.

Name_____ Date _____

Master 18

Am I Balanced? Recording Sheet



Patterning and Algebra

Master 19: Activity 10 Assessment

Exploring Sets

Creating Equal Sets Behaviours/Strategies			
Student guesses to create equal sets.	Student makes identical sets (e.g., uses the same number of each colour of cube and/or arranges the cubes in the same way).	Student creates equal sets (e.g., by counting or matching), but doesn't associate "equal" with balanced pans.	Student makes equal sets with ease and understands that as long as the number of cubes in each pan does not change, the pans will be balanced.
Observations/Documentation			

Creating Unequal Sets Behaviours/Strategies			
Student guesses to create unequal sets.	Student makes unequal sets, but does not know whether the new set has more or fewer cubes than the original set.	Student knows which set has more/ fewer by looking at the sets, but does not associate more/fewer with the heights of the pans on the pan balance.	Student makes unequal sets with ease and understands that the lower pan contains the greater amount.
Observations/Documentation			

Patterning and Algebra

Master 20: Activity 11 Assessment

Making Equal Sets

Conceptual Understanding of Equality and Inequality Behaviours/Strategies			
Student adds cubes to the pan with more or takes away cubes from the pan with fewer.	Student guesses how many cubes to add/remove, or adds/removes cubes one at a time.	To make the pans balance, student thinks the number of cubes to be added or taken away will differ, depending on the choice to add or take away.	Student balances the pans with ease by adding cubes to one pan or removing the same number of cubes from the other pan.
Observations/Documentation			

Making Equal Sets Behaviours/Strategies			
Student always adds cubes to balance the pans.	Student always adds cubes to or takes cubes away from the left pan.	Student writes number sentences in the form A + B = C or A – B = C, regardless of which pan the cubes were added to or taken away from.	Student efficiently adds and removes cubes and writes the related number sentence.
Observations/Documentation			

Name_____ Date_____

Master 21a

Equivalent or Not?

Are these pairs of expressions equivalent? Write an = or ≠ sign in the box. You can use linking cubes and a pan balance to help you.

$5 + 7 \square 6 + 3$	$10 + 3 \square 5 + 6$
$5 + 4 \square 3 + 6$	$10 - 7 \square 13 - 10$
$8 - 3 \square 11 - 6$	$18 - 9 \square 19 - 7$
$9 + 6 \square 17 - 2$	$16 - 3 \square 7 + 6$

Name_____ Date_____

Master 21b

Equivalent or Not?

Are these pairs of expressions equivalent? Write an = or ≠ sign in the box. You can use linking cubes and a pan balance to help you.

15 + 7 ☐ 6 + 13	40 + 3 ☐ 25 + 21
25 + 14 ☐ 13 + 26	50 − 37 ☐ 43 − 30
48 − 13 ☐ 41 − 26	38 − 19 ☐ 39 − 18
19 + 16 ☐ 37 − 2	46 − 23 ☐ 17 + 16

Patterning and Algebra

Master 22: Activity 12 Assessment

Using Symbols

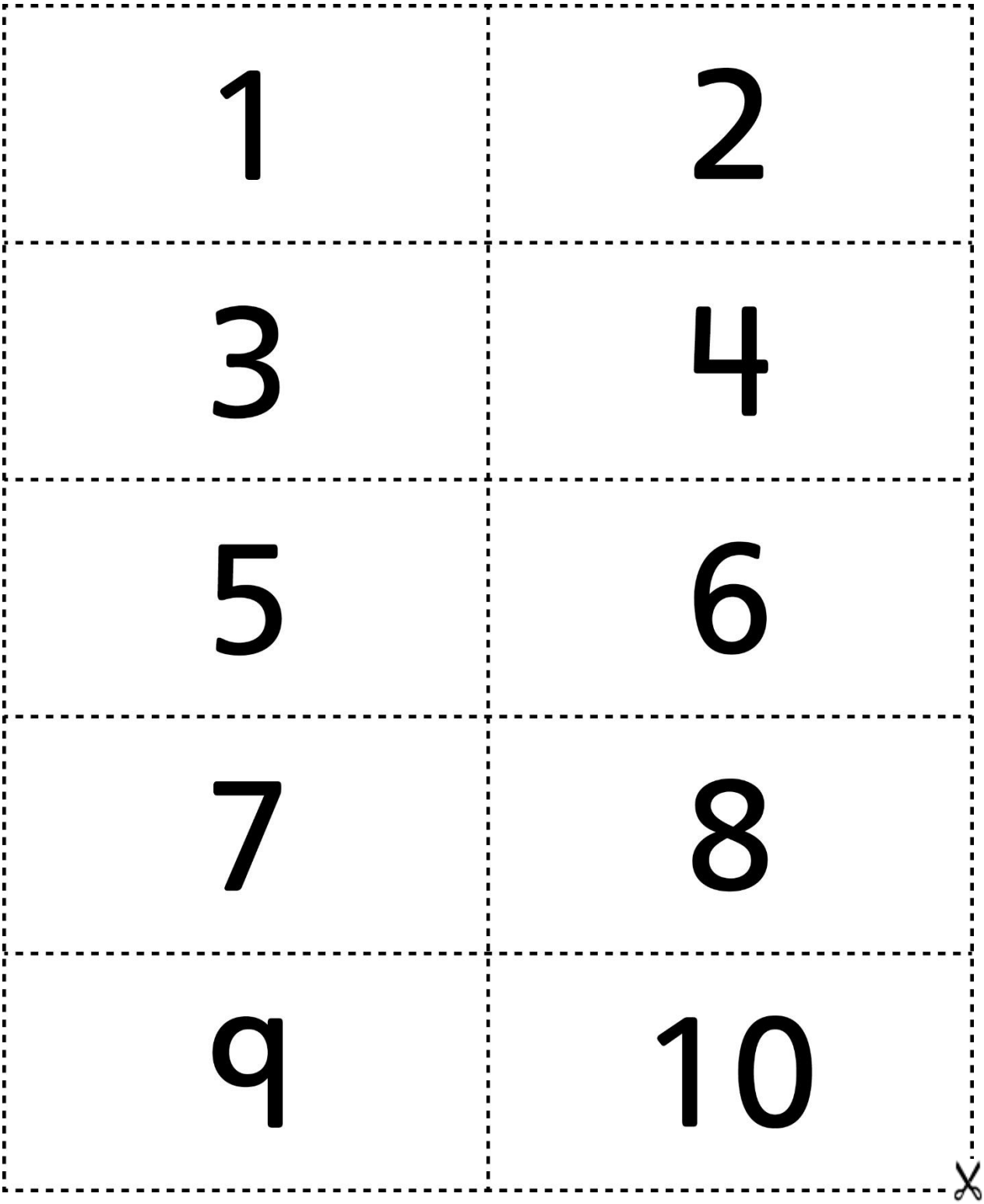
Expressing Equality and Inequality Behaviours/Strategies		
Student guesses whether the pans balance.	Student is unsure when to use the equal and not equal signs.	When there is more than one set of dots in a pan, student compares only one of the two sets with the number of dots in the other pan. "There are 5 dots and 7 dots in this pan and 9 dots in the other. There must be more in this pan because 9 is greater than 7!"
Observations/Documentation		

When there is more than one set of dots in a pan, student omits the addition sign in the number sentence. $57 \neq 9$	Student thinks the order of the numbers in the number sentence matters (e.g., 4 + 5 is different from 5 + 4).	Student understands equality and inequality and records symbolically with ease.
Observations/Documentation		

Name _____ Date _____

Master 23a

Number Cards (1–10)



Name _____ Date _____

Master 23b

Number Cards (11–20)

11	12
13	14
15	16
17	18
19	20

Name _____ Date _____

Master 23c

Number Cards (21–30)

21	22
23	24
25	26
27	28
29	30

Name _____ Date _____

Master 23d

Number Cards (31–40)

31	32
33	34
35	36
37	38
39	40

Name _____ Date _____

Master 23e

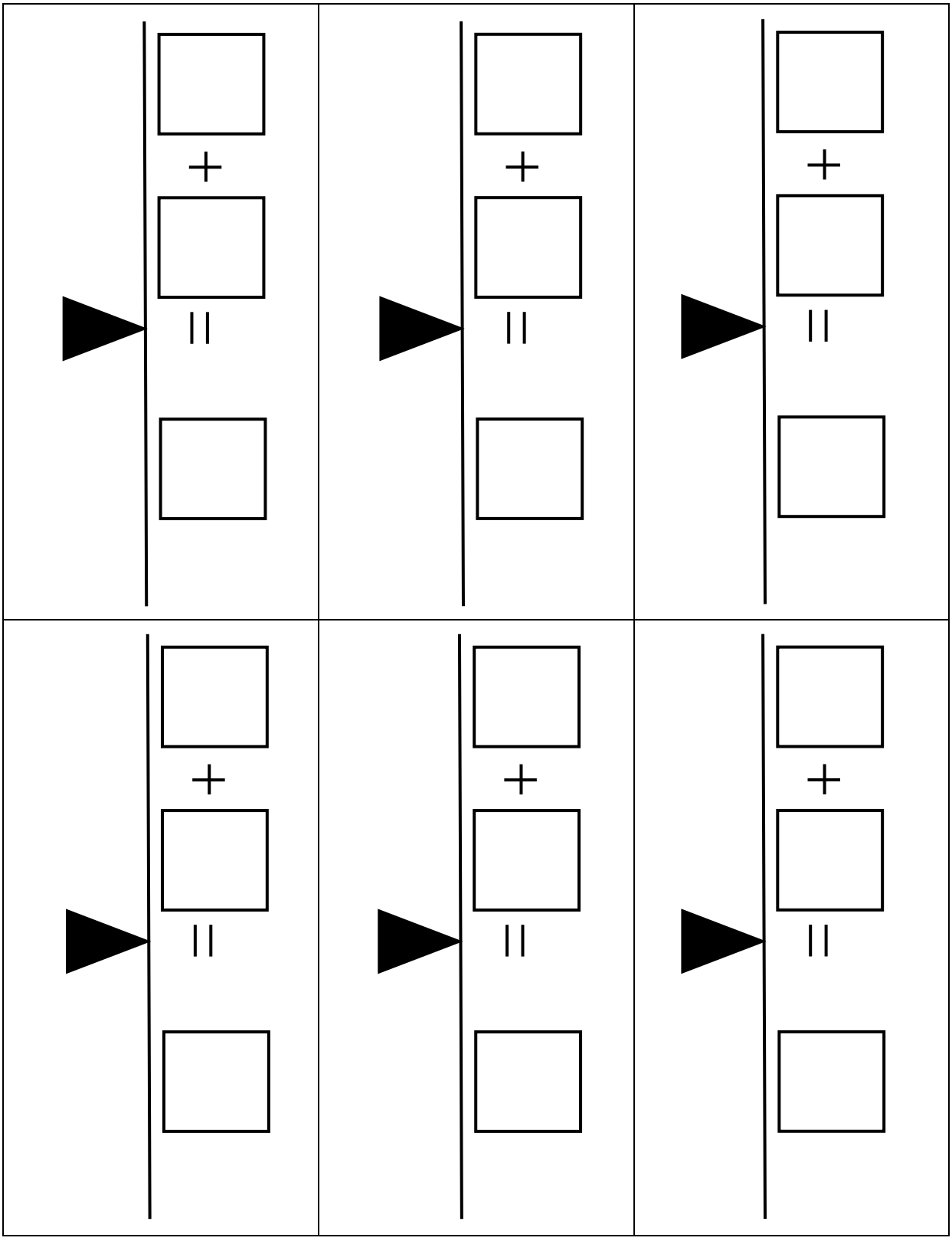
Number Cards (41–50)

41	42
43	44
45	46
47	48
49	50

Name_____ Date _____

Master 24a

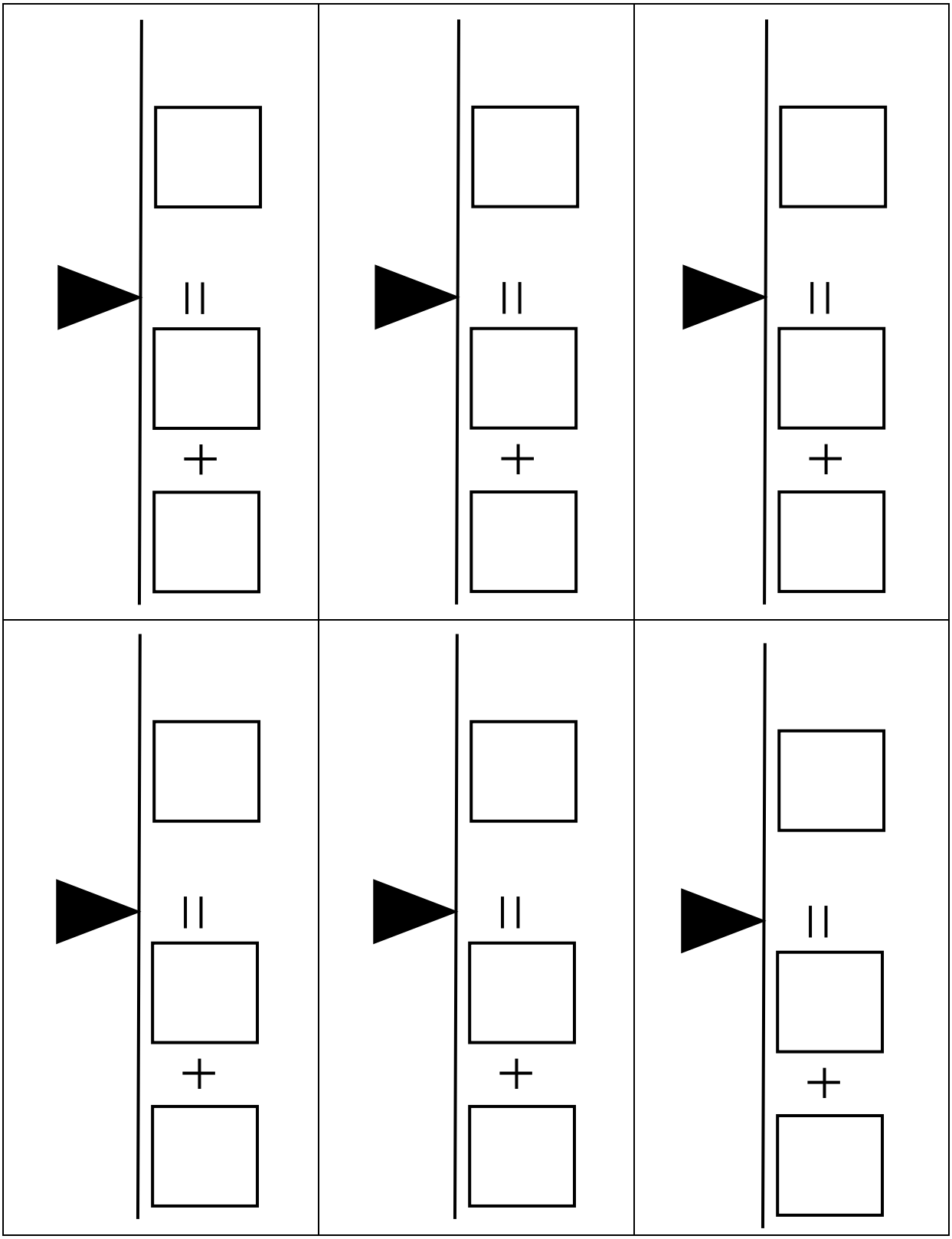
Pan Card Recording Sheet (Addition)



Name_____ Date _____

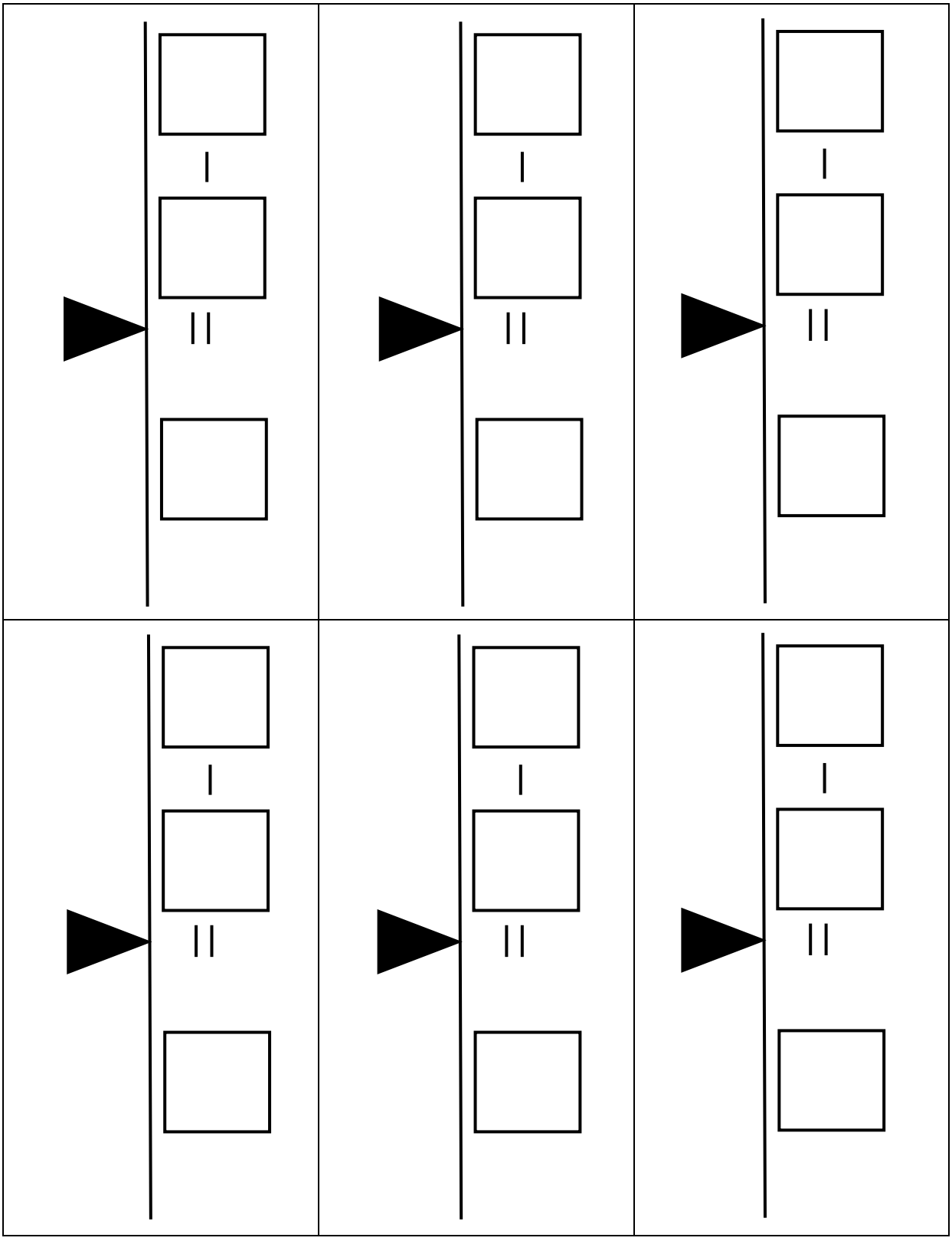
Master 24b

Pan Card Recording Sheet (Addition)



Name_____ Date _____

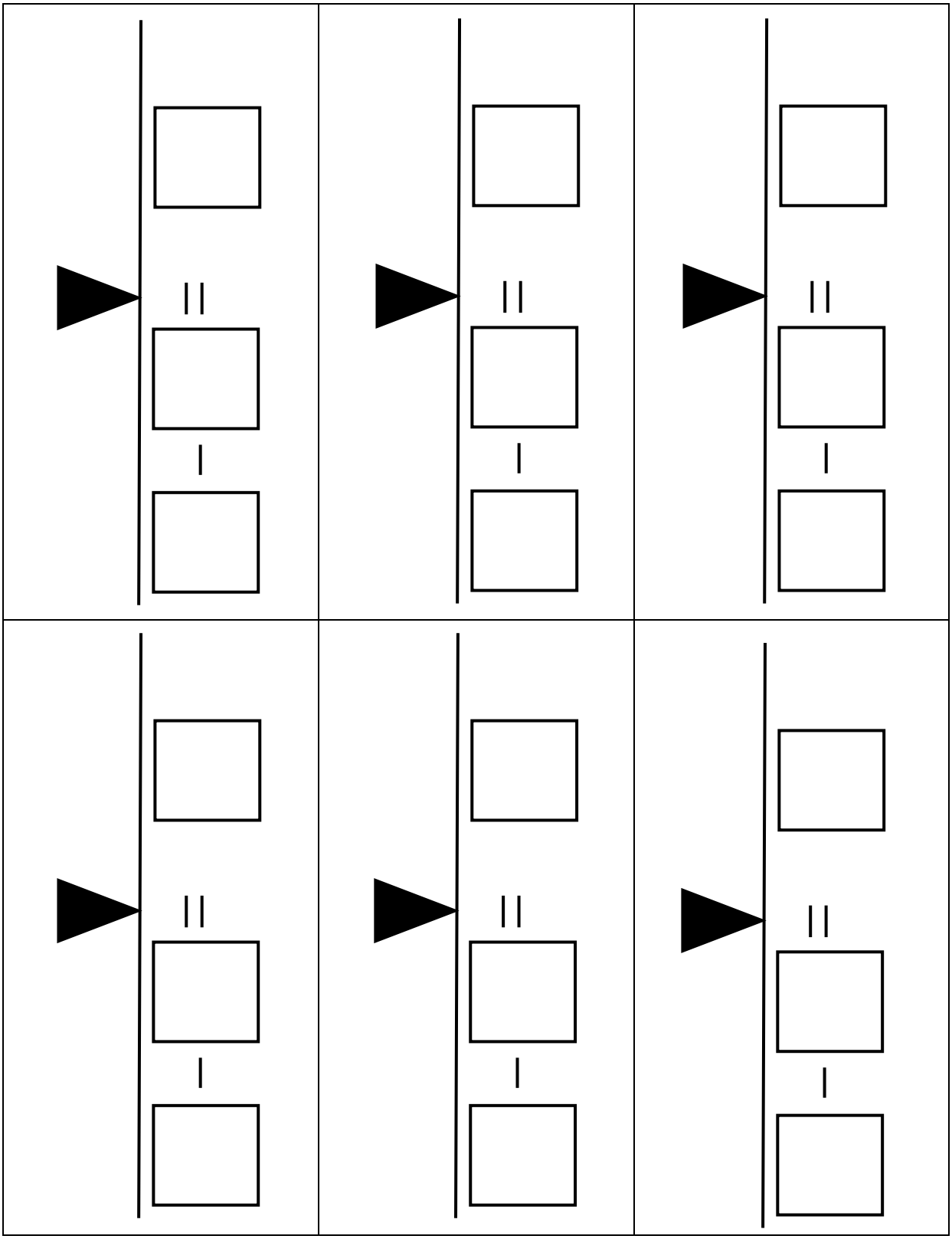
Master 24c Pan Card Recording Sheet (Subtraction)



Name_____ Date _____

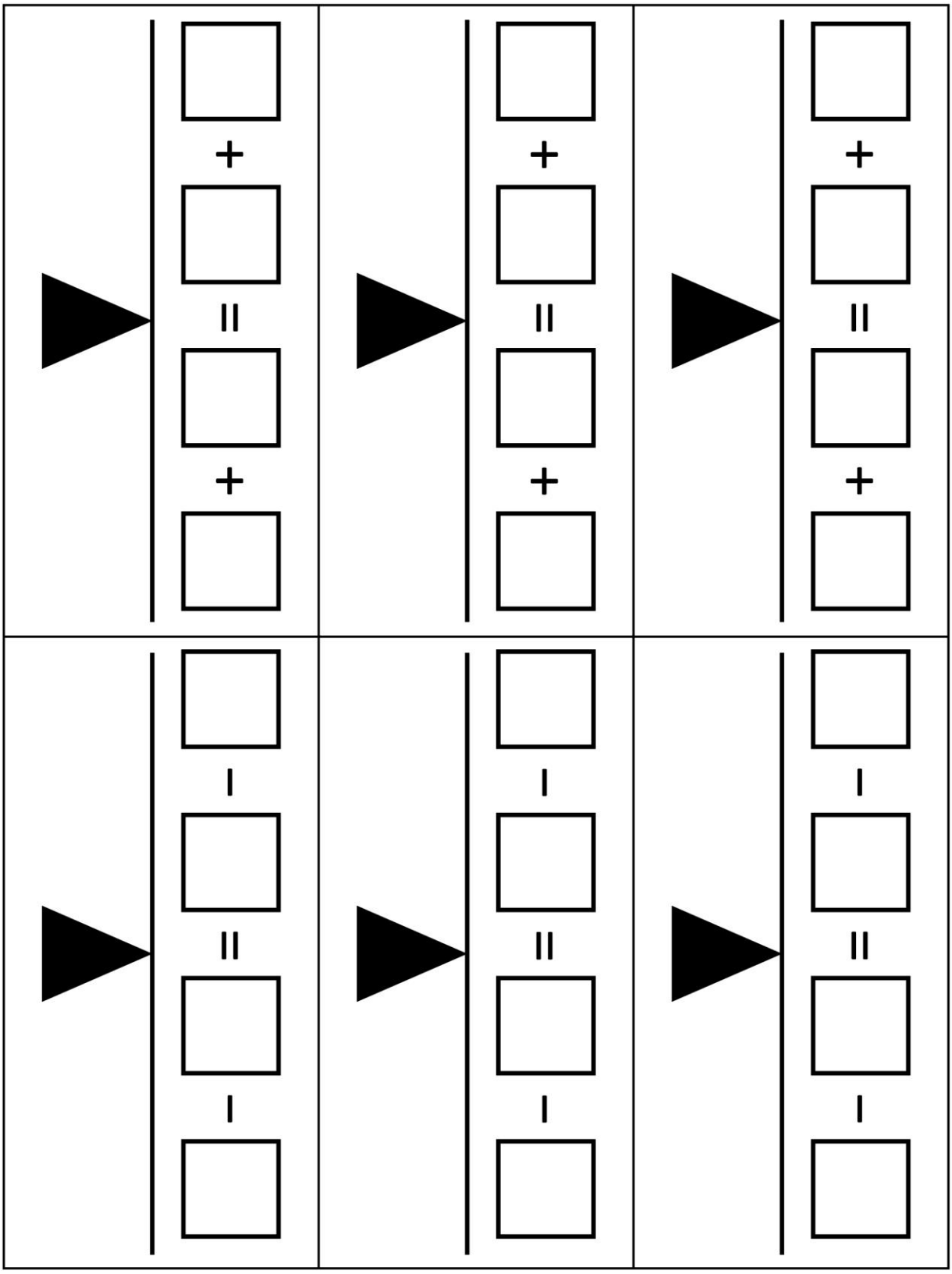
Master 24d

Pan Card Recording Sheet (Subtraction)



Name_____ Date _____

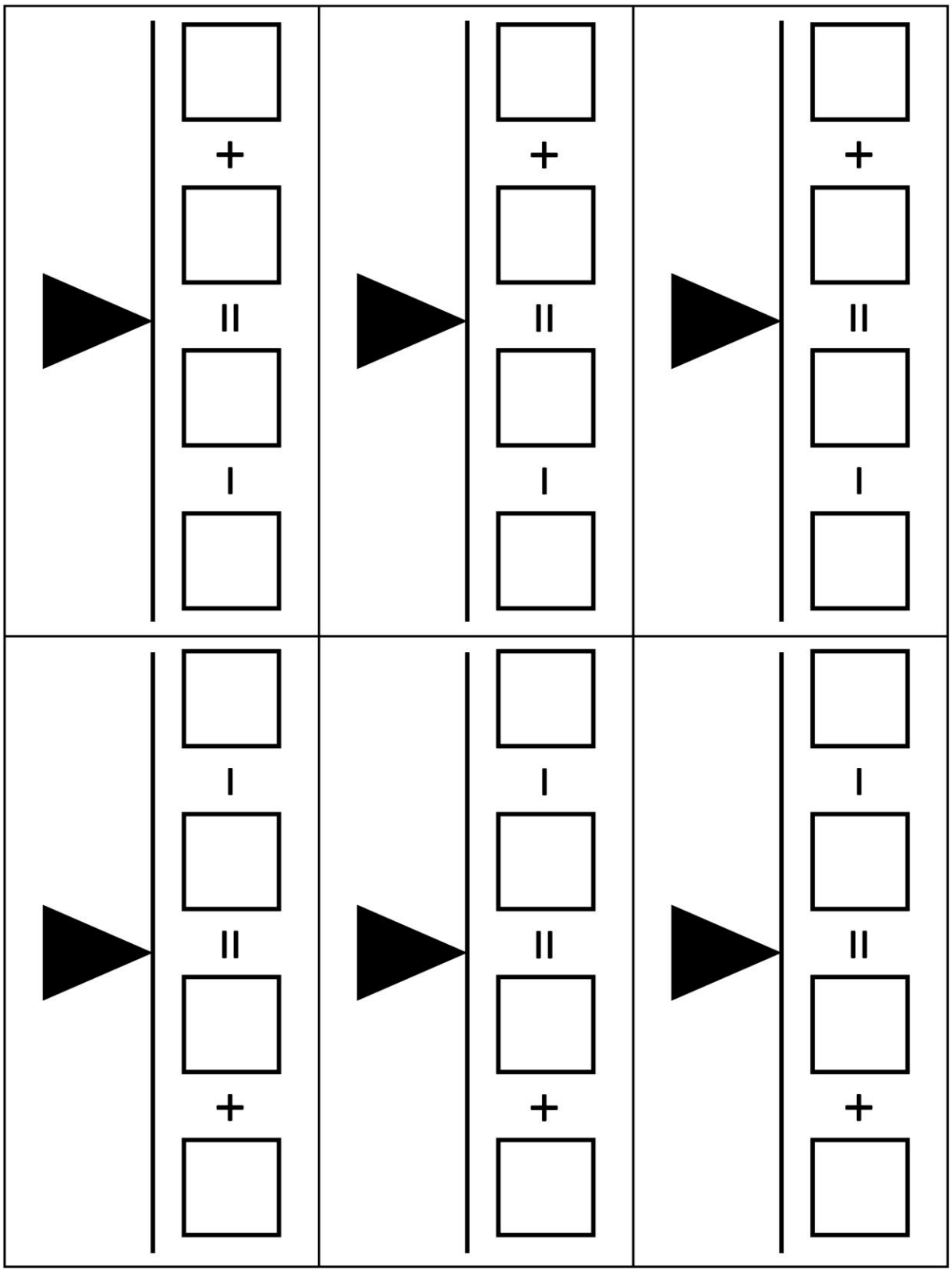
Master 24e Pan Card Recording Sheet (Expressions)



Name_____ Date _____

Master 24f

Pan Card Recording Sheet (Expressions)



Patterning and Algebra

Master 25: Activity 13 Assessment

Equality and inequality: Consolidation

Expressing Equality Behaviours/Strategies			
Student does not trust that the pans will always balance.	Student writes the total number of cubes in each pan in the number sentence. "There are 5 cubes in each pan." $5 + \square = 5$	Student mixes up the order of the numbers in the number sentence (does not match the trains in each pan). 4 + 9 = 5	Student thinks the order of the numbers in the number sentence matters (e.g., 4 + 5 is different from 5 + 4).
Observations/Documentation			

Student thinks that a number sentence like 4 + 5 = 9 is different from 9 = 4 + 5.	Student randomly breaks train into two shorter trains to find a new way.	Student uses patterns to find all possible ways to break the train into two shorter trains.	Student finds all possible ways to break the train into two shorter trains and records the related number sentences with ease.
Observations/Documentation			

Master 1a

Curriculum Correlation

Measurement Cluster 1: Comparing Objects

ON

Kindergarten
16.1 select an attribute to measure (e.g., capacity), determine an appropriate non-standard unit of measure (e.g., a small margarine container), and measure and compare two or more objects (e.g., determine which of two other containers holds the most water) 16.2 investigate strategies and materials used when measuring with non-standard units of measure (e.g., why feet used to measure length must be placed end to end with no gaps and not overlapping, and must all be the same size; why scoops used to measure water must be the same size and be filled to the top)
Grade 1
Measurement Measurement Relationships – compare two or three objects using measurable attributes (e.g., length, height, width, area, temperature, mass, capacity), and describe the objects using relative terms (e.g., taller, heavier, faster, bigger, warmer; “If I put an eraser, a pencil, and a metre stick beside each other, I can see that the eraser is shortest and the metre stick is longest.”) (Activities 1–6)
Grade 2
Measurement Measurement Relationships – compare and order a collection of objects by mass and/or capacity, using non-standard units (e.g., “The coffee can holds more sand than the soup can, but the same amount as the small pail.”)

Master 1b

Curriculum Correlation

Measurement Cluster 1: Comparing Objects

BC/YT

Kindergarten
Direct comparative measurement (e.g., linear, mass, capacity) • understanding the importance of using a baseline for direct comparison in linear measurement • linear-height, width, length (e.g., longer than, shorter than, taller than, wider than) • mass (e.g., heavier than, lighter than, same as) • capacity (e.g., holds more, holds less)
Grade 1
Direct measurement with non-standard units (non-uniform and uniform) • understanding the importance of using a baseline for direct comparison in linear measurement (Activity 1) • tiling an area (Activity 5)
Grade 2
No correlation

Master 1c

Curriculum Correlation

Measurement Cluster 1: Comparing Objects

SK

Kindergarten
Shape and Space SSK.1 Use direct comparison to compare two objects based on a single attribute, such as: • length including height • mass • volume • capacity.
Grade 1
Shape and Space SS1.1 Demonstrate an understanding of measurement as a process of comparing by: • identifying attributes that can be compared • ordering objects • making statements of comparison • filling, covering, or matching. (Activities 1–6)
Grade 2
No correlation

Master 1d

Curriculum Correlation

Measurement Cluster 1: Comparing Objects

PEI/NB/MB

Kindergarten
Shape and Space SS1 Use direct comparison to compare two objects based on a single attribute, such as length (height), mass (weight) and volume (capacity).
Grade 1
Shape and Space SS1 Demonstrate an understanding of measurement as a process of comparing by: • identifying attributes that can be compared • ordering objects • making statements of comparison • filling, covering or matching. (Activities 1–6)
Grade 2
Shape and Space SS3 Compare and order objects by length, height, distance around and mass (weight) using non-standard units, and make statements of comparison.

Master 1e

Curriculum Correlation

Measurement Cluster 1: Comparing Objects

AB/NWT/NU

Kindergarten
Shape and Space 1. Use direct comparison to compare two objects based on a single attribute, such as length (height), mass (weight) and volume (capacity).
Grade 1
Shape and Space 1. Demonstrate an understanding of measurement as a process of comparing by: • identifying attributes that can be compared • ordering objects • making statements of comparison • filling, covering or matching. (Activities 1–6)
Grade 2
Shape and Space 3. Compare and order objects by length, height, distance around and mass (weight) using non-standard units, and make statements of comparison.

Master 1f

Curriculum Correlation

Measurement Cluster 1: Comparing Objects

NS

Kindergarten
Measurement M01 Students will be expected to use direct comparison to compare two objects based on a single attribute, such as length, mass, volume, and capacity.
Grade 1
Measurement M01 Students will be expected to demonstrate an understanding of measurement as a process of comparing by • identifying attributes that can be compared • ordering objects • making statements of comparison • filling, covering, or matching (Activities 1–6)
Grade 2
Measurement M03 Students will be expected to compare and order objects by length, height, distance around, and mass using non-standard units and make statements of comparison.

Master 1g

Curriculum Correlation

Measurement Cluster 1: Comparing Objects

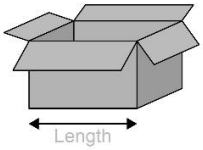
NFL

Kindergarten
Shape and Space KSS1. Use direct comparison to compare two objects based on a single attribute, such as: • length including height • mass • capacity.
Grade 1
Shape and Space 1SS1. Demonstrate an understanding of measurement as a process of comparing by: • identifying attributes that can be compared • ordering objects • making statements of comparison • filling, covering or matching. (Activities 1–6)
Grade 2
Shape and Space 2SS3. Compare and order objects by length, height, distance around and mass, using nonstandard units, and make statements of comparison.

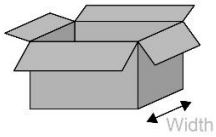
Name _____ Date _____

Master 2

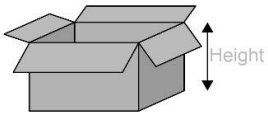
Attribute Cards



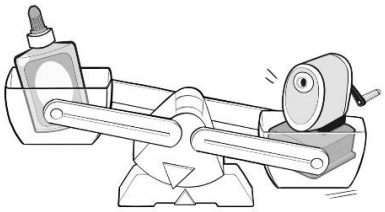
Length



Width



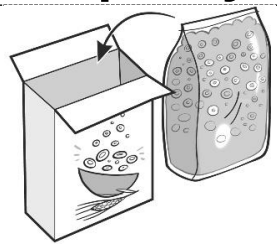
Height



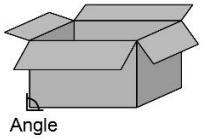
Mass

Capacity

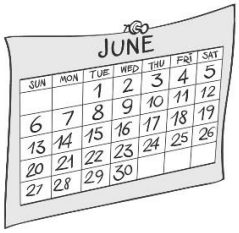
Surface Area



Volume



Angle

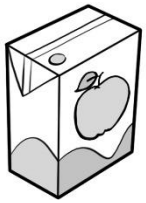
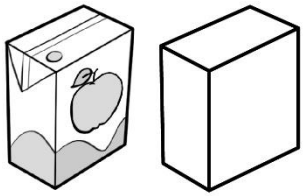


Time

Measurement

Master 3: Activity 1 Assessment

Identifying Attributes

Identifying Measurable Attributes Behaviours/Strategies			
Student describes only one attribute of an everyday object.  "All I know is that the carton holds juice."	Student describes multiple attributes of an everyday object. "The juice box is short and narrow, it has square corners, it holds juice, and it's not very heavy."	Student matches description of attributes to their names but struggles to identify matching 3-D solid. "The juice box holds juice, so it has capacity. It is short, so it has height. It has square corners, so it has angles. I'm not sure which solid it looks like."	Student successfully describes and names attributes of objects and identifies matching 3-D solid.  "The juice box is like a prism."
Observations/Documentation			

Measurement

Master 4: Activity 2 Assessment

Comparing Length

Comparing Objects by Length Behaviours/Strategies		
Student does not line the pencil crayons up along a baseline.	Student visually compares the pencil crayons without measuring.	Student correctly orders the pencil crayons but compares each pencil crayon to all others.
Observations/Documentation		

Student correctly orders the pencil crayons but struggles to understand that the length of the pencils does not change when they are moved (conservation of length).	Student correctly orders the pencil crayons but has difficulty using measurement language to compare the lengths, widths, and heights of objects.	Student correctly orders the pencil crayons and uses measurement language to compare the lengths, widths, and heights of objects.
Observations/Documentation		

Name _____ Date _____

Master 5

Sorting Mat

Shorter than
Same as
Longer than

Measurement

Master 6: Activity 3 Assessment

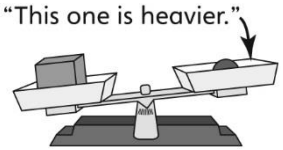
Matching Lengths

Measuring and Comparing Behaviours/Strategies		
Student measures width instead of length.	Student matches objects in the middle, or does not line up the straw and the object along a baseline. 	Student selects objects that are much longer or much shorter than the straw.
Observations/Documentation		

Student only finds objects that are shorter or only finds objects that are longer than the straw.	Student visualizes the straw and object and compares without measuring.	Student uses the straw to measure and compare the lengths of other objects, aligning the objects along a baseline. Student uses math language to compare the lengths. 
Observations/Documentation		

Measurement

Master 7: Activity 4 Assessment
Comparing Mass

Comparing Objects by Mass Behaviours/Strategies		
Student thinks a larger object has a greater mass.  	Student uses hands to compare the mass of objects and always says the object in his or her dominant hand is lighter/heavier.	Student thinks the heavier object is in the higher pan of the pan balance. 
Observations/Documentation		

Student compares the mass of each object to all others.	Student correctly orders the objects but has difficulty using measurement language to compare the masses.	Student correctly orders the objects and uses measurement language to compare the masses.
Observations/Documentation		

Measurement

Master 8: Activity 5 Assessment

Comparing Capacity

Comparing Capacities Behaviours/Strategies		
Student thinks the tallest container holds the most.	Student does not fill containers to the top. 	Student spills sand when pouring from one container to another. 
Observations/Documentation		

Student compares the capacity of each container to all others.	Student correctly orders the containers but has difficulty using measurement language to compare the capacities.	Student correctly orders the containers and uses measurement language to compare the capacities.
Observations/Documentation		

Name_____ Date _____

Master 9

Comparison Cards

Lighter	Heavier
Shorter	Longer
Holds More	Holds Less

Name _____ Date _____

Master 10

Making Comparisons Recording Sheet

A _____ is lighter than a _____.

A _____ is heavier than a _____.

A _____ is longer than a _____.

A _____ is shorter than a _____.

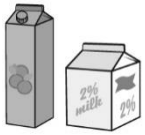
A _____ holds more than a _____.

A _____ holds less than a _____.

Measurement

Master 11: Activity 6 Assessment

Making Comparisons

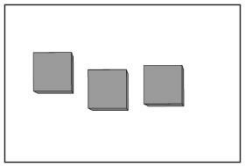
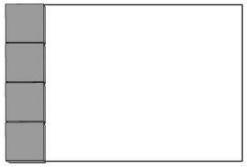
Comparing Objects Behaviours/Strategies		
Student chooses unsuitable objects to make a comparison. "I will use the eraser and the pencil to compare capacity."	Student attempts to compare objects by length but does not line them up along a baseline.	Student thinks a larger object has a greater mass or a taller object has a greater capacity.  "The tall one holds more."
Observations/Documentation		

Student successfully chooses a tool to compare mass or capacity but does not understand how to use it.	Student correctly chooses and compares objects and checks the comparison but has difficulty using measurement language to describe the comparison.	Student correctly chooses and compares objects, checks the comparison, then describes the comparison using measurement language.
Observations/Documentation		

Measurement

Master 12: Activity 7 Assessment

Comparing Area

Comparing Area Behaviours/Strategies		
Student leaves gaps or overlaps. 	Student lines the squares up along one side of the rectangle but does not consider the full surface area. 	Student covers the rectangular surfaces with no gaps or overlaps but has difficulty determining which of two surfaces has the greater area.
Observations/Documentation		

Student covers the rectangular surfaces with no gaps or overlaps but has difficulty ordering the surfaces from greatest to least area.	Student correctly orders the rectangular surfaces but has difficulty using measurement language to compare the areas.	Student correctly orders the rectangular surfaces and uses measurement language to compare the areas.
Observations/Documentation		

Name_____ Date _____

Master 13

Word Cards

Area	Mass
Length	Capacity
Angle	

Measurement

Master 14: Activity 8 Assessment

Comparing Objects: Consolidation

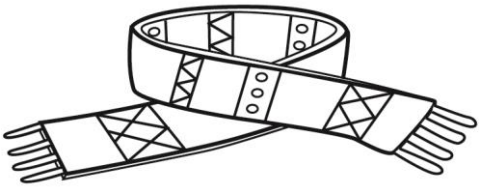
Setting Up Stations Behaviours/Strategies		
Student chooses objects that do not have the attribute being compared. "I chose a book, glass, bear counter, and ruler to compare capacity."	Student sets up the station but does not provide appropriate tools or materials to make the comparisons (e.g., provides a pan balance to compare area).	Student sets up the station with suitable objects and measuring tools and materials.
Observations/Documentation		

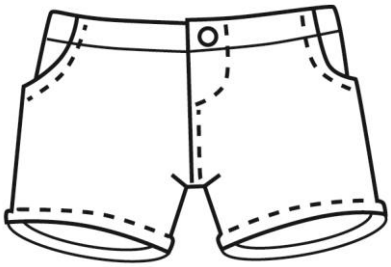
Comparing Objects Behaviours/Strategies		
Student does not use tools and materials correctly to make the comparison.	Student correctly orders the objects but has difficulty using measurement language when discussing the results.	Student correctly orders the objects and uses measurement language when discussing the results.
Observations/Documentation		

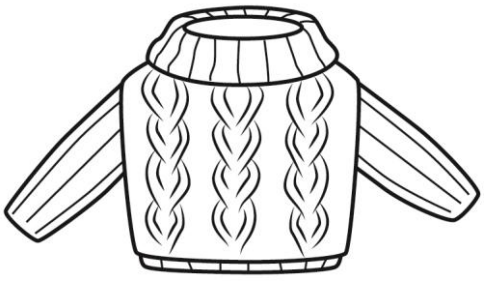
Name_____ Date _____

Master 15

Which Season? Cards



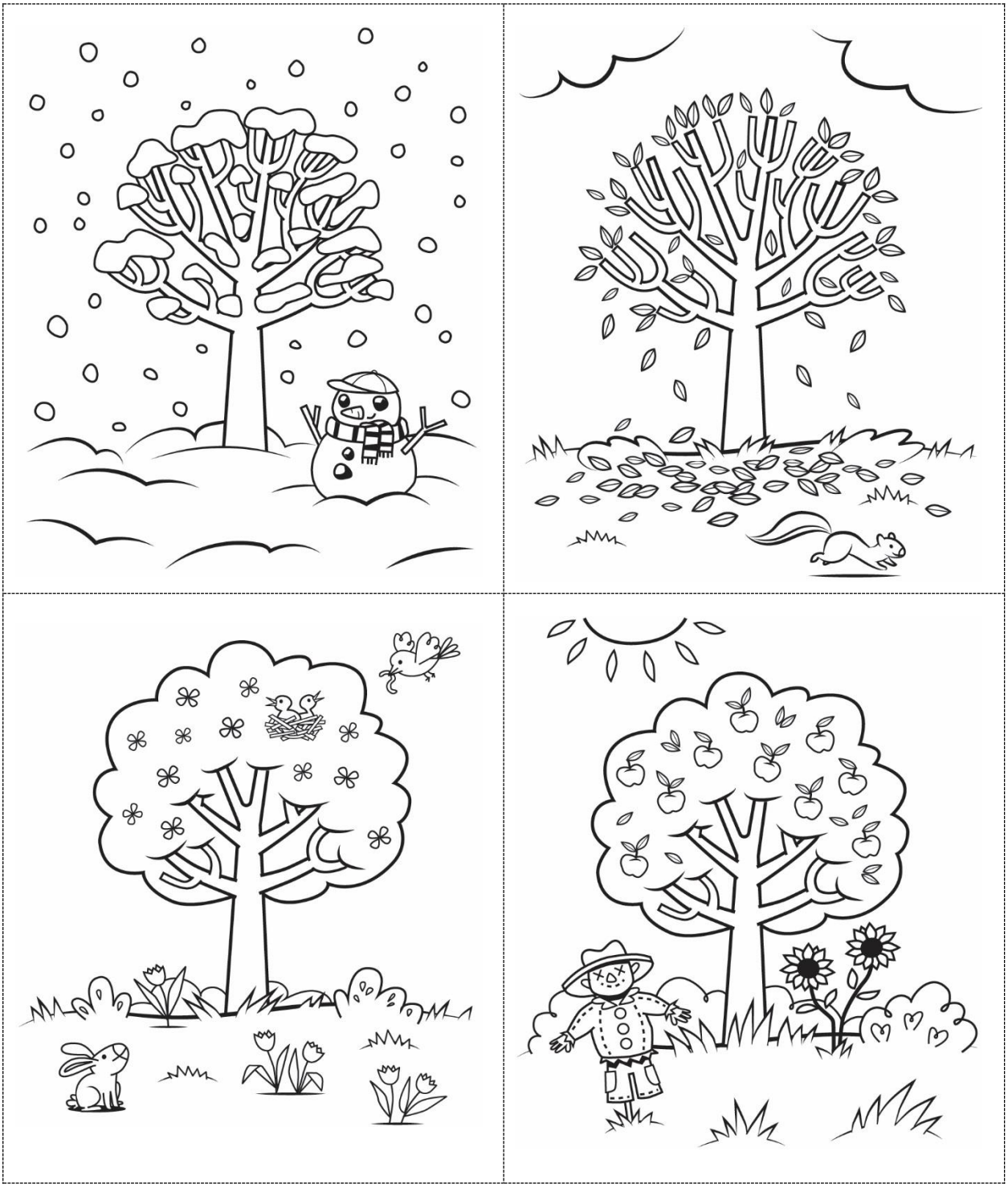




Name_____ Date _____

Master 16

Tree Cards



Master 17: Activity 9 Assessment

Relating to Seasons

Relating Seasons to Temperatures Behaviours/Strategies			
Student is unable to name activities for the seasons.	Student names activities for summer and winter but struggles with spring and fall.	Student names activities for all seasons but struggles to communicate his or her thinking.	Student names activities for all seasons and communicates her or his thinking with ease.
Observations/Documentation			

Name_____ Date _____

Master 18a

Month Cards

January	February
March	April
May	June
July	August

Name_____ Date _____

Master 18b

Month Cards

September	October
November	December

Name _____ Date _____

Master 19a

Ordinal Number Cards

1st	2nd
3rd	4th
5th	6th
7th	8th

Name_____ Date _____

Master 19b

Ordinal Number Cards

9th	10th
11th	12th

Measurement

Master 20: Activity 10 Assessment

The Calendar

Reading the Calendar and Ordering Months Behaviours/Strategies			
Student does not know the ordinal number vocabulary.	Student knows some ordinal numbers but struggles with those that sound different from the counting numbers (i.e., first, second, third).	Student omits the month when reading the date on a calendar. "Today is Monday the 5th."	Student mixes up Tuesday and Thursday when only abbreviations of days are shown.
Observations/Documentation			

Student reads the date on a calendar but mixes up the order. "Today is March 2nd Wednesday."	Student mixes up the order of the months of the year.	Student names the months in the correct order but has difficulty matching them to ordinal numbers.	Student reads dates on a calendar, orders the months of the year, and matches them to ordinal numbers with ease. Student identifies number of days/weeks/months that always stay the same and those that can change.
Observations/Documentation			

Name_____ Date _____

Master 21a

Calendar Game Board A

June						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9 Zoo Field Trip 	10	11	12
13	14	15	16	17	18 Class Pizza Party 	19
20 Longest Day of the Year	21 National Indigenous Peoples Day	22	23	24	25	26
27	28	29 School's Out	30			

Name_____ Date _____

Master 21b

Calendar Game Board A

November						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 Diwali (Festival of Lights)	5 Yard Waste Collection 	6
7 Daylight Savings Time Ends	8	9	10	11 Remembrance Day 	12	13
14	15	16	17	18	19 Yard Waste Collection 	20 Fun Fair
21	22	23	24	25	26	27
28	29 First Day of Hanukkah 	30				

Name_____ Date _____

Master 21c

Calendar Game Board B

February						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Lunar New Year	2 Groundhog Day 	3	4	5
6	7	8	9	10	11	12
13	14 Valentine's Day 	15	16	17	18	19
20	21 Family Day	22	23	24 Barney the Hamster's Birthday 	25	26
27	28					

Name_____ Date _____

Master 21d

Calendar Game Board B

May						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 Eid al-Fitr	4	5 Cinco de Mayo 	6	7
8 Mother's Day	9	10	11	12	13 Tulip Festival Begins	14
15	16	17	18	19	20	21
22	23 Victoria Day Tulip Festival Ends	24	25	26	27	28
29	30	31				

Name_____ Date _____

Master 22a

Calendar Game Cards

I am the day before the longest day of the year.	I am 1 week before school's out.	I am the day after National Indigenous Peoples Day.	Pretend it is Tuesday June 22nd. How long until school's out?
I am the day before Diwali begins.	I am a day yard waste full of leaves is collected. Which season am I in?	I am the day before Daylight Savings Time ends.	Pretend it is Friday June 4th. How long until the zoo field trip?
I am 1 week before the Fun Fair.	I am 2 weeks before the first day of Hannukah.	I am the longest day of the year. What month and season am I in?	I am 1 week before National Indigenous Peoples Day.
I am 1 week after the field trip to the zoo.	I am the week after Diwali ends.	I am always on November 11.	Pretend it is Friday June 11th. How long until our pizza party?

Name_____ Date _____

Master 22b

Calendar Game Cards

I am 1 week after Lunar New Year.	I am the day after Groundhog Day.	I am the day before Barney the Hamster's birthday.	I am the day before Valentine's Day.
I am the day before Family Day.	I am the day after Eid al-Fitr.	I am on February 2nd every year. What day am I? Which season am I in?	Pretend it is Monday February 14th. How long until Family Day?
I am 1 week before Mother's Day.	I am the day after Lunar New Year.	I am on for more than 1 week.	Pretend it is Sunday May 1st. How long until Cinco de Mayo?
I am the day before the Tulip Festival ends. Which season am I in?	I am 1 week before Barney the Hamster's birthday.	I am on Sunday May 8 this year.	Pretend it is Monday May 9th. How long until Victoria Day?

Name_____ Date _____

Master 22c

Calendar Game Cards (for Accommodations)

I am the day before the longest day of the year.	I am 1 week before the Fun Fair.	I am the day after National Indigenous Peoples Day.	Pretend it is Tuesday June 22nd. How long until school's out?
I am a day yard waste full of leaves is collected. Which season am I in?	I am the day before Hannukah begins.	I am the day before Daylight Savings Time ends.	I am 1 week after the Fun Fair.
I am the day before the zoo field trip.	I am the longest day of the year. What month and season am I in?	I am always on November 11.	Pretend it is Friday June 11th. How long until our pizza party?

Name_____ Date _____

Master 22d

Calendar Game Cards (for Accommodations)

I am 1 week after Lunar New Year.	I am on February 2nd ever year. What day am I? Which season am I in?	I am the day before Barney the Hamster's birthday.	I am the day before Valentine's Day.
I am the day before Family Day.	I am the day after Eid al-Fitr.	I am on Sunday May 8 this year.	Pretend it is May 1st. How long until Cinco de Mayo?
I am 1 week before Victoria Day.	I am a day in the Tulip Festival. Which season am I in?	I am 1 week before Barney the Hamster's birthday.	Pretend it is Monday February 14th. How long until Family Day?

Name_____ Date _____

Master 22e

Calendar Game Cards (for Extension)

I am 2 weeks before the longest day of the year.	I am 3 weeks after Daylight Savings Time ends.	I am 2 weeks before National Indigenous Peoples Day.	Pretend it is Monday June 14th. How long until school's out?
I am 2 days before school's out.	I am 2 days after school's out.	I am 2 days after Diwali.	Pretend it is Monday November 8th. How long until Hannukah?
I am 3 weeks before Hannukah.	I am 3 weeks after the zoo field trip.	I am 2 weeks after Remembrance Day.	Pretend it is Saturday November 6th. How long until the Fun Fair?
I am 3 days before the pizza party.	I am 3 days after the Fun Fair.	I am 5 days after National Indigenous Peoples Day.	I am 3 days before the 2nd time yard waste is collected in November.

Name_____ Date _____

Master 22f

Calendar Game Cards (for Extension)

I am 2 weeks after Valentine's Day.	I am 3 weeks after Lunar New Year.	I am 2 weeks after Eid al-Fitr.	I am 2 days before Cinco de Mayo.
I am 2 weeks before Victoria Day.	I am 2 days after the Tulip Festival ends.	I am 3 days after Groundhog Day.	Pretend it is Friday February 4th. How long until Family Day?
I am 2 days after Lunar New Year.	I am 2 days after Cinco de Mayo.	I am 3 days before Barney the Hamster's birthday.	Pretend it is Thursday February 3rd. How long until Barney the Hamster's birthday?
I am 3 days before the Tulip Festival.	I am 2 days before Eid al-Fitr.	I am 5 days before Valentine's Day.	Pretend it is Monday May 2nd. How long until Mother's Day?

Name _____ Date _____

Master 23

Make Your Own Calendar Game Board

	Saturday					
	Friday					
	Thursday					
	Wednesday					
	Tuesday					
	Monday					
	Sunday					

Measurement

Master 24: Activity 11 Assessment

Time: Consolidation

Reading and Using a Calendar Behaviours/Strategies		
Student chooses a card, but struggles to identify the day or cannot read the date on the calendar.	Student identifies the day, reads the date on the calendar, but omits the month. "It is Thursday the 16th."	Student reads the date on the calendar but mixes up the order. "It is March 16th Thursday."
Observations/Documentation		

Student reads the date on the calendar but is unable to identify the season.	Student chooses a card but struggles to count on or back 1 from a given number or to count on or back a week(s).	Student reads dates on the calendar, identifies days, weeks, months, and seasons, and successfully solves all calendar problems.
Observations/Documentation		

Master 1a

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

ON

Kindergarten
17.1 explore, sort, and compare the attributes (e.g., reflective symmetry) and the properties (e.g., number of faces) of traditional and non-traditional two-dimensional shapes and three-dimensional figures (e.g., when sorting and comparing a variety of triangles: notice similarities in number of sides, differences in side lengths, sizes of angles, sizes of the triangles themselves; see smaller triangles in a larger triangle)
Grade 1
Geometry and Spatial Sense Geometric Properties – identify and describe common two-dimensional shapes (e.g., circles, triangles, rectangles, squares) and sort and classify them by their attributes (e.g., colour; size; texture; number of sides), using concrete materials and pictorial representations (e.g., “I put all the triangles in one group. Some are long and skinny, and some are short and fat, but they all have three sides.”) (Activities 1–6)
Grade 2
Geometry and Spatial Sense Geometric Properties – distinguish between the attributes of an object that are geometric properties (e.g., number of sides, number of faces) and the attributes that are not geometric properties (e.g., colour, size, texture), using a variety of tools (e.g., attribute blocks, geometric solids, connecting cubes) – identify and describe various polygons (i.e., triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons) and sort and classify them by their geometric properties (i.e., number of sides or number of vertices), using concrete materials and pictorial representations (e.g., “I put all the figures with five or more vertices in one group, and all the figures with fewer than five vertices in another group.”)

Master 1b

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

BC/YT

Kindergarten
Single attributes of 2D shapes and 3D objects • sorting 2D shapes and 3D objects using a single attribute • exploring, creating, and describing 2D shapes
Grade 1
Comparison of 2D shapes and 3D objects • sorting 3D objects and 2D shapes using one attribute, and explaining the sorting rule (Activities 1–6) • comparing 2D shapes and 3D objects in the environment (Activities 2, 3) Cross Strand: Repeating patterns with multiple elements and attributes - identifying sorting rules
Grade 2
Multiple attributes of 2D shapes and 3D objects • sorting 2D shapes and 3D objects using two attributes, and explaining the sorting rule • describing, comparing, and constructing 2D shapes, including triangles, squares, rectangles, circles

Master 1c

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

SK

Kindergarten
Grade 1
Shape and Space SS1.2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 1–6)
Grade 2
Shape and Space SS2.4 Describe, compare, and construct 2-D shapes, including: • triangles • squares • rectangles • circles.

Master 1d

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

PEI/NB/MB

Kindergarten
Grade 1
Shape and Space SS2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 1–6)
Grade 2
Shape and Space SS6 Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule. SS8 Describe, compare and construct 2-D shapes, including: • triangles • squares • rectangles • circles.

Master 1e

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

AB/NWT/NU

Kindergarten
Grade 1
Shape and Space 2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 1–6) Cross Strand: Patterning and Relations 3. Sort objects, using one attribute, and explain the sorting rule. (Activities 1, 6)
Grade 2
Shape and Space 6. Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule. 8. Describe, compare and construct 2-D shapes, including: • triangles • squares • rectangles • circles.

Master 1f

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

NS

Kindergarten
Grade 1
Geometry G01: Students will be expected to sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 1–6)
Grade 2
Geometry G01: Students will be expected to sort 2-D shapes and 3-D objects using two attributes and explain the sorting rule. G03: Students will be expected to recognize, name, describe, compare and build 2-D shapes, including triangles, squares, rectangles, and circles.

Master 1g

Curriculum Correlation
Geometry Cluster 1: 2-D Shapes

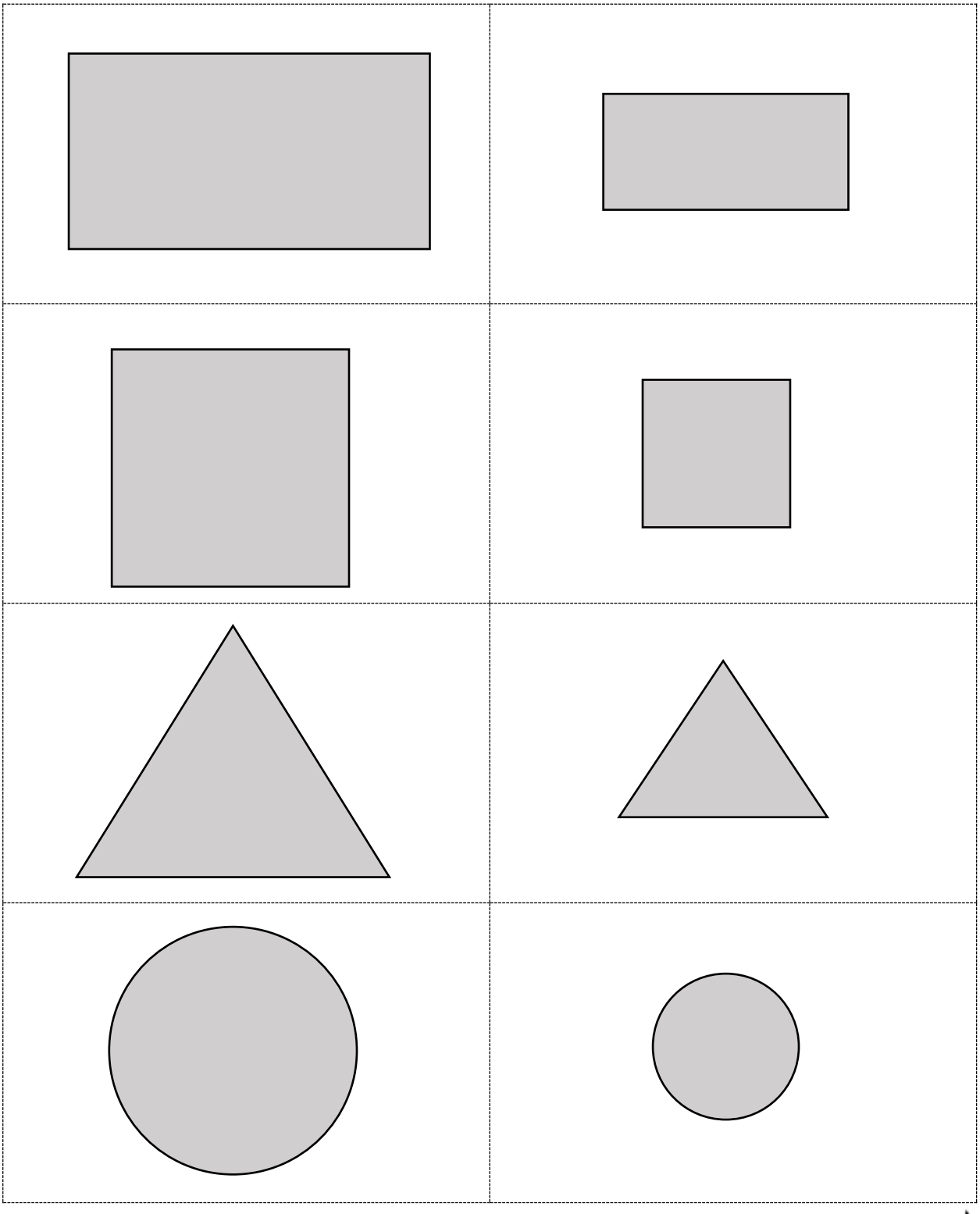
NFL

Kindergarten
Grade 1
Shape and Space 1SS2 Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule. (Activities 1–6)
Grade 2
Shape and Space 2SS6. Sort 2-D shapes and 3-D objects, using two attributes, and explain the sorting rule. 2SS8. Describe, compare and construct 2-D shapes, including: • triangles • squares • rectangles • circles.

Name_____ Date _____

Master 2a

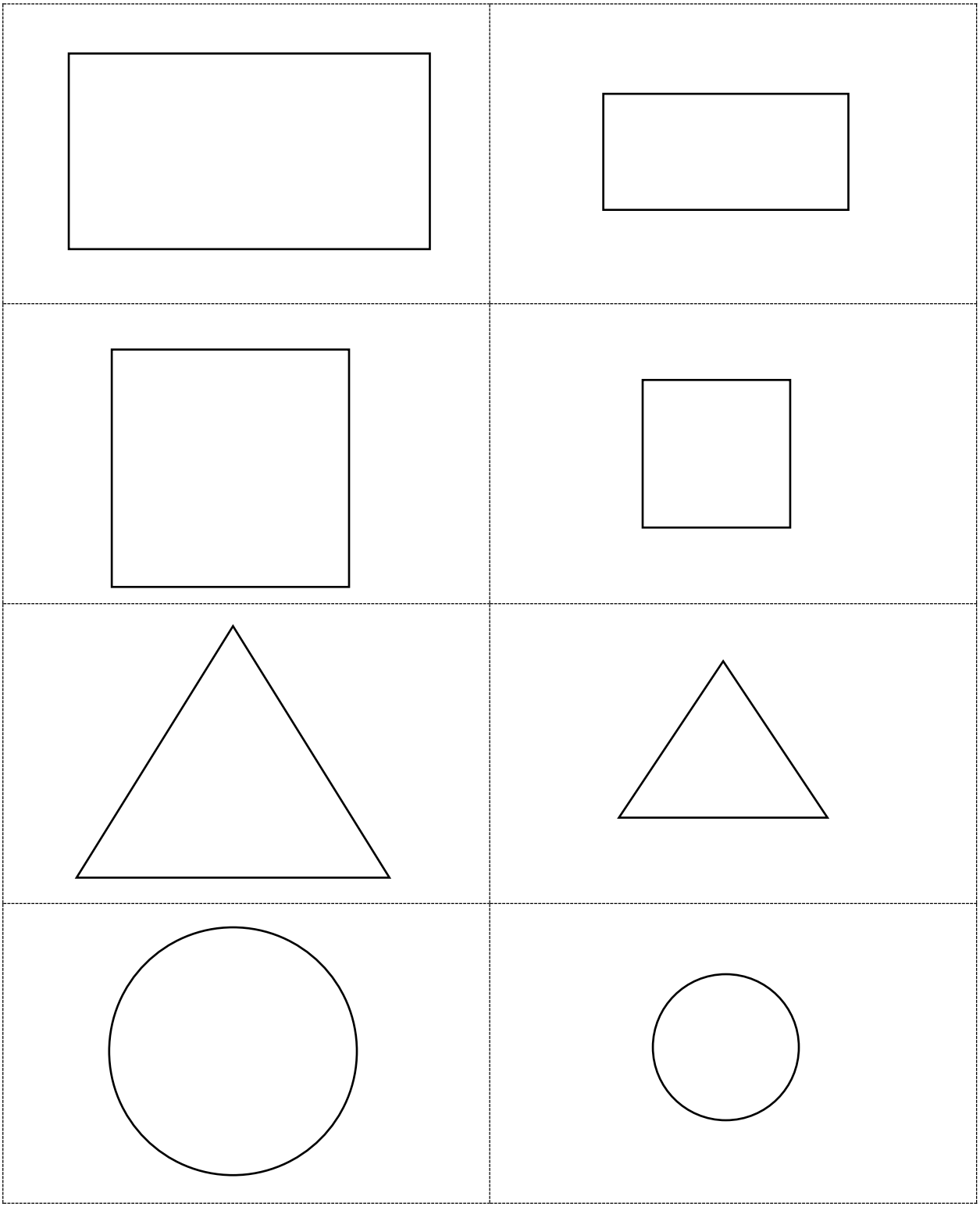
Attribute Shapes



Name_____ Date _____

Master 2b

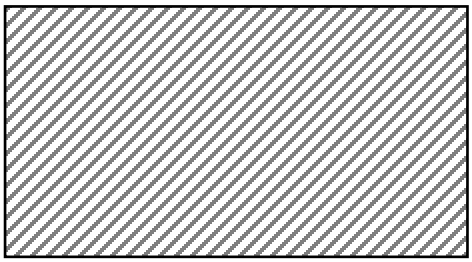
Attribute Shapes

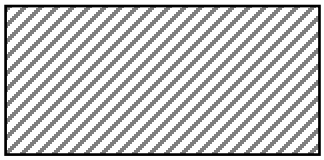


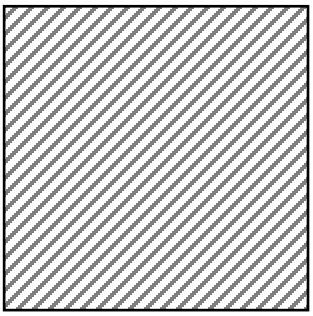
Name_____ Date _____

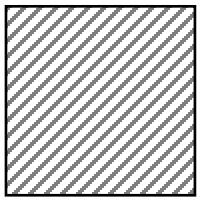
Master 2c

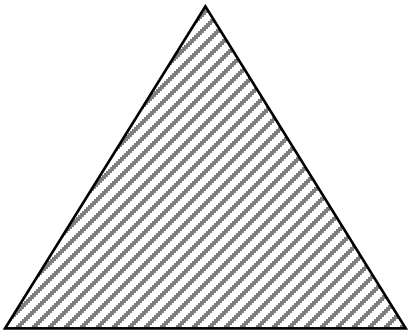
Attribute Shapes

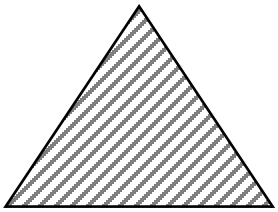


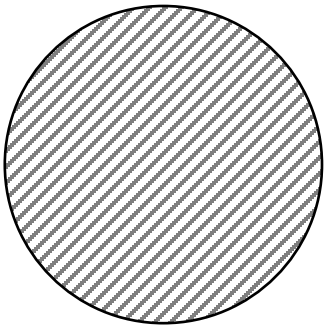


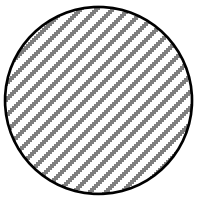












Geometry

Master 3: Activity 1 Assessment

Sorting Shapes

Sorting Shapes by Attributes Behaviours/Strategies		
Student identifies a shape using non-mathematical language (e.g., ball).	Student identifies a shape but is unable to describe its attributes.	Student describes the attributes of blocks but has difficulty identifying how two blocks are alike and how they are different.
Observations/Documentation		

Student always sorts the blocks using one type of attribute (e.g., colour).	Student sorts blocks using one attribute but has difficulty describing the sort.	Student sorts blocks using one attribute and uses mathematical language to describe the sort.
Observations/Documentation		

Name_____ Date _____

Master 4

Shape Song

(Sung to the tune of "This Old Man")

Sunny Circle, I can bend.
Watch me roll. I have no end.
Roll, roll, roll. (*Make a circle in the air.)*

Trusty Triangle, they call me.
Count them now. My sides are three.
1, 2, 3. *(Count the three sides as you draw them in the air.)*
1, 2, 3. *(Make a long, skinny triangle.)*
1, 2, 3. *(Make a flat, wide triangle.)*

Rocky Rectangle. Let's take a ride.
I have four corners and four sides.
1-bump-2-bump-3-bump-4-bump.
(Make the corners in the air as you say bump.)

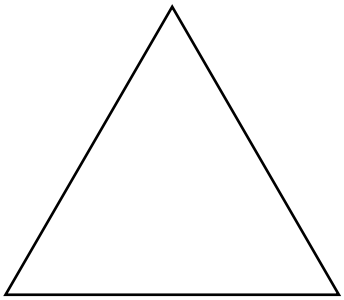
Same-Side Square is my name.
All four sides must be the same.
I have corners just like you,
'cause I'm a square and a rectangle too!

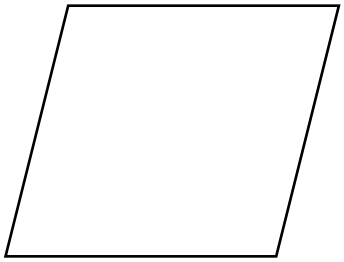
Halty Hexagon, start on top.
My six sides tell you to STOP.
1-2-3-4-5-6-STOP

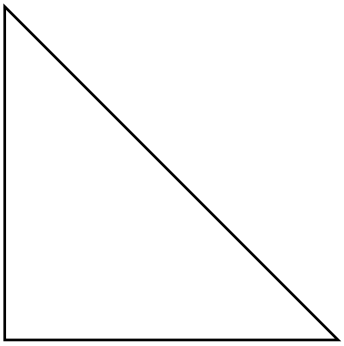
Name_____ Date _____

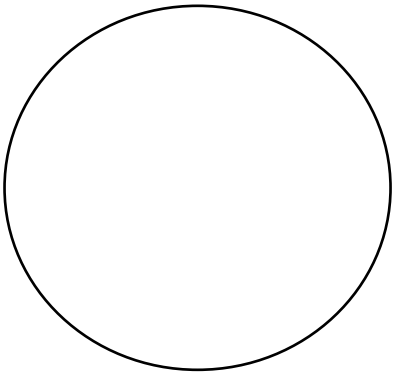
Master 5a

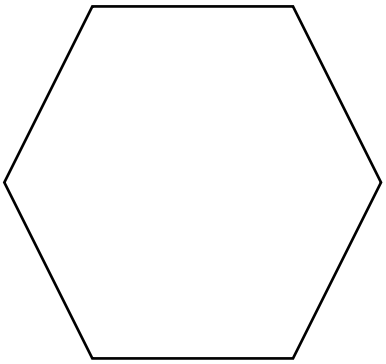
Am I a Triangle? Cards







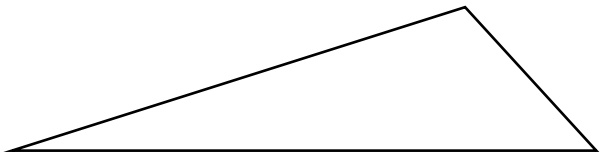


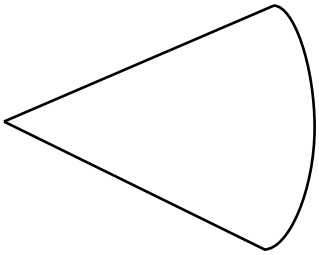


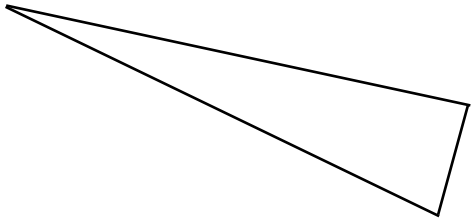
Name_____ Date _____

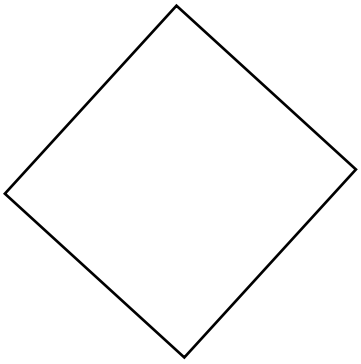
Master 5b

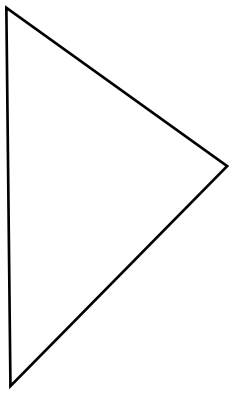
Am I a Triangle? Cards







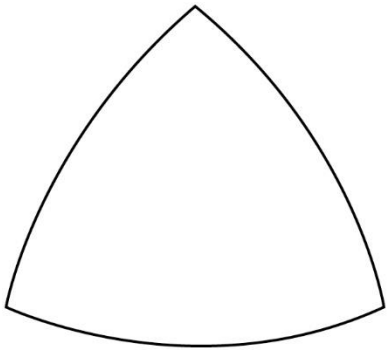


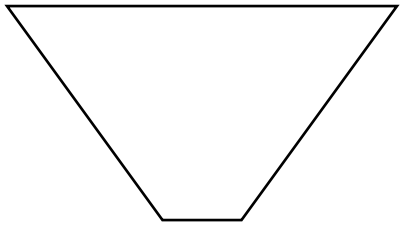


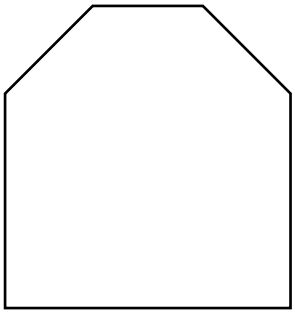
Name_____ Date _____

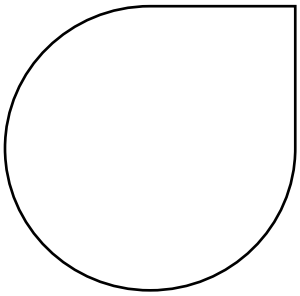
Master 5c

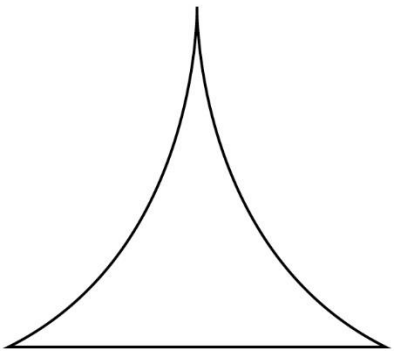
Am I a Triangle? Cards

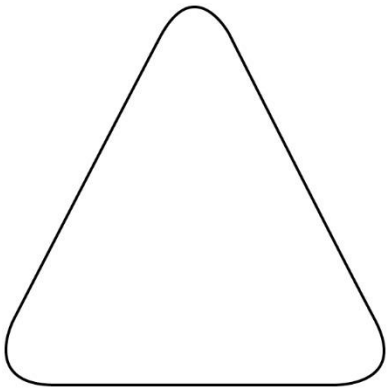






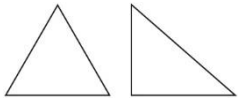
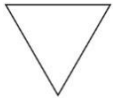


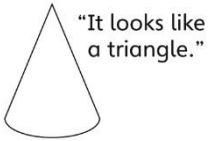




Geometry

Master 6: Activity 2 Assessment
Identifying Triangles

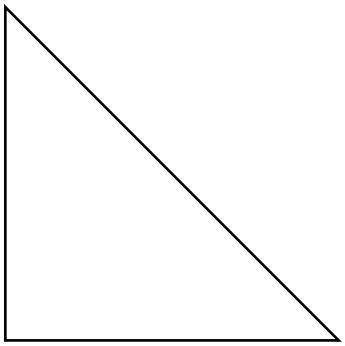
Identifying Triangles Behaviours/Strategies		
Student does not have a mental image of a triangle and cannot identify a triangle.	Student only recognizes an equilateral or right triangle as a triangle. 	Student recognizes some triangles but thinks that a triangle that is oriented differently is not a triangle. 
Observations/Documentation		

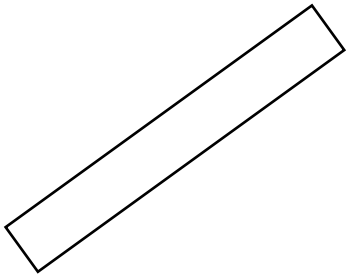
Student uses a shape's appearance, not its geometric attributes, to identify a triangle. 	Student successfully identifies triangles but has difficulty communicating why a shape was put in a particular column.	Student successfully identifies triangles and explains why a shape is or is not a triangle.
Observations/Documentation		

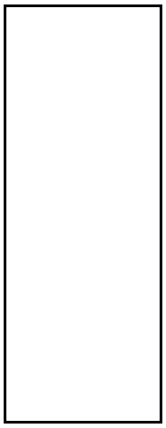
Name_____ Date _____

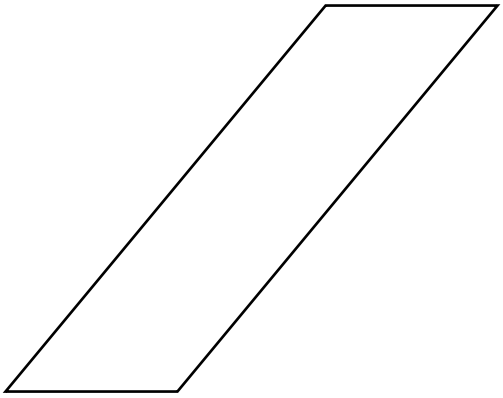
Master 7a

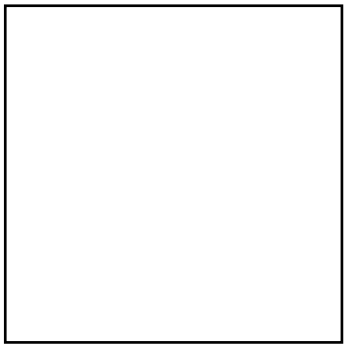
Am I a Rectangle? Cards

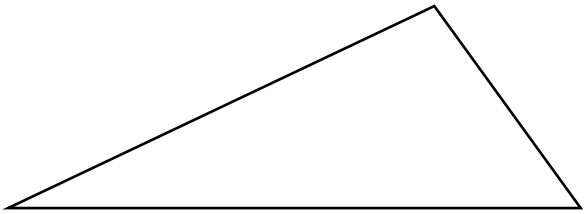








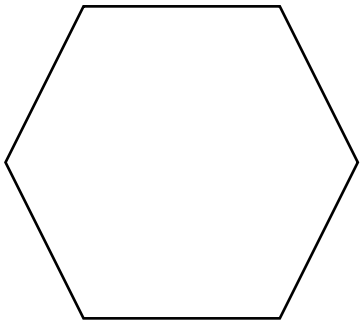


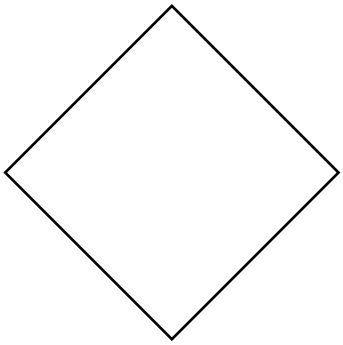


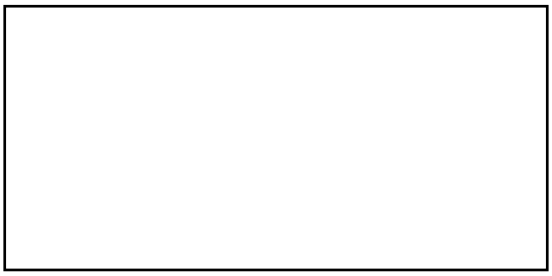
Name_____ Date _____

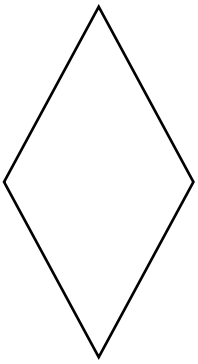
Master 7b

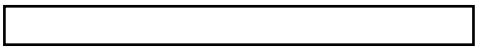
Am I a Rectangle? Cards







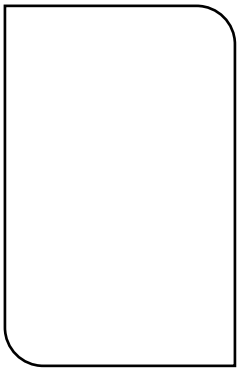


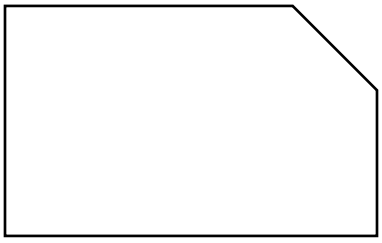


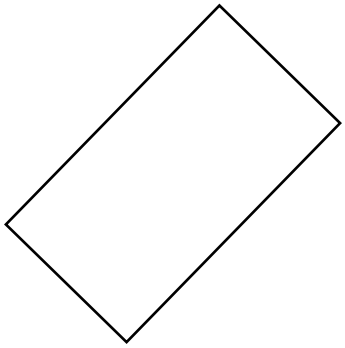
Name_____ Date _____

Master 7c

Am I a Rectangle? Cards



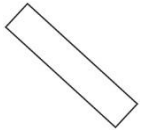




Geometry

Master 8: Activity 3 Assessment

Identifying Rectangles

Identifying Rectangles Behaviours/Strategies		
Student does not have a mental image of a rectangle and cannot identify a rectangle.	Student only recognizes a rectangle when it is lying on one of its longer sides. 	Student recognizes some rectangles but thinks that a rectangle that is oriented differently is not a rectangle. 
Observations/Documentation		

Student uses a shape's appearance, not its geometric attributes, to identify a rectangle, and does not classify a square as a rectangle.  "This is a square, not a rectangle."	Student successfully identifies rectangles but has difficulty communicating why a shape was put in a particular column.	Student successfully identifies rectangles and explains why a shape is or is not a rectangle.
Observations/Documentation		

Geometry

Master 9: Activity 4 Assessment

Visualizing Shapes

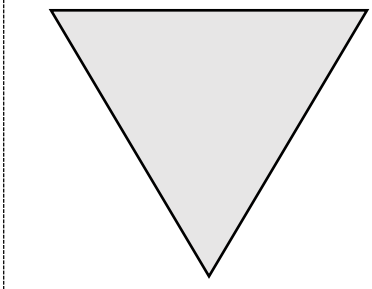
Visualizing and Describing Shapes Behaviours/Strategies		
Student does not have a mental image of the shape and cannot describe it.	Student uses non-mathematical language or general descriptions to describe shapes. "It feels like a hockey card." "It has sides."	Student uses mathematical language and geometric attributes to describe a shape.
Observations/Documentation		

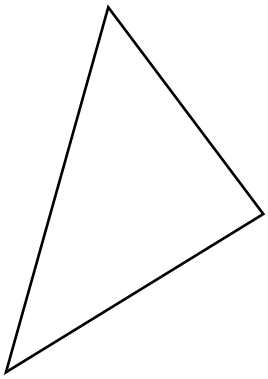
Naming and Identifying Shapes Behaviours/Strategies		
Student guesses the shape and ignores the description.	Student knows the correct shape but cannot call it by its proper name.	Student correctly identifies and names the shape.
Observations/Documentation		

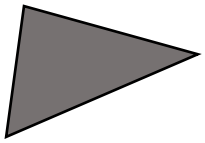
Name_____ Date _____

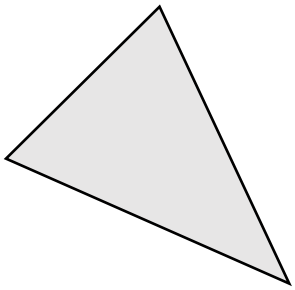
Master 10a

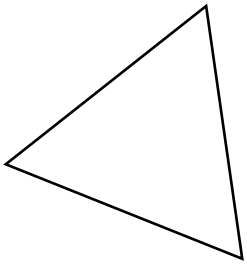
Shape Cards

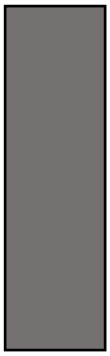


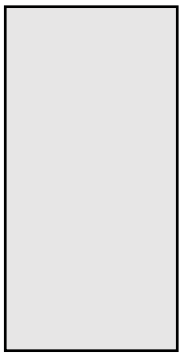


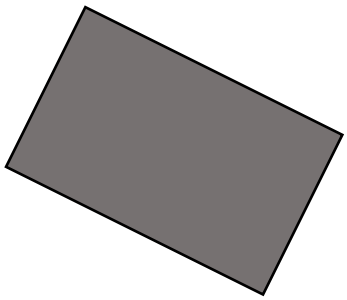








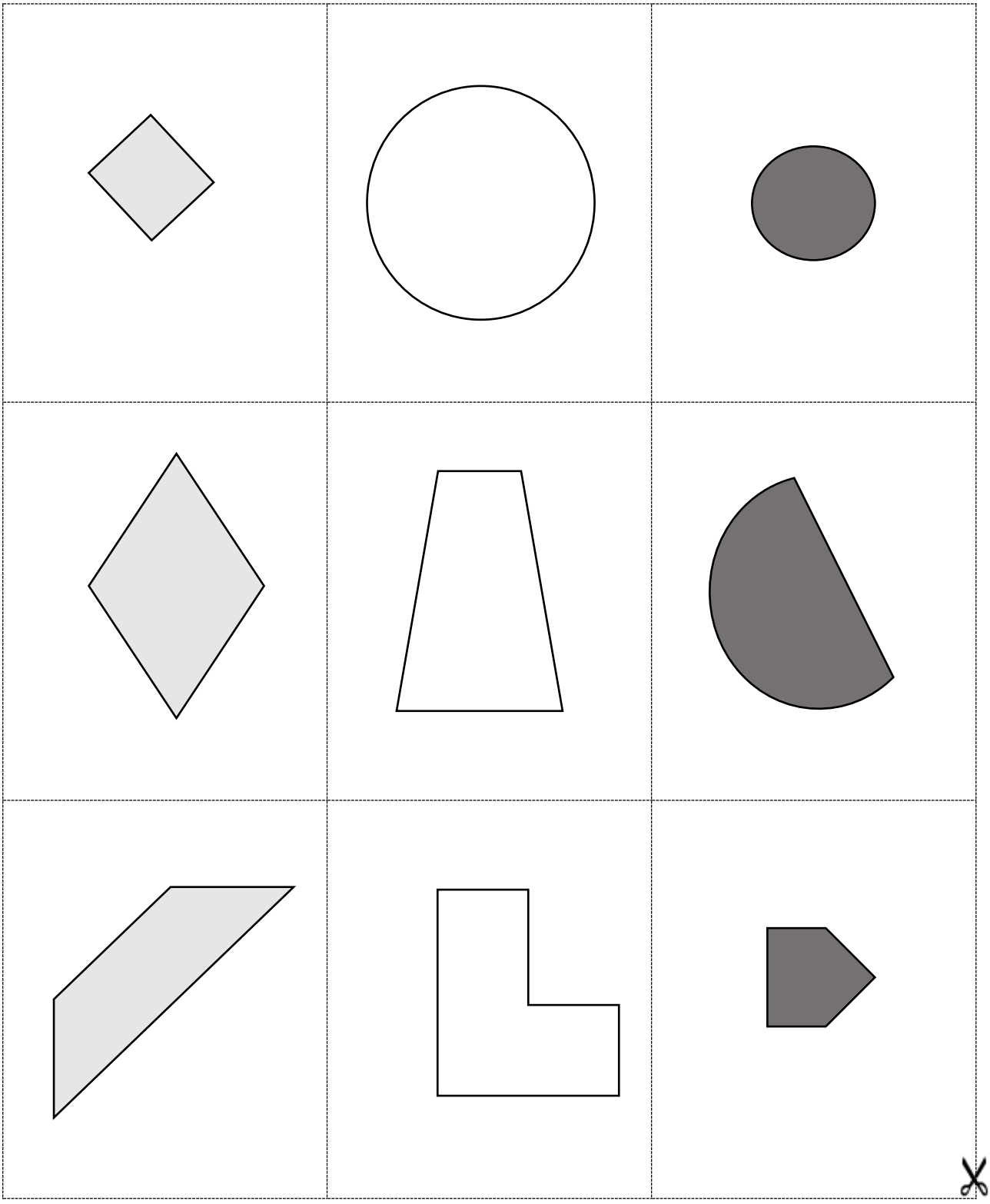




Name_____ Date _____

Master 10b

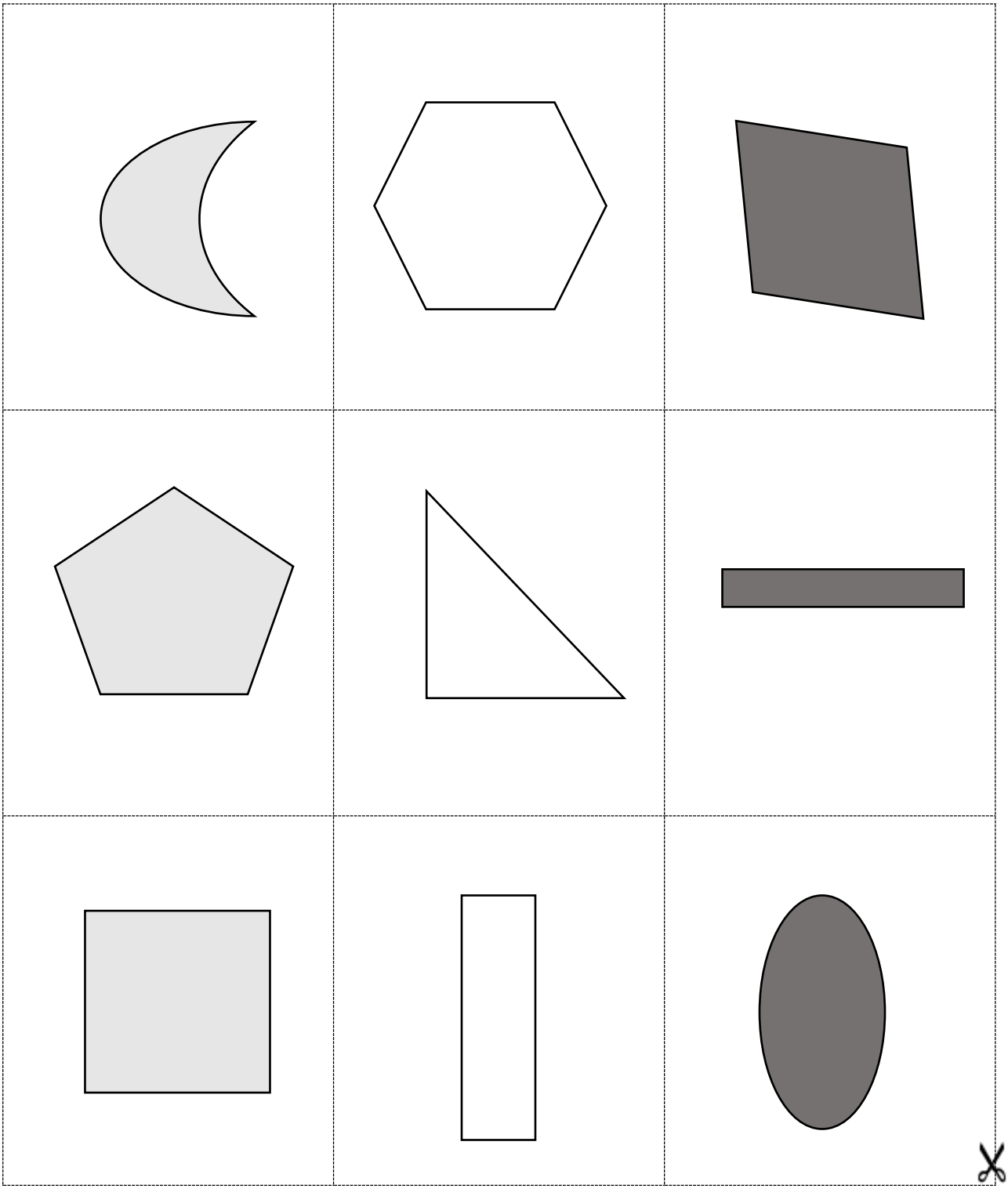
Shape Cards



Name_____ Date _____

Master 10c

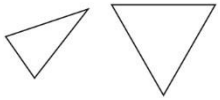
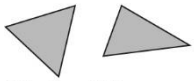
Shape Cards



Geometry

Master 11: Activity 5 Assessment

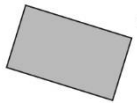
Sorting Rules

Sorting Shapes and Identifying Sorting Rules Behaviours/Strategies		
Student is unable to identify a shape with its mathematical name.  "This shape looks like a ball."	Student identifies shapes but is unable to explain how two shapes are alike and how they are different, and makes random guesses.	Student sorts by appearance rather than attributes, and does not realize that the orientation of a shape does not matter. 
Observations/Documentation		
Student focuses only on non-geometric attributes (e.g., colour) instead of geometric attributes (e.g., number of sides).  "Both of these shapes are grey."	Student sorts shapes using common attributes, but struggles to communicate the sorting rule.	Student sorts shapes using common attributes and uses mathematical language to communicate the sorting rule.
Observations/Documentation		

Geometry

Master 12: Activity 6 Assessment

2-D Shapes: Consolidation

Sorting Shapes Behaviours/Strategies			
Student randomly sorts shapes without thinking about attributes. "I just put shapes in columns. I didn't use a rule."	Student always sorts using non-geometric attributes (e.g., colour, size). "I like to sort by size."	Student sorts by appearance rather than attributes, and does not realize that the orientation of a shape does not matter.  "This does not look like a rectangle."	Student sorts shapes using both geometric and non-geometric attributes.
Observations/Documentation			

Identifying Sorting Rules Behaviours/Strategies			
Student cannot identify the sorting rule.	Student sorts the shapes but does not look at the shapes in the *No* column to confirm the sorting rule.	Student identifies the sorting rule but needs help communicating it.	Student identifies and describes the sorting rule.
Observations/Documentation			

Master 13a

Curriculum Correlation
Geometry Cluster 2: 3-D Solids

ON

Kindergarten
17.1 explore, sort, and compare the attributes (e.g., reflective symmetry) and the properties (e.g., number of faces) of traditional and non-traditional two-dimensional shapes and three-dimensional figures (e.g., when sorting and comparing a variety of triangles: notice similarities in number of sides, differences in side lengths, sizes of angles, sizes of the triangles themselves; see smaller triangles in a larger triangle) 17.3 investigate and explain the relationship between two-dimensional shapes and three-dimensional figures in objects they have made (e.g., explain that the flat surface of a cube is a square)
Grade 1
Geometry and Spatial Sense Geometric Properties – trace and identify the two-dimensional faces of three-dimensional figures, using concrete models (e.g., “I can see squares on the cube.”) (Activities 7–10) – identify and describe common three-dimensional figures (e.g., cubes, cones, cylinders, spheres, rectangular prisms) and sort and classify them by their attributes (e.g., colour; size; texture; number and shape of faces), using concrete materials and pictorial representations (e.g., “I put the cones and the cylinders in the same group because they all have circles on them.”) (Activities 7–10) – describe similarities and differences between an everyday object and a three-dimensional figure (e.g., “A water bottle looks like a cylinder, except the bottle gets thinner at the top.”) (Activity 7)
Grade 2
Geometry and Spatial Sense Geometric Properties – distinguish between the attributes of an object that are geometric properties (e.g., number of sides, number of faces) and the attributes that are not geometric properties (e.g., colour, size, texture), using a variety of tools (e.g., attribute blocks, geometric solids, connecting cubes) – identify and describe various three-dimensional figures (i.e., cubes, prisms, pyramids) and sort and classify them by their geometric properties (i.e., number and shape of faces), using concrete materials (e.g., “I separated the figures that have square faces from the ones that don’t.”) – create models and skeletons of prisms and pyramids, using concrete materials (e.g., cardboard; straws and modelling clay), and describe their geometric properties (i.e., number and shape of faces, number of edges)

Master 13b

Curriculum Correlation
Geometry Cluster 2: 3-D Solids

BC/YT

Kindergarten
Single attributes of 2D shapes and 3D objects • sorting 2D shapes and 3D objects using a single attribute • building and describing 3D objects (e.g., shaped like a can)
Grade 1
Comparison of 2D shapes and 3D objects • sorting 3D objects and 2D shapes using one attribute, and explaining the sorting rule (Activities 7–10) Cross Strand: Repeating patterns with multiple elements and attributes • identifying sorting rules (Activities 9, 10)
Grade 2
Multiple attributes of 2D shapes and 3D objects • sorting 2D shapes and 3D objects using two attributes, and explaining the sorting rule • identifying 2D shapes as part of 3D objects

Master 13c

Curriculum Correlation
Geometry Cluster 2: 3-D Solids

SK

Kindergarten
Shape and Space SSK.2 Sort 3-D objects using a single attribute. SSK.3 Build and describe 3-D objects.
Grade 1
Shape and Space SS1.2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 7–10)
Grade 2
Shape and Space SS2.3 Describe, compare, and construct 3-D objects, including: • cubes • spheres • cones • cylinders • pyramids. SS2.5 Demonstrate understanding of the relationship between 2-D shapes and 3-D objects.

Master 13d

Curriculum Correlation
Geometry Cluster 2: 3-D Solids

PEI/NB/MB

Kindergarten
Shape and Space SS2 Sort 3-D objects using a single attribute. SS3 Build and describe 3-D objects.
Grade 1
Shape and Space SS2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 7–10)
Grade 2
Shape and Space SS6 Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule. SS7 Describe, compare and construct 3-D objects, including: • cubes • spheres • cones • cylinders • (prisms MB) • pyramids. • SS9 Identify 2-D shapes as parts of 3-D objects in the environment.

Master 13e

Curriculum Correlation
Geometry Cluster 2: 3-D Solids

AB/NWT/NU

Kindergarten
Shape and Space 2. Sort 3-D objects using a single attribute. 3. Build and describe 3-D objects.
Grade 1
Shape and Space 2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 7–10) Cross Strand: Patterns and Relations 3. Sort objects, using one attribute, and explain the sorting rule.
Grade 2
Shape and Space 6. Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule. 7. Describe, compare and construct 3-D objects, including: • cubes • spheres • cones • cylinders • (prisms MB) • pyramids. • 9. Identify 2-D shapes as parts of 3-D objects in the environment.

Master 13f

Curriculum Correlation
Geometry Cluster 2: 3-D Solids

NS

Kindergarten
Geometry G01: Students will be expected to sort 3-D objects using a single attribute. G02: Students will be expected to build and describe 3-D objects.
Grade 1
Geometry G01: Students will be expected to sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. (Activities 7–10) G03: Students will be expected to identify 2-D shapes in 3-D objects. (Activities 7–10)
Grade 2
Geometry G01: Students will be expected to sort 2-D shapes and 3-D objects using two attributes and explain the sorting rule. G02: Students will be expected to recognize, name, describe, compare, and build 3-D objects, including cubes and other prisms, spheres, cones, cylinders, and pyramids. G04: Students will be expected to identify 2-D shapes as part of 3-D objects in the environment.

Master 13g

Curriculum Correlation
Geometry Cluster 2: 3-D Solids

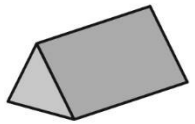
NFL

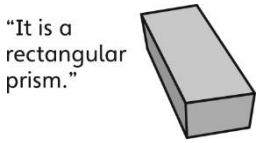
Kindergarten
Shape and Space KSS2. Sort 3-D objects, using a single attribute and explain the sorting rule. KSS3. Build and describe 3-D objects.
Grade 1
Shape and Space 1SS2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule. (Activities 7–10)
Grade 2
Shape and Space 2SS6. Sort 2-D shapes and 3-D objects, using two attributes, and explain the sorting rule. 2SS7. Describe, compare and construct 3-D objects, including: • cubes • spheres • cones • cylinders • pyramids. 2SS9. Identify 2-D shapes as parts of 3-D objects in the environment.

Geometry

Master 14: Activity 7 Assessment

Exploring 3-D Solids

Describing Solids Behaviours/Strategies			
Student has difficulty describing solids. 	Student uses only non-mathematical language to describe solids. "It feels like a paper towel roll." 	Student uses general descriptions. "It has corners."	Student uses specific descriptions. "It has triangles and rectangles, and it has six corners." 
Observations/Documentation			

Identifying Solids Behaviours/Strategies			
Student guesses the solid and ignores partner's description. "It is a ball; no, it's a cylinder; no, it's a cube …" Or student points randomly at solids.	Student focuses on only part of the description and is unable to correctly identify the solid. "It has a face that is a circle. It is pointy. So it is a cylinder."	Student points to the correct solid but cannot call it by its proper name. 	Student correctly identifies and names the solid. 
Observations/Documentation			

Geometry

Master 15: Activity 8 Assessment

Faces of Solids

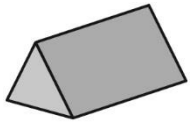
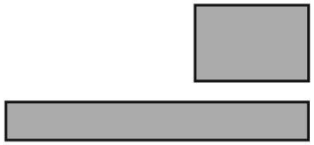
Building Towers Behaviours/Strategies			
Student uses one type of solid to make a tower.	Student only uses solids that have rectangular or square faces.	Student builds a tower but it does not match the original tower.	Student builds a tower that matches the original tower.
Observations/Documentation			

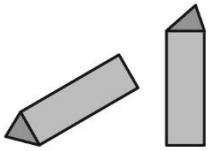
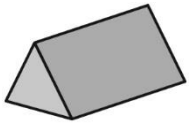
Describing and Identifying 3-D Solids Behaviours/Strategies			
Student uses gestures or non-geometric language to describe solids. "It has sides that are shaped like hockey cards."	Student provides an incomplete description of the solid. "The solid has faces that are rectangles."	Student guesses the solid and ignores partner's description, or focuses on only part of the description. "It's a cylinder; no, it's a cube …"	Student correctly describes solids using geometric language and identifies them with ease.
Observations/Documentation			

Geometry

Master 16: Activity 9 Assessment

Sorting 3-D Solids

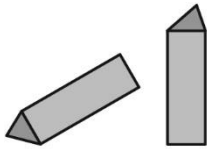
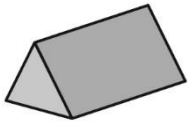
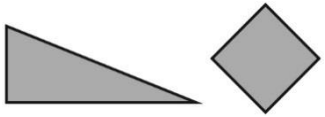
Sorting Solids Behaviours/Strategies			
Student is not able to identify shapes within solids. 	Student recognizes some triangles but doesn't recognize a triangle when it doesn't match her or his mental image of a triangle. 	Student can identify some rectangles but thinks these shapes are not rectangles because they are "too long" or "too fat." 	Student recognizes some shapes but doesn't recognize a shape when it is oriented differently. 
Observations/Documentation			

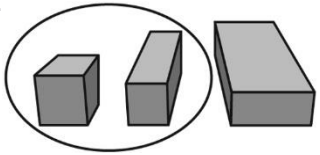
Student identifies some faces but doesn't rotate the solid to see the different faces (shapes). 	Student focuses on one shape and doesn't realize that the faces of a solid can be more than one shape. 	Student can sort a solid but only in one way. "It has a face that is a circle I can't sort it another way." 	Student can sort solids in more than one way. "I can sort the rectangular prism in two ways. It has 6 faces and it has a rectangular face."
Observations/Documentation			

Geometry

Master 17: Activity 10 Assessment

Identify the Sorting Rule

Sorting Solids Behaviours/Strategies			
Student identifies some faces but doesn't rotate the solid to see the different faces (shapes). 	Student focuses on one shape and doesn't realize that more than one shape can be a face of a solid. 	Student recognizes some shapes but doesn't recognize a shape when it doesn't match her or his mental image of the shape. 	Student sorts solids with ease.
Observations/Documentation			

Identifying Sorting Rules Behaviours/Strategies			
Student cannot identify the sorting rule.	Student focuses on only two of the solids in the group to identify the rule. 	Student identifies the sorting rule but has difficulty identifying a solid that doesn't fit the rule.	Student identifies the sorting rule, identifies a solid that does not fit the rule, and explains why the solid does not fit.
Observations/Documentation			

Name_____ Date _____

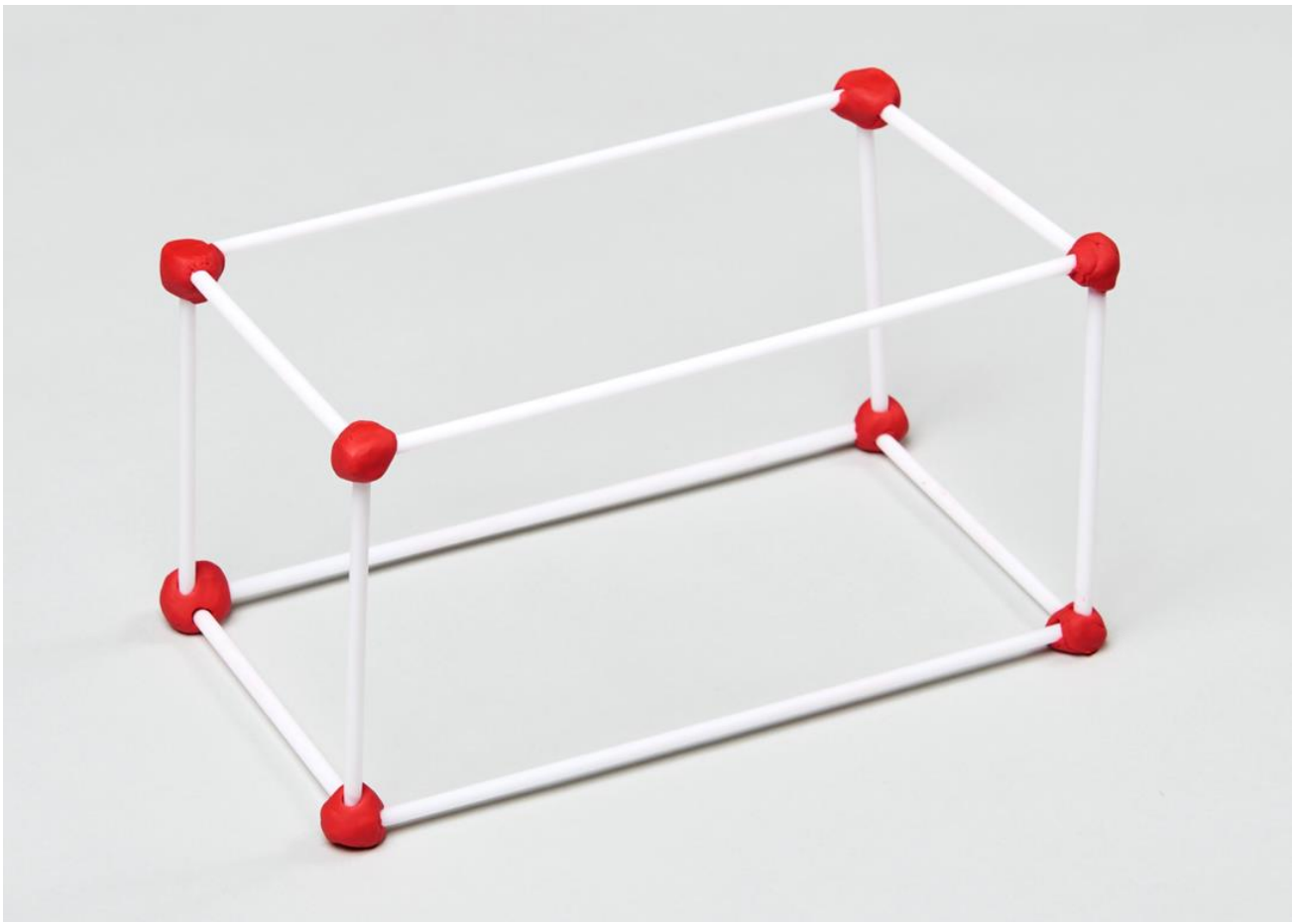
Master 18

Image of House

Name_____ Date _____

Master 19

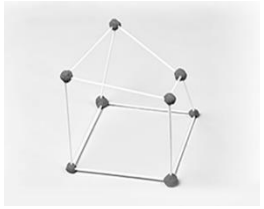
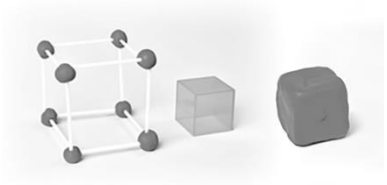
Skeleton of Rectangular Prism



Geometry

Master 20: Activity 11 Assessment

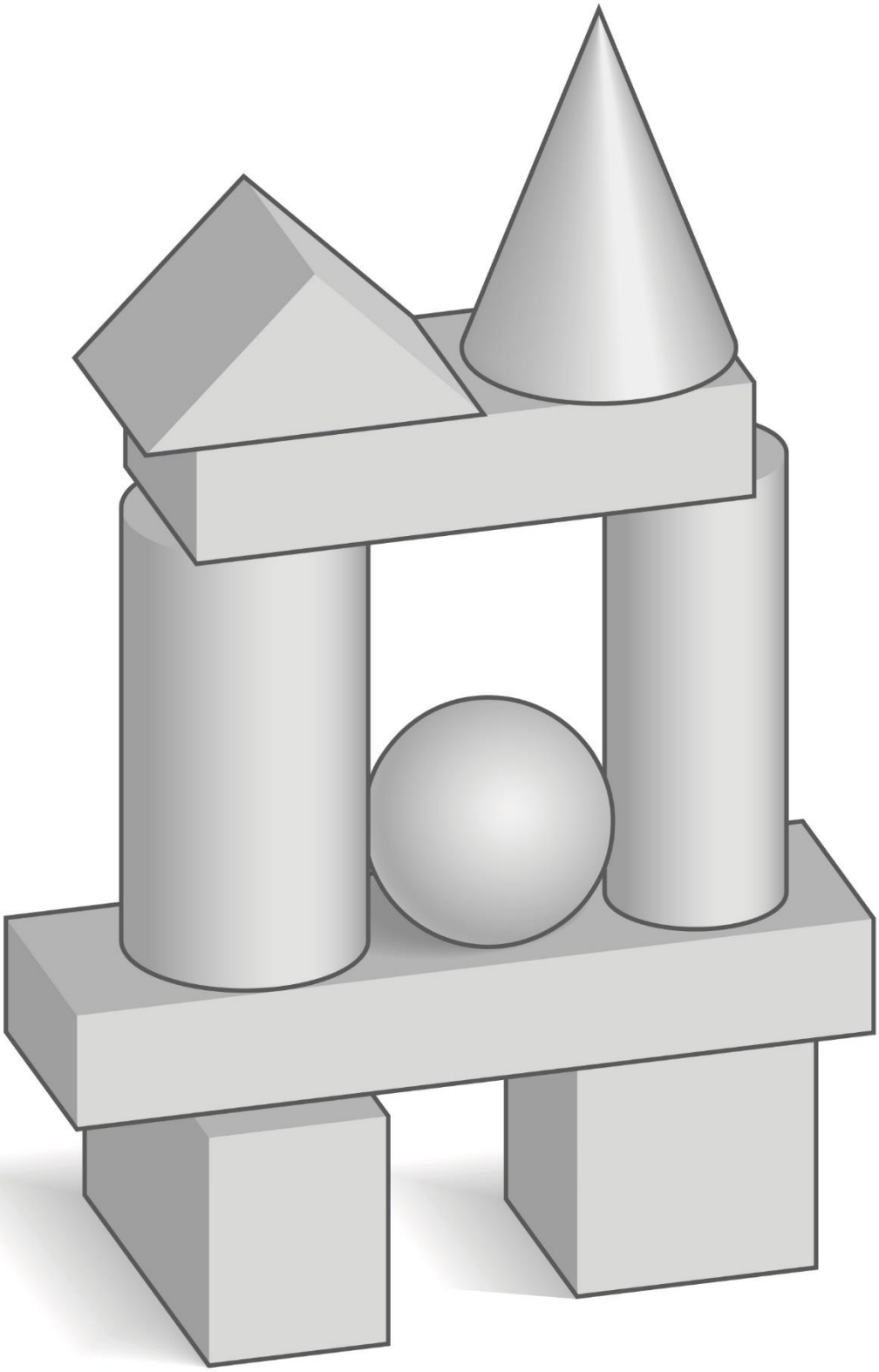
Constructing Solids and Skeletons

Constructing Solids and Skeletons Behaviours/Strategies		
Student names solid but struggles to identify its attributes. "I know it's a pyramid, but I don't know anything about it."	Student describes attributes but chooses unsuitable materials for building the solid. "I am going to use cubes to build a model of the pyramid."	Student chooses suitable materials but has errors in model/skeleton. 
Observations/Documentation		
Student constructs model/skeleton but struggles to identify 2-D faces. "I'm not sure what shapes the faces are."	Student constructs model/skeleton but struggles to compare them with original solid. 	Student successfully builds model and skeleton, identifies 2-D faces, and makes comparisons.
Observations/Documentation		

Name _____ Date _____

Master 21

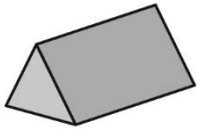
The Unfinished Castle



Geometry

Master 22: Activity 12 Assessment

3-D Solids: Consolidation

Sorting Solids Behaviours/Strategies		
Student is unable to select a solid based on the needed attribute.	Student focuses on one shape and doesn't realize that more than one shape can be a face of a solid. "I don't see any shapes." 	Student can sort solids with ease.
Observations/Documentation		

Building Towers Behaviours/Strategies		
Student builds tower but doesn't use all the solids chosen according to the spinner's rules. Student only includes the solids that have square or rectangular faces.	Student builds a tower with all the chosen solids, but makes an incomplete list of the shapes in the tower's faces.	Student builds a tower with all the chosen solids and identifies the shapes in the tower's faces with ease.
Observations/Documentation		

Master 23a

Curriculum Correlation
Geometry Cluster 3: Symmetry

ON

Kindergarten
17.1 explore, sort, and compare the attributes (e.g., reflective symmetry) and the properties (e.g., number of faces) of traditional and non-traditional two-dimensional shapes and three-dimensional figures (e.g., when sorting and comparing a variety of triangles: notice similarities in number of sides, differences in side lengths, sizes of angles, sizes of the triangles themselves; see smaller triangles in a larger triangle) 20.3 compose pictures, designs, shapes, and patterns, using two-dimensional shapes; predict and explore reflective symmetry in two-dimensional shapes (e.g., visualize and predict what will happen when a square, a circle, or a rectangle is folded in half); and decompose two-dimensional shapes into smaller shapes and rearrange the pieces into other shapes, using various tools and materials (e.g., stickers, geoboards, pattern blocks, geometric puzzles, tangrams, a computer program)
Grade 1
Geometry and Spatial Sense Geometric Properties – locate shapes in the environment that have symmetry, and describe the symmetry (Activity 16) Location and Movement – create symmetrical designs and pictures, using concrete materials (e.g., pattern blocks, connecting cubes, paper for folding), and describe the relative locations of the parts. (Activities 17, 18)
Grade 2
Geometry and Spatial Sense Geometric Properties – locate the line of symmetry in a two-dimensional shape (e.g., by paper folding; by using a Mira). Location and Movement – create and describe symmetrical designs using a variety of tools (e.g., pattern blocks, tangrams, paper and pencil).

Master 23b

Curriculum Correlation
Geometry Cluster 3: Symmetry

BC/YT

Kindergarten
Grade 1
Cross Strand: Patterning and Algebra Repeating patterns with multiple elements and attributes • beading using 3–5 colours (Activity 18)
Grade 2

Name _____ Date _____

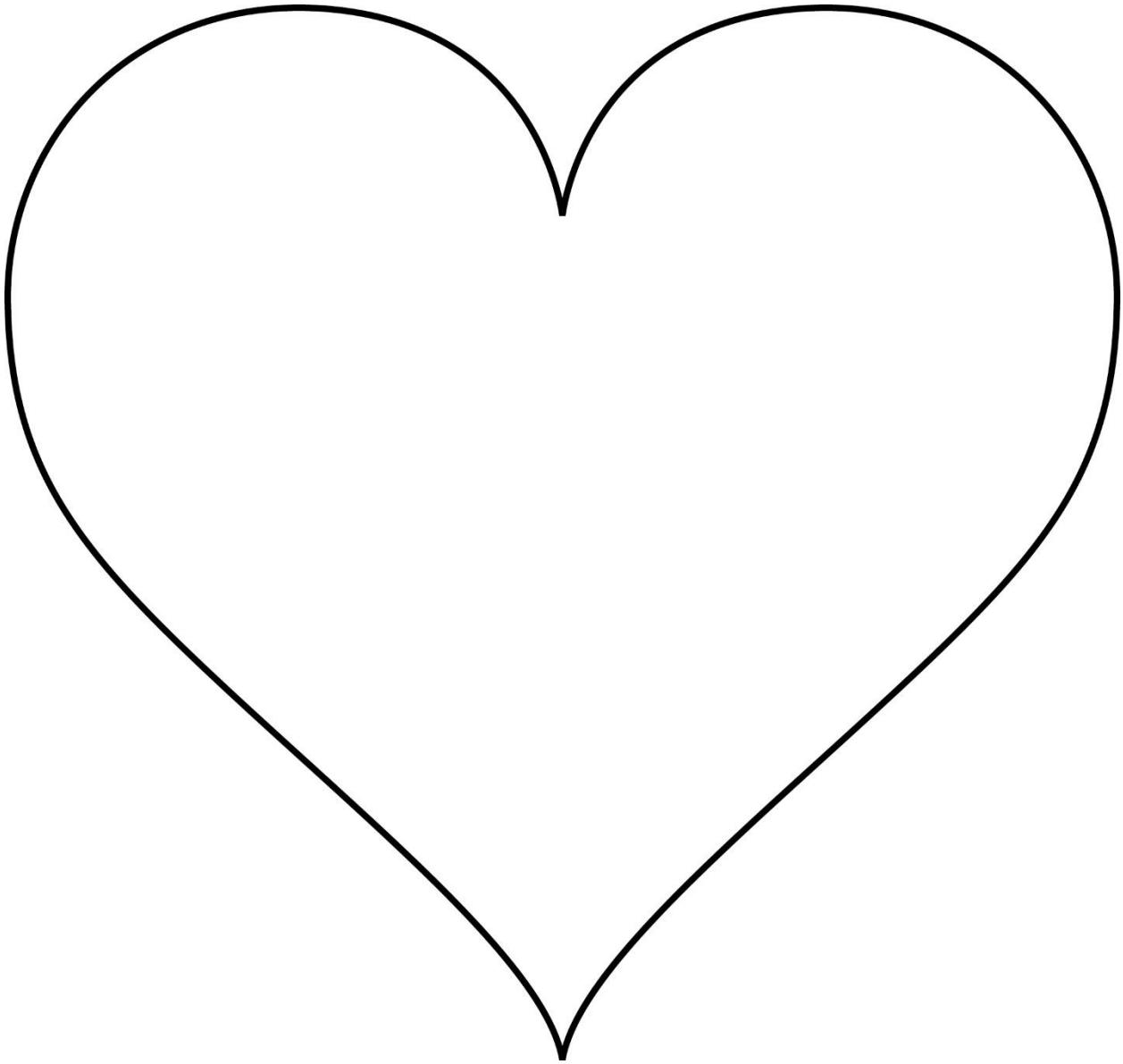
Master 24a

Exploring Lines of Symmetry

Name_____ Date _____

Master 24b

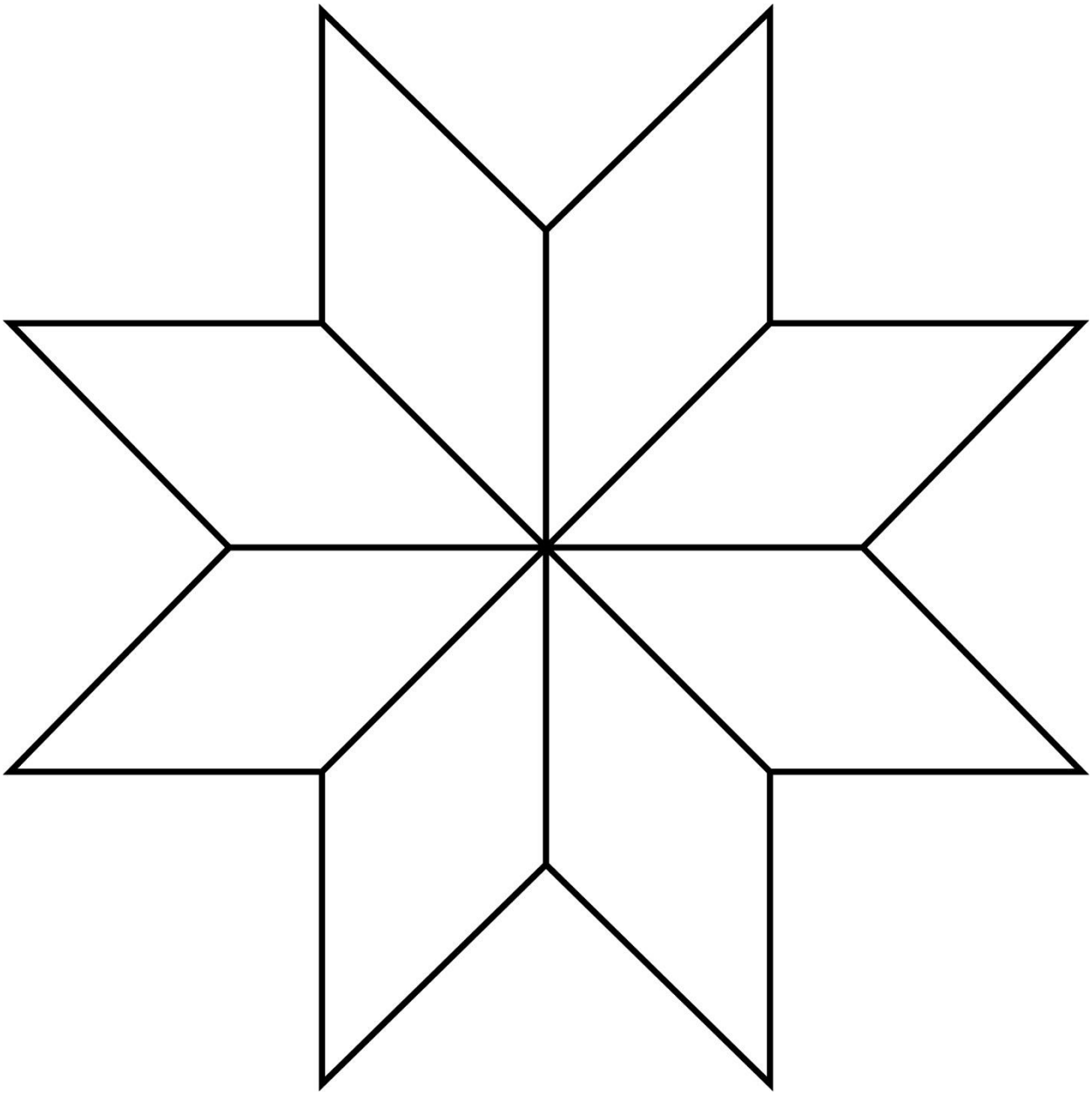
Exploring Lines of Symmetry



Name _____ Date _____

Master 24c

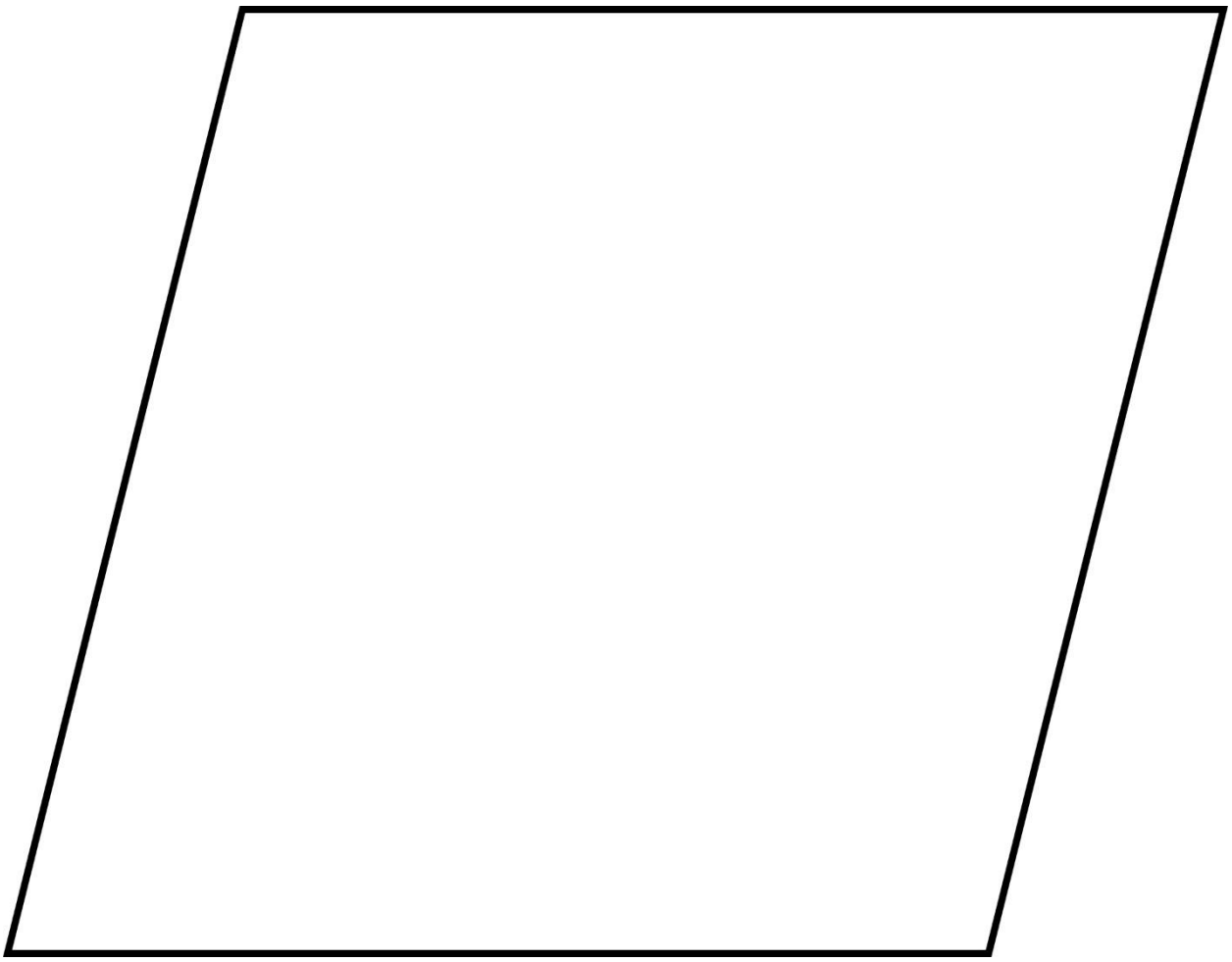
Exploring Lines of Symmetry



Name_____ Date _____

Master 24d

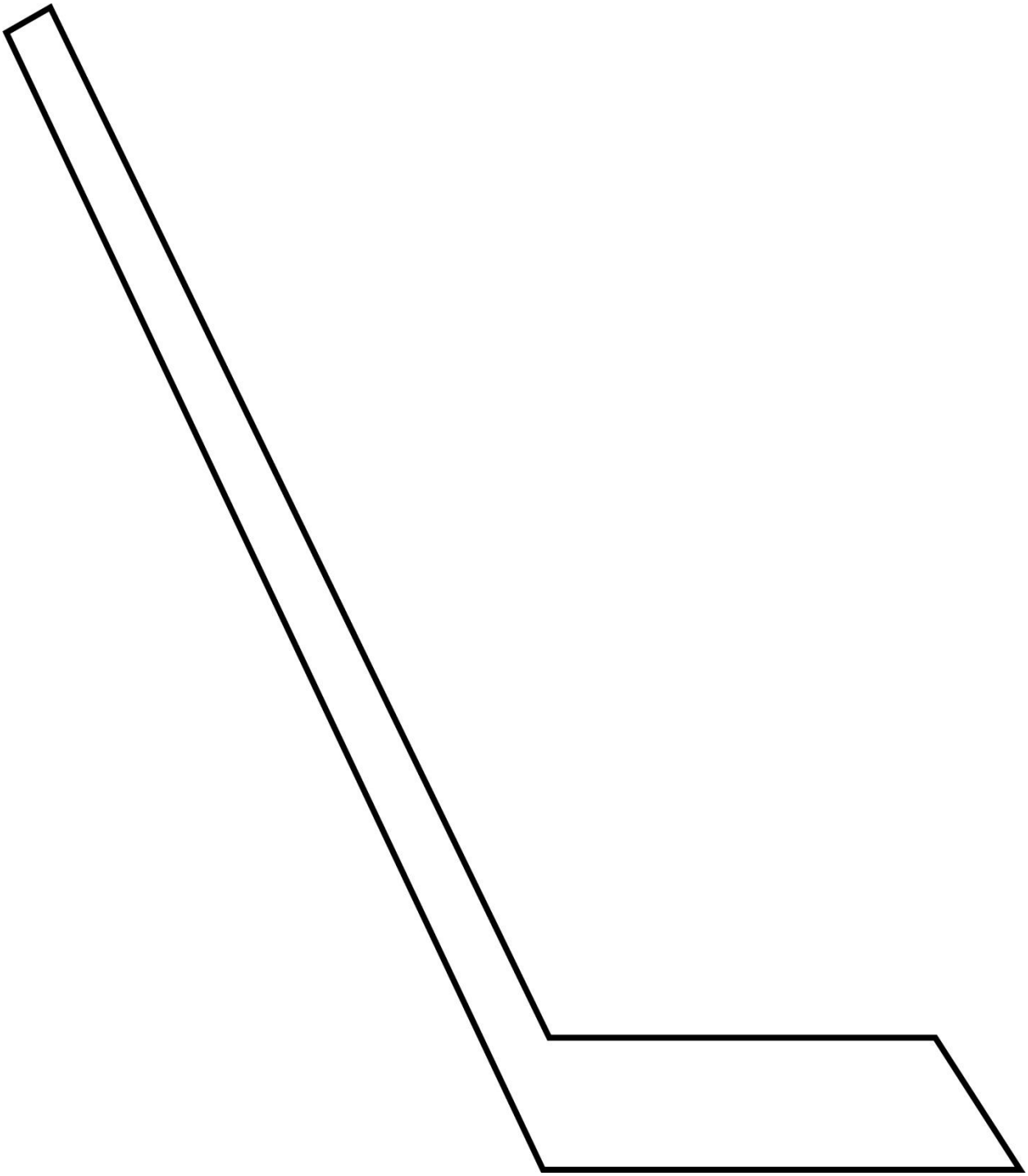
Exploring Lines of Symmetry



Name_____ Date _____

Master 24e

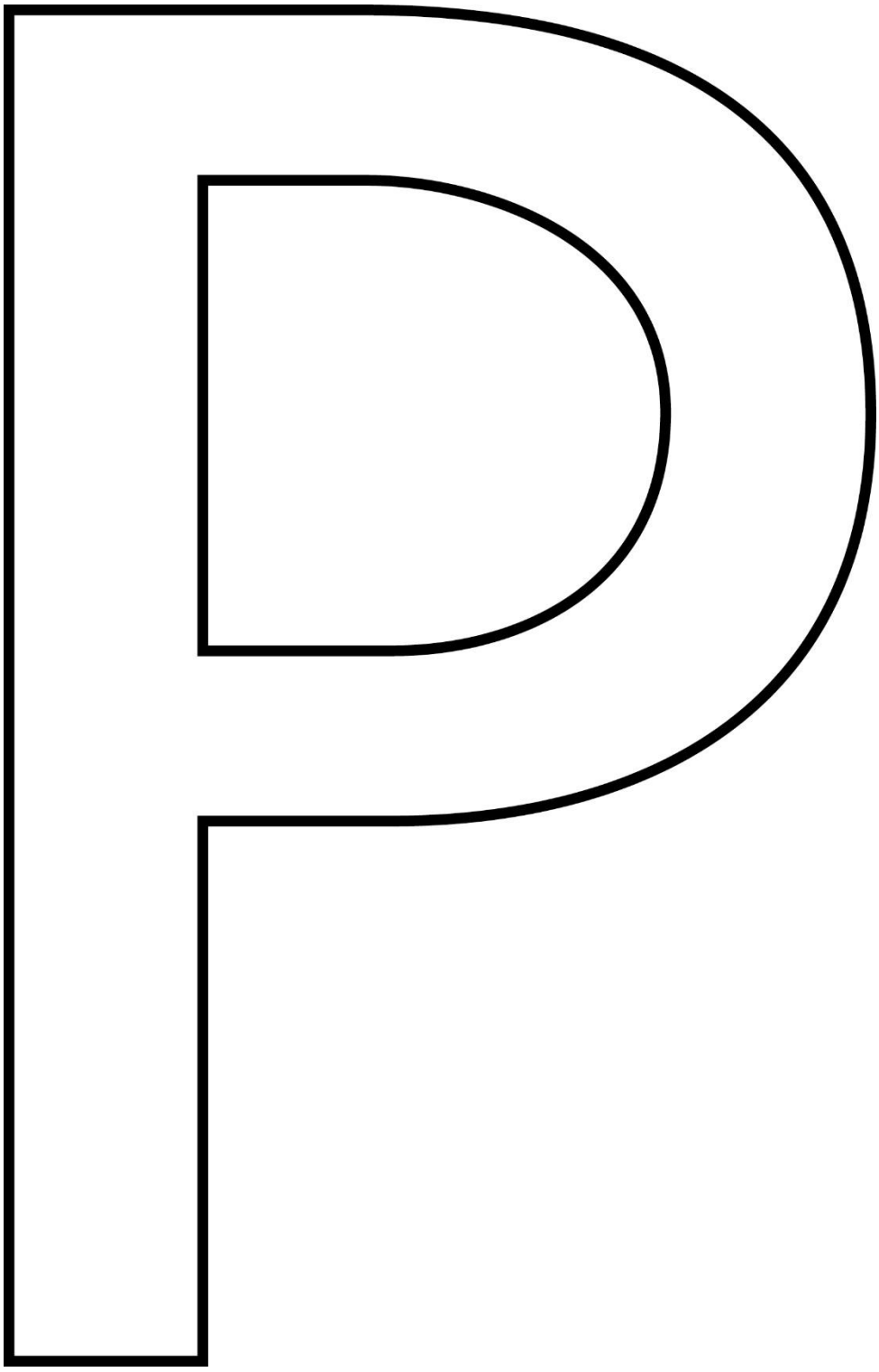
Exploring Lines of Symmetry



Name _____ Date _____

Master 24f

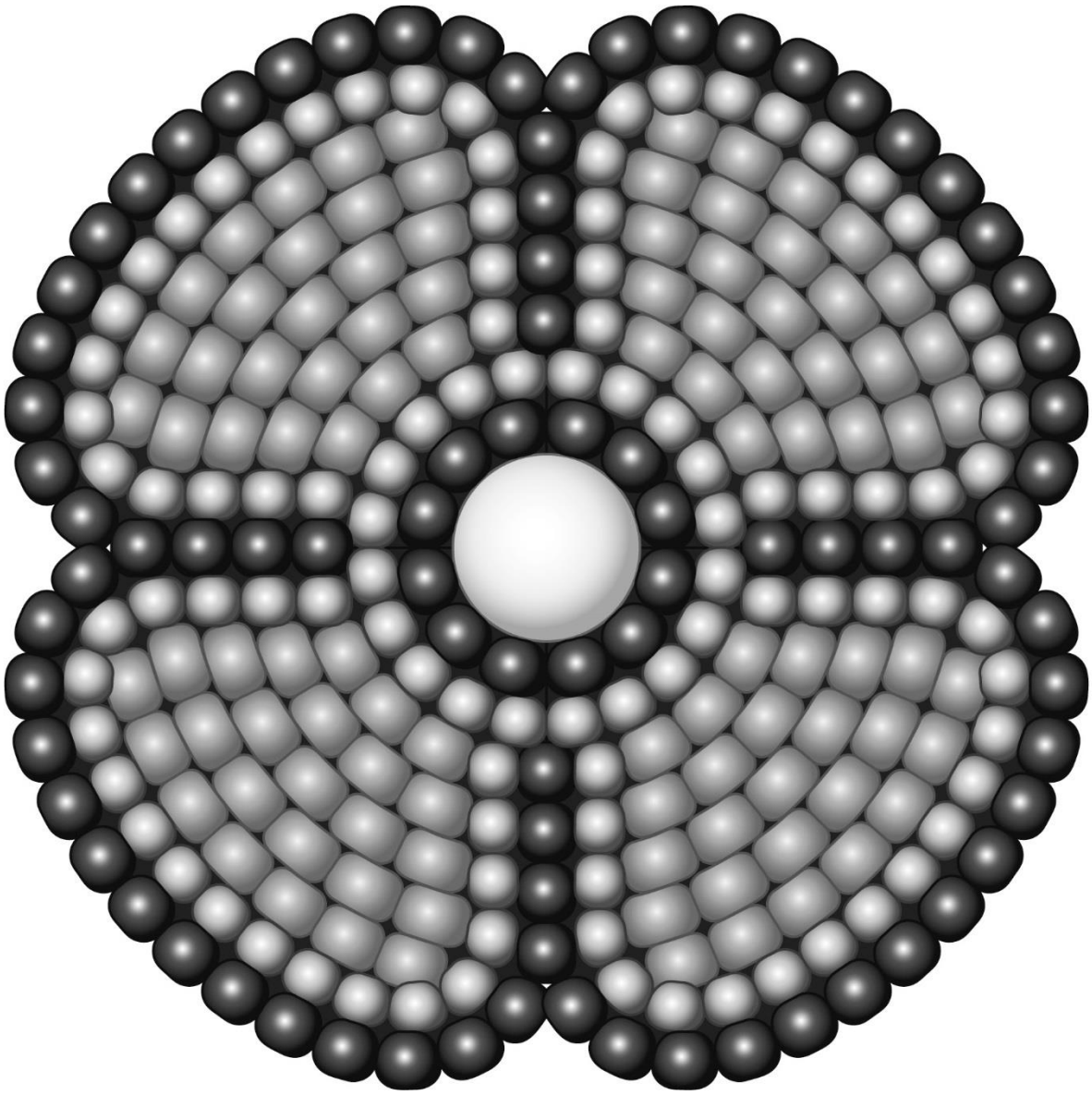
Exploring Lines of Symmetry



Name _____ Date _____

Master 25a

Symmetrical Images



Name_____ Date _____

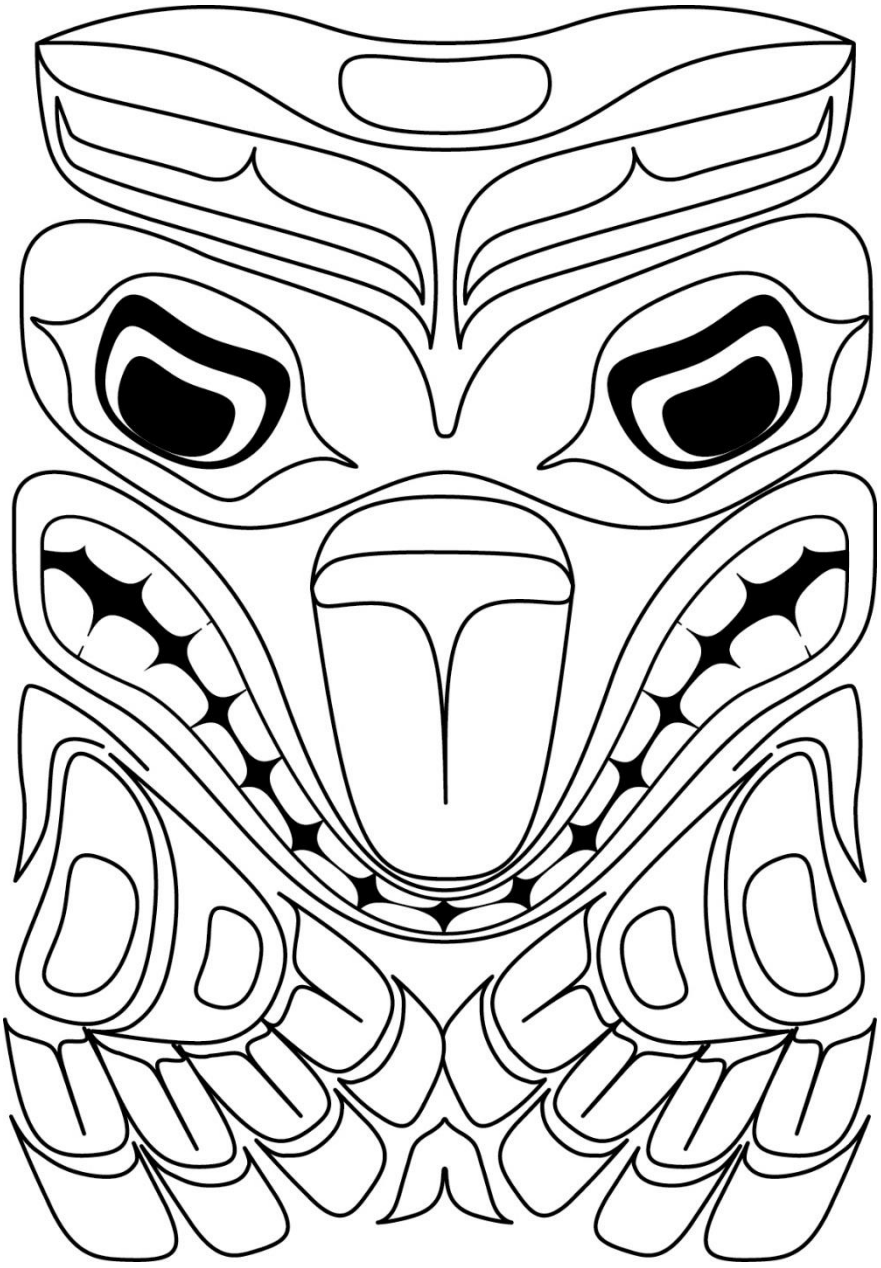
Master 25

Symmetrical Images

Name_____ Date _____

Master 25c

Symmetrical Images



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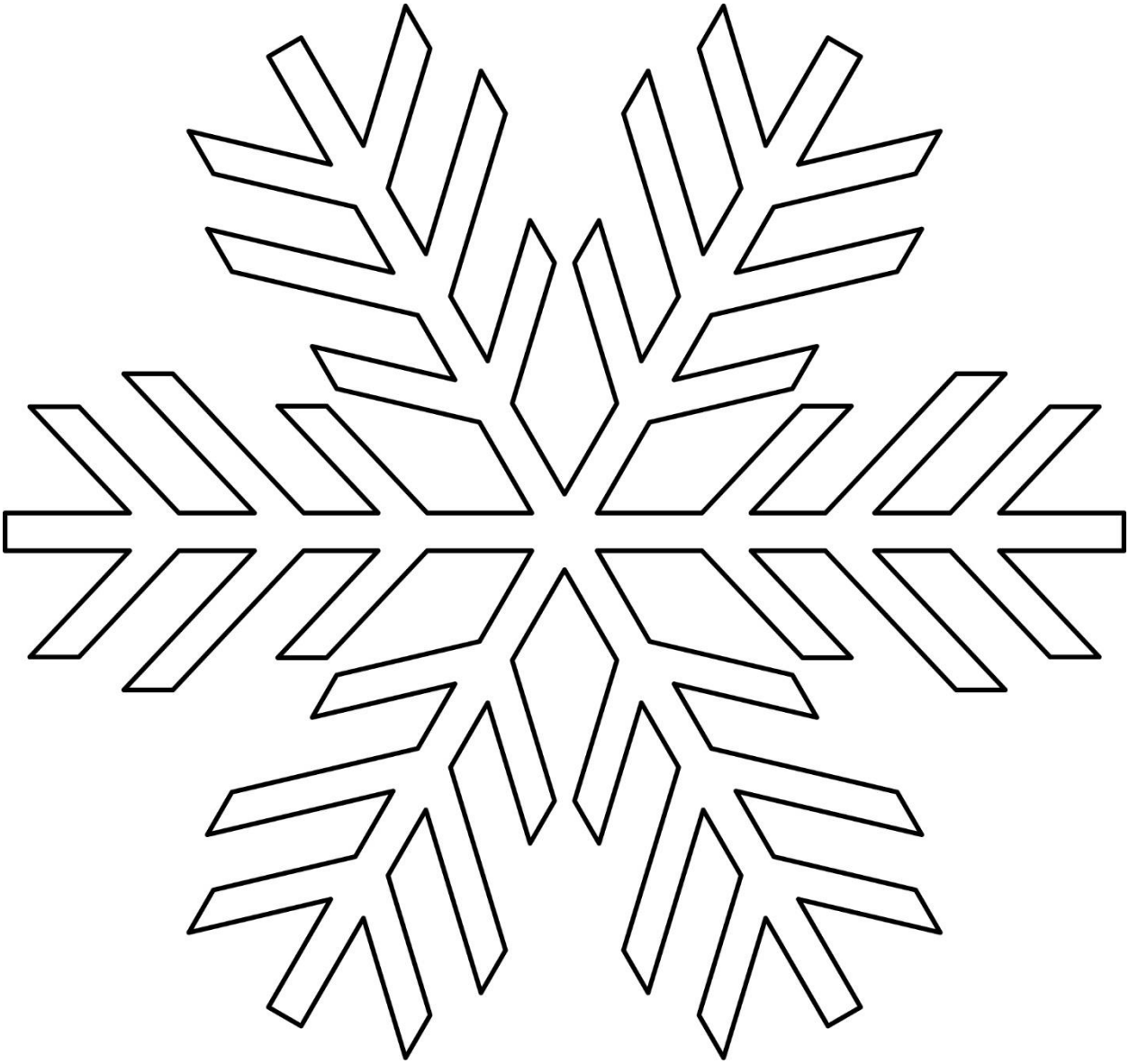
Master 25d

Symmetrical Images



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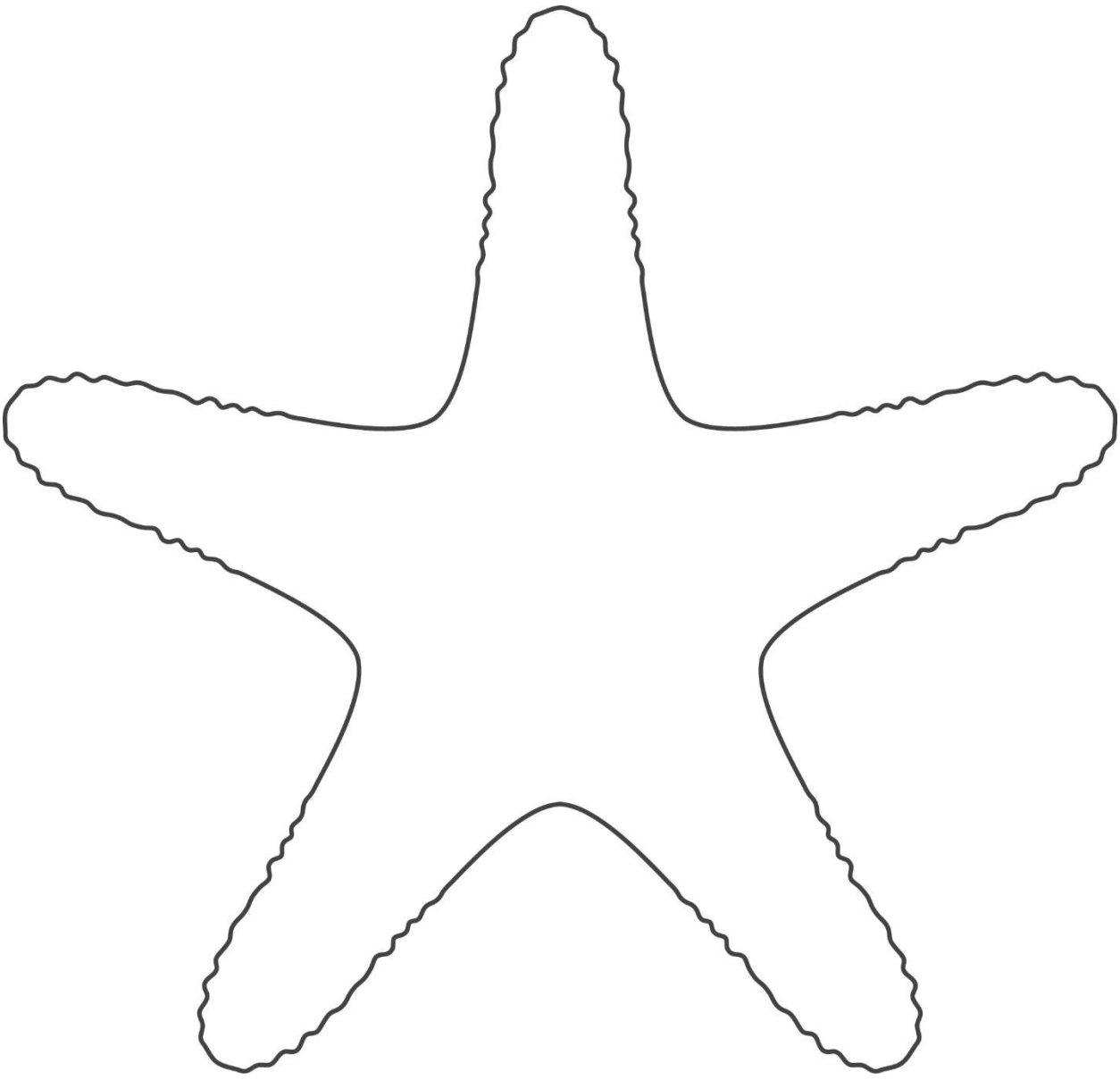
Master 25e

Symmetrical Images



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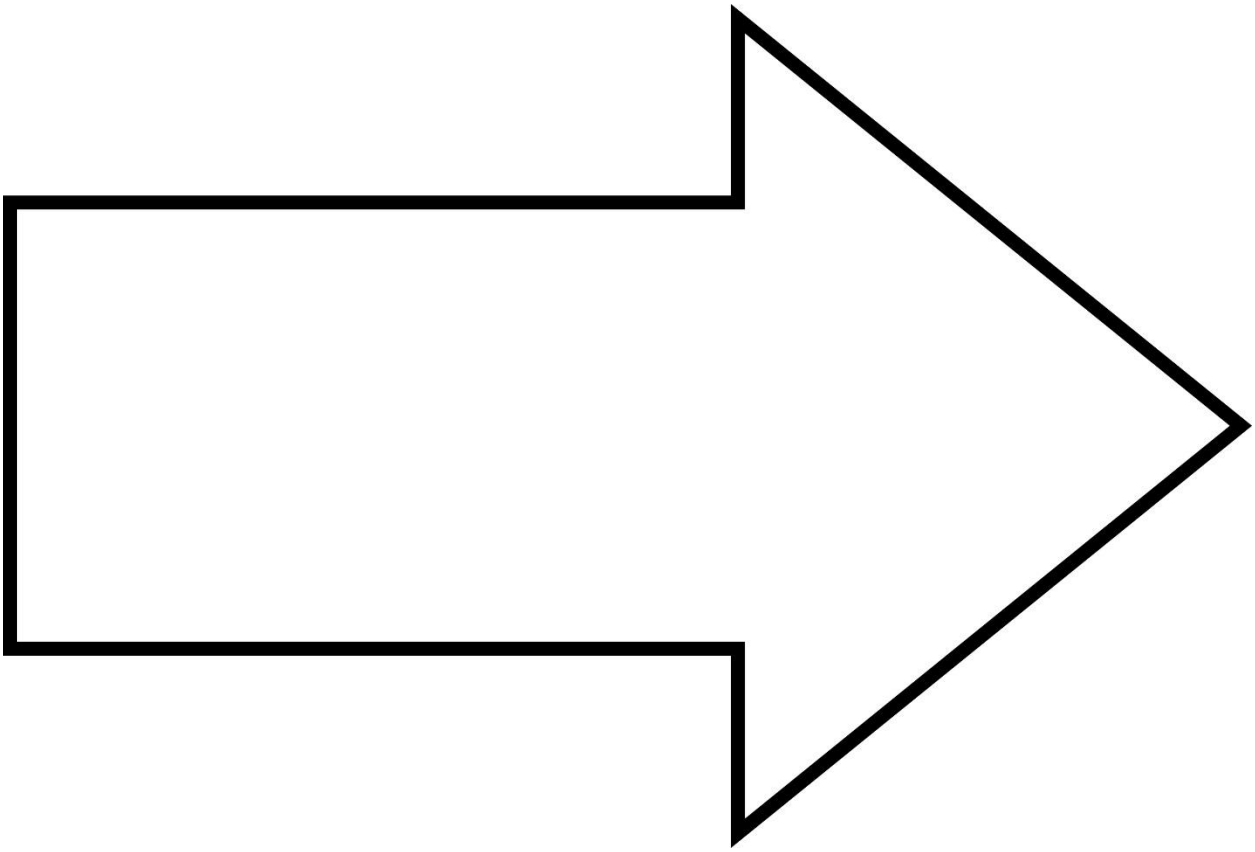
Master 25f

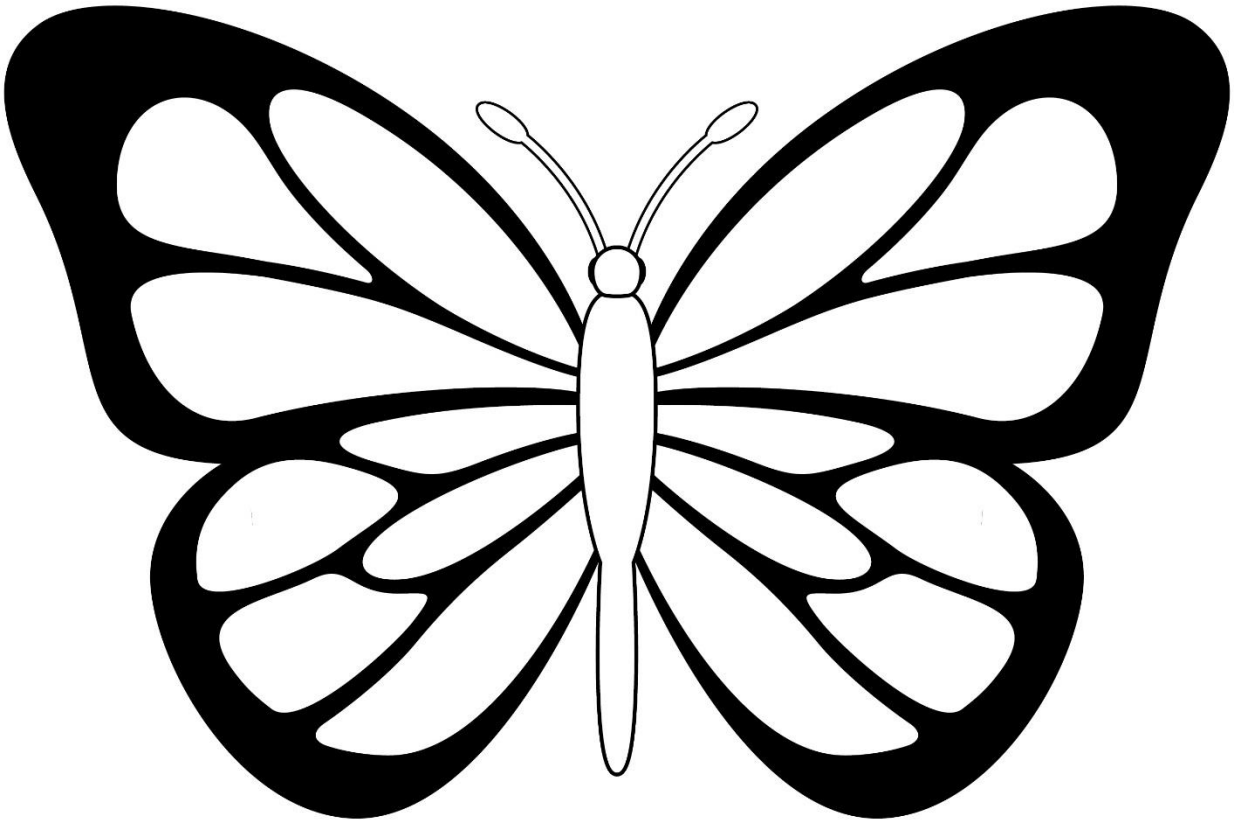
Symmetrical Images



Name_____ Date _____

Master 25g

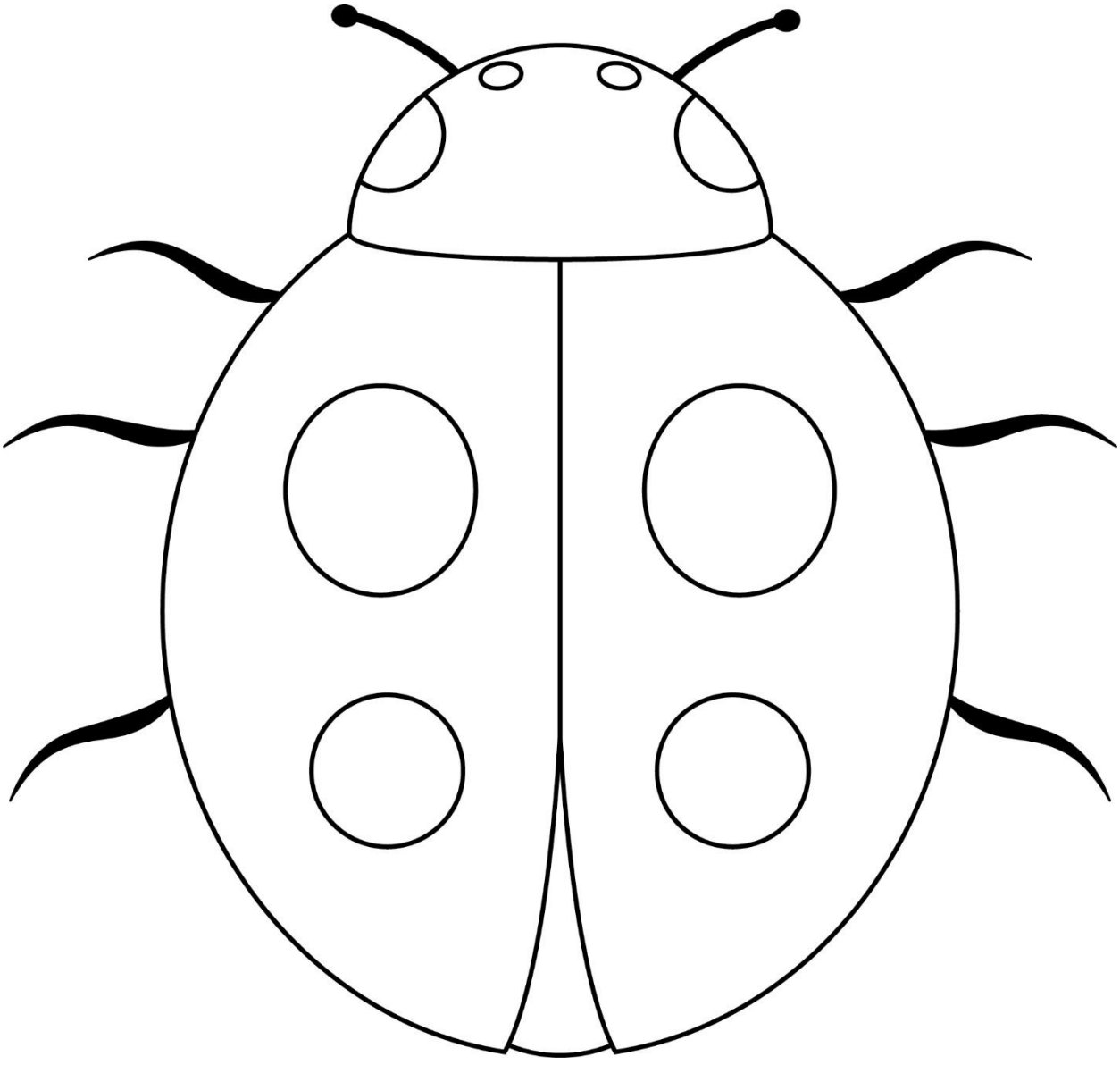
Symmetrical Images



Name _____ Date _____

Master 25h

Symmetrical Images



Master 26: Activity 13 Assessment

Finding Lines of Symmetry

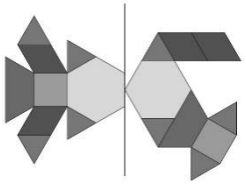
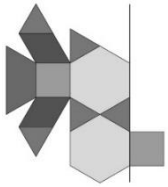
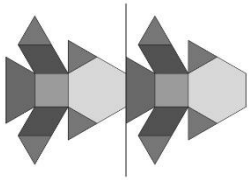
Finding the Line of Symmetry Behaviours/Strategies		
Student does not think the picture is symmetrical.	Student divides/folds the picture into two parts without regard to symmetry. 	Student divides/folds the picture multiple times but struggles to find the line of symmetry. 
Observations/Documentation		

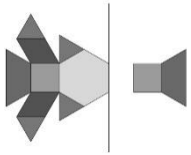
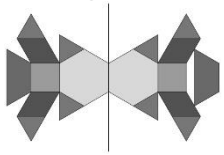
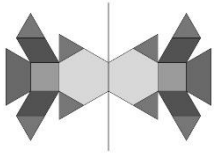
Student divides/folds the picture so its outline matches but ignores the details of the picture. 	Student finds the line of symmetry, but has difficulty explaining why it is the line of symmetry. 	Student finds the line of symmetry and explains how he or she knows it is the line of symmetry with ease.
Observations/Documentation		

Geometry

Master 27: Activity 14 Assessment

Creating Symmetrical Designs

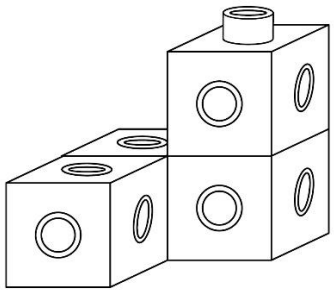
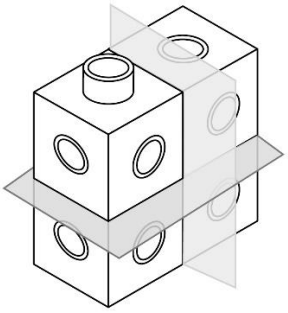
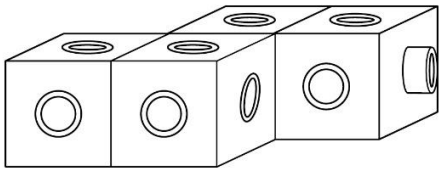
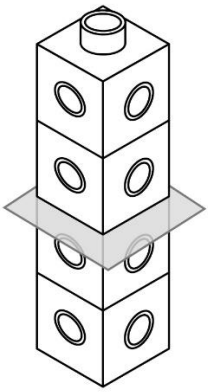
Finishing a Symmetrical Design Behaviours/Strategies		
Student randomly places blocks on the right side. 	Student places blocks on the same side of the design. 	Student places the same blocks with the same orientation on the right side of the line. 
Observations/Documentation		

Student places the first block incorrectly and runs out of room to place the remaining blocks. 	Student places some blocks correctly, but at least one has the wrong orientation. 	Student completes the symmetrical design and explains why it is symmetrical. 
Observations/Documentation		

Name _____ Date _____

Master 28

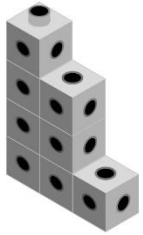
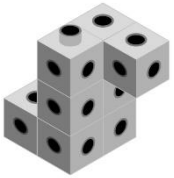
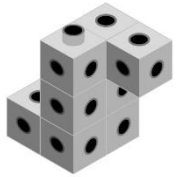
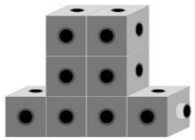
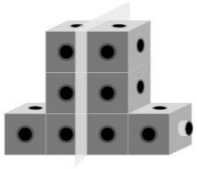
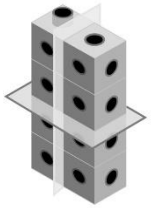
Objects with Matching Halves

 Not symmetrical	 Symmetrical
 Not symmetrical	 Symmetrical

Geometry

Master 29: Activity 15 Assessment

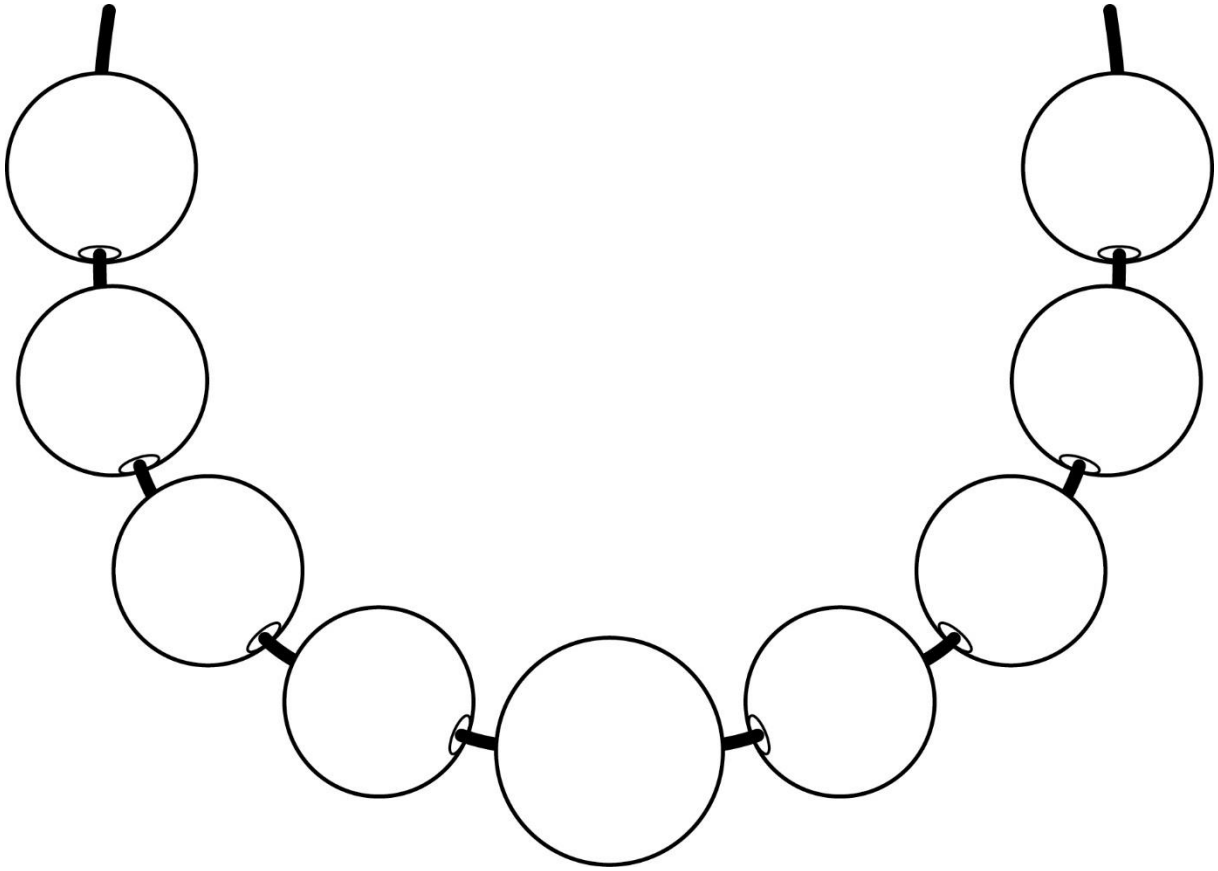
Building Symmetrical Solids

Building Symmetrical Solids Behaviours/Strategies		
Student creates an object, but it doesn't have matching halves. 	Student creates object with matching halves but doesn't know whether it is symmetrical. "Each half is like the letter *L*. I don't know if it's symmetrical." 	Student creates object with matching halves and thinks it must be symmetrical. "The two halves match, so the object has to be symmetrical." 
Observations/Documentation		
Student creates symmetrical object but struggles to describe or identify matching halves. "I just know it's symmetrical." 	Student creates symmetrical object, identifies matching halves, but can't justify thinking. "I'm not sure why it's symmetrical." 	Student creates symmetrical object, identifies all matching halves, and justifies thinking. "These two halves match and those two halves match." 
Observations/Documentation		

Name_____ Date _____

Master 30a

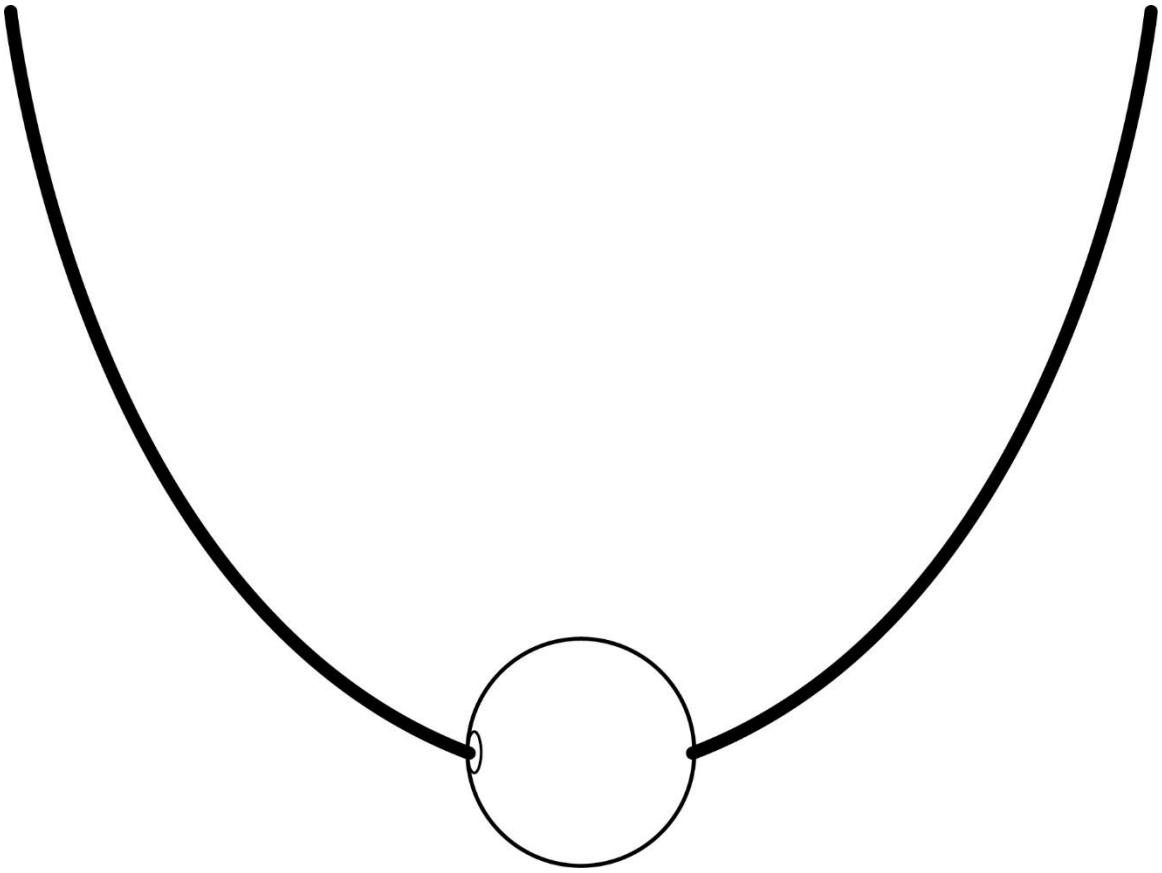
Necklace/Bracelet Templates



Name_____ Date _____

Master 30b

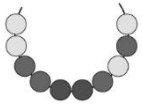
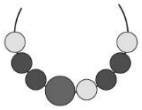
Necklace/Bracelet Templates

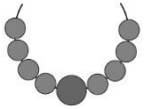
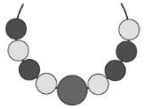
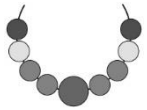


Geometry

Master 31: Activity 16 Assessment

Symmetry: Consolidation

Creating a Symmetrical Necklace/Bracelet Behaviours/Strategies		
Student randomly places beads on the string, not giving any thought to symmetry. 	Student places more beads on one side of the large bead than on the other. 	Student creates a design on one side of the large bead, then copies the design on the other side without making a mirror image. 
Observations/Documentation		

Student makes a symmetrical necklace/bracelet but uses only one colour, making it unclear if symmetry was considered. 	Student places most beads correctly but mixes up the order of a couple of beads. 	Student makes a symmetrical necklace/bracelet and explains why it is symmetrical with ease. 
Observations/Documentation		

Master 32a

Curriculum Correlation

Geometry Cluster 4: Location and Movement

ON

Kindergarten
17.2 communicate an understanding of basic spatial relationships (e.g., use terms such as “above/ below”, “in/out”, “forward/backward”; use visualization, perspective, and movements [flips/reflections, slides/translations, and turns/ rotations]) in their conversations and play, in their predictions and visualizations, and during transitions and routines
Grade 1
Geometry and Spatial Sense Location and Movement – describe the relative locations of objects or people using positional language (e.g., over, under, above, below, in front of, behind, inside, outside, beside, between, along) (Activities 19–21) – describe the relative locations of objects on concrete maps created in the classroom (Sample problem: Work with your group to create a map of the classroom in the sand table, using smaller objects to represent the classroom objects. Describe where the teacher’s desk and the bookshelves are located.) (Activities 20, 21)
Grade 2
Geometry and Spatial Sense Location and Movement – describe the relative locations (e.g., beside, two steps to the right of) and the movements of objects on a map (e.g., “The path shows that he walked around the desk, down the aisle, and over to the window.”) – draw simple maps of familiar settings, and describe the relative locations of objects on the maps (Sample problem: Draw a map of the classroom, showing the locations of the different pieces of furniture.)

Master 32b

Curriculum Correlation

Geometry Cluster 5: Location and Movement

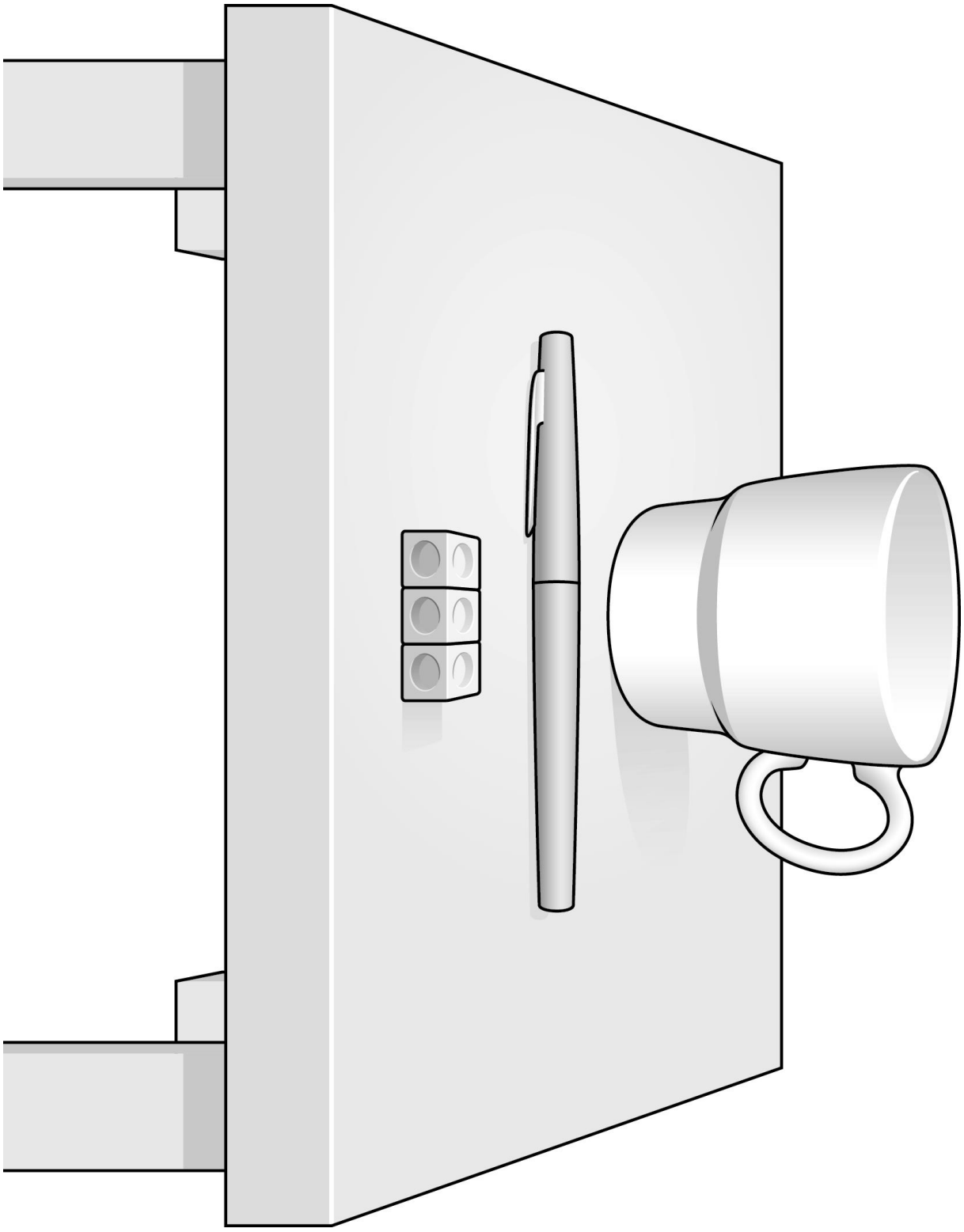
BC/YT

Kindergarten
Single attributes of 2D shapes and 3D objects • using positional language, such as beside, on top of, under, and in front of
Grade 1
Comparison of 2D shapes and 3D objects • describing relative positions, using positional language (e.g., up and down, in and out) (Activity 19)
Grade 2

Name_____ Date _____

Master 33

Objects on a Table



Name_____ Date _____

Master 34

Position Cards

Above	Below
Beside	Behind
In Front	On Top

Geometry

Master 35: Activity 17 Assessment

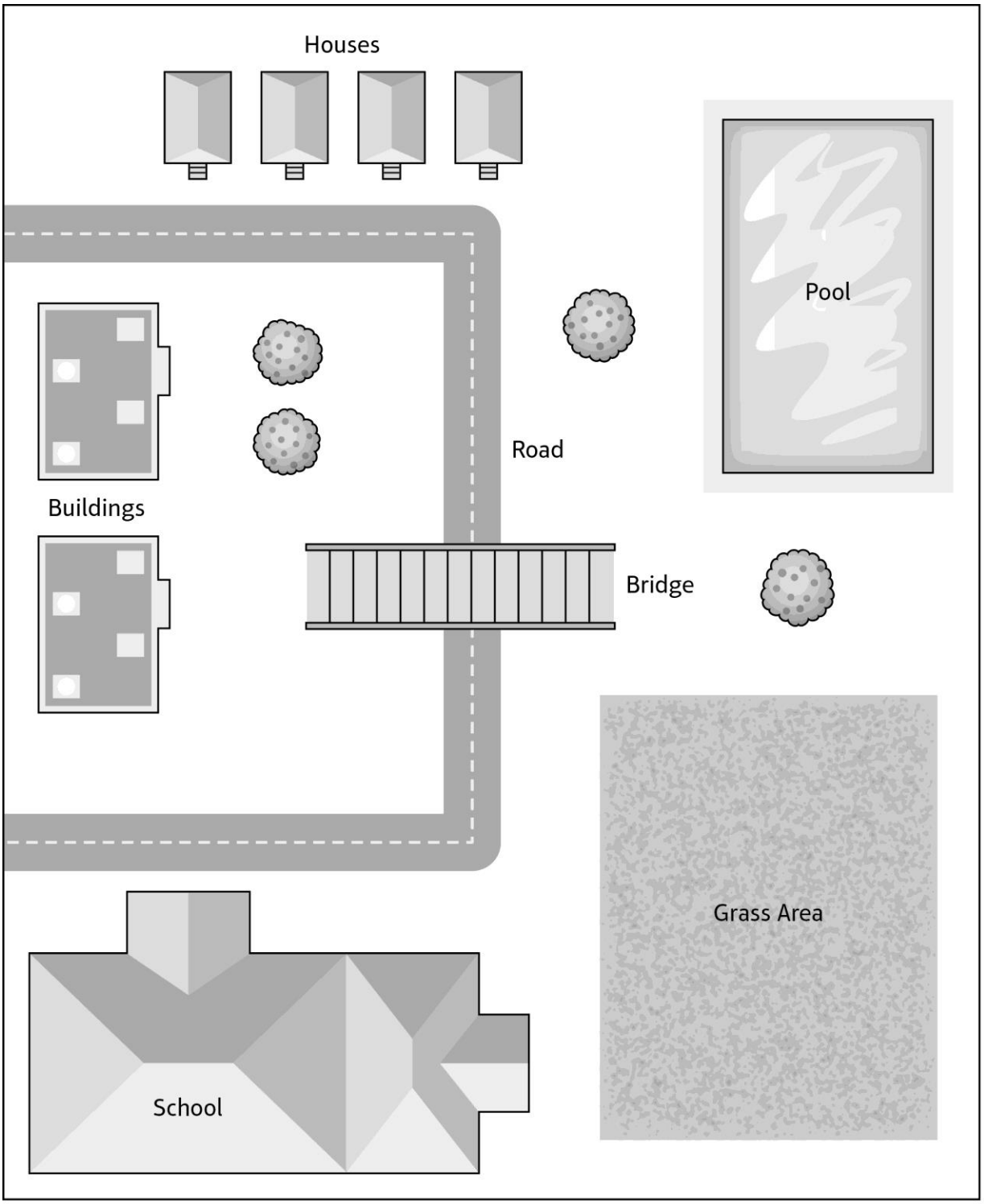
Perspective Taking

Perspective Taking Behaviours/Strategies			
Student has difficulty with the relative location of objects.	Student sees objects from one perspective but has difficulty visualizing another perspective.	Student sees objects from different perspectives but has difficulty describing the location of the objects.	Student sees objects from different perspectives and describes the relative location of the objects.
Observations/Documentation			

Name_____ Date _____

Master 36a

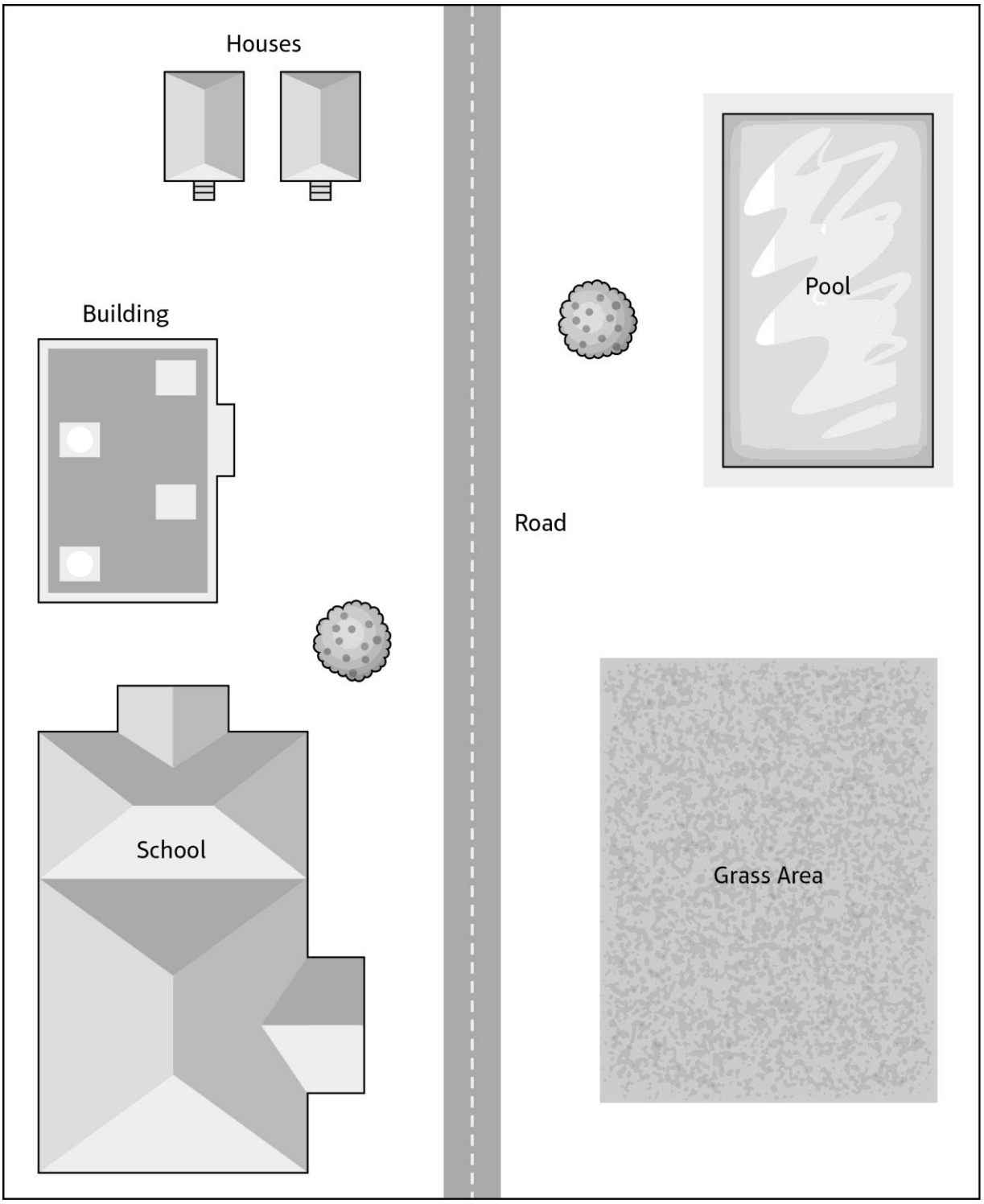
Maps



Name_____ Date _____

Master 36b

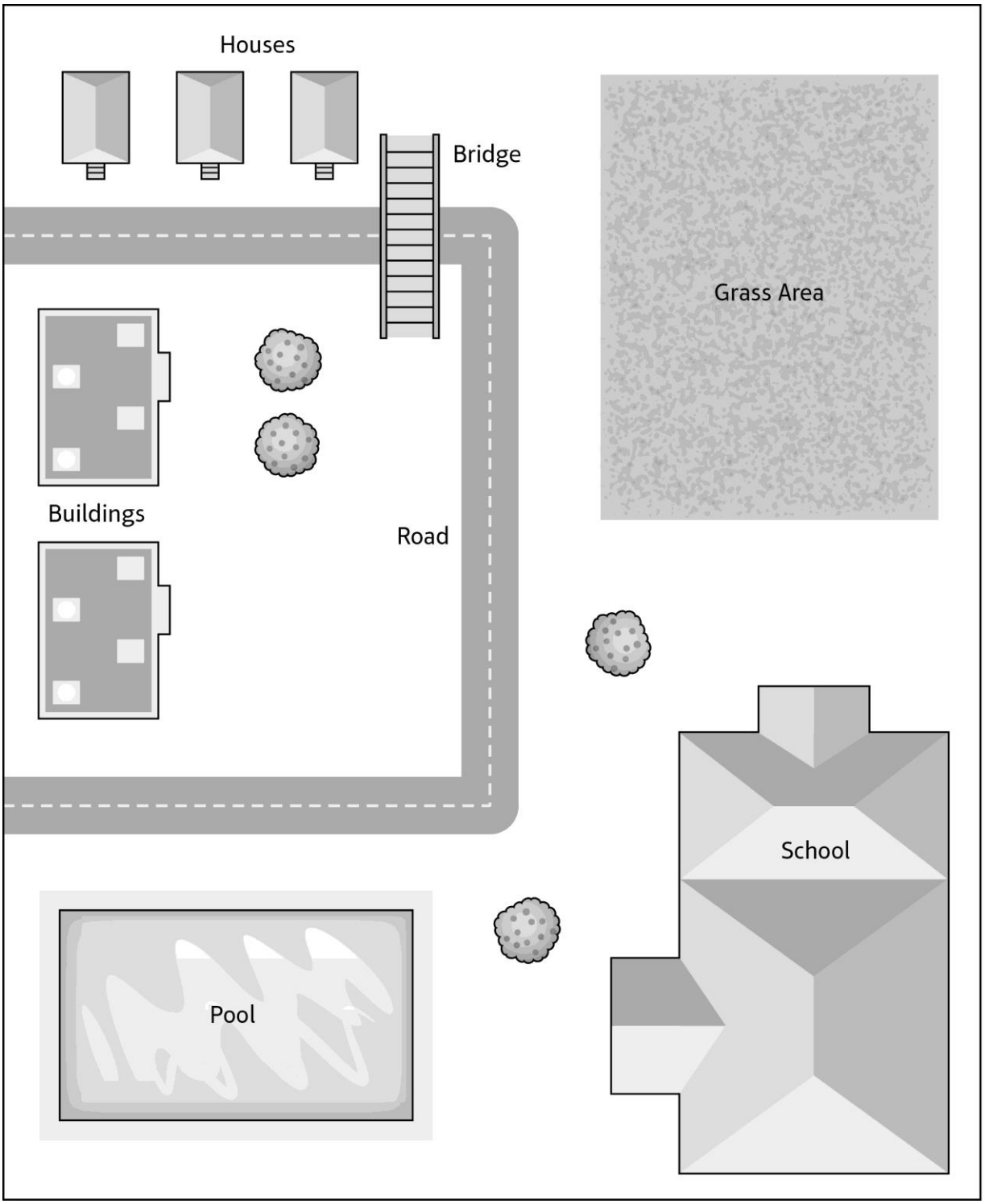
Maps



Name_____ Date _____

Master 36c

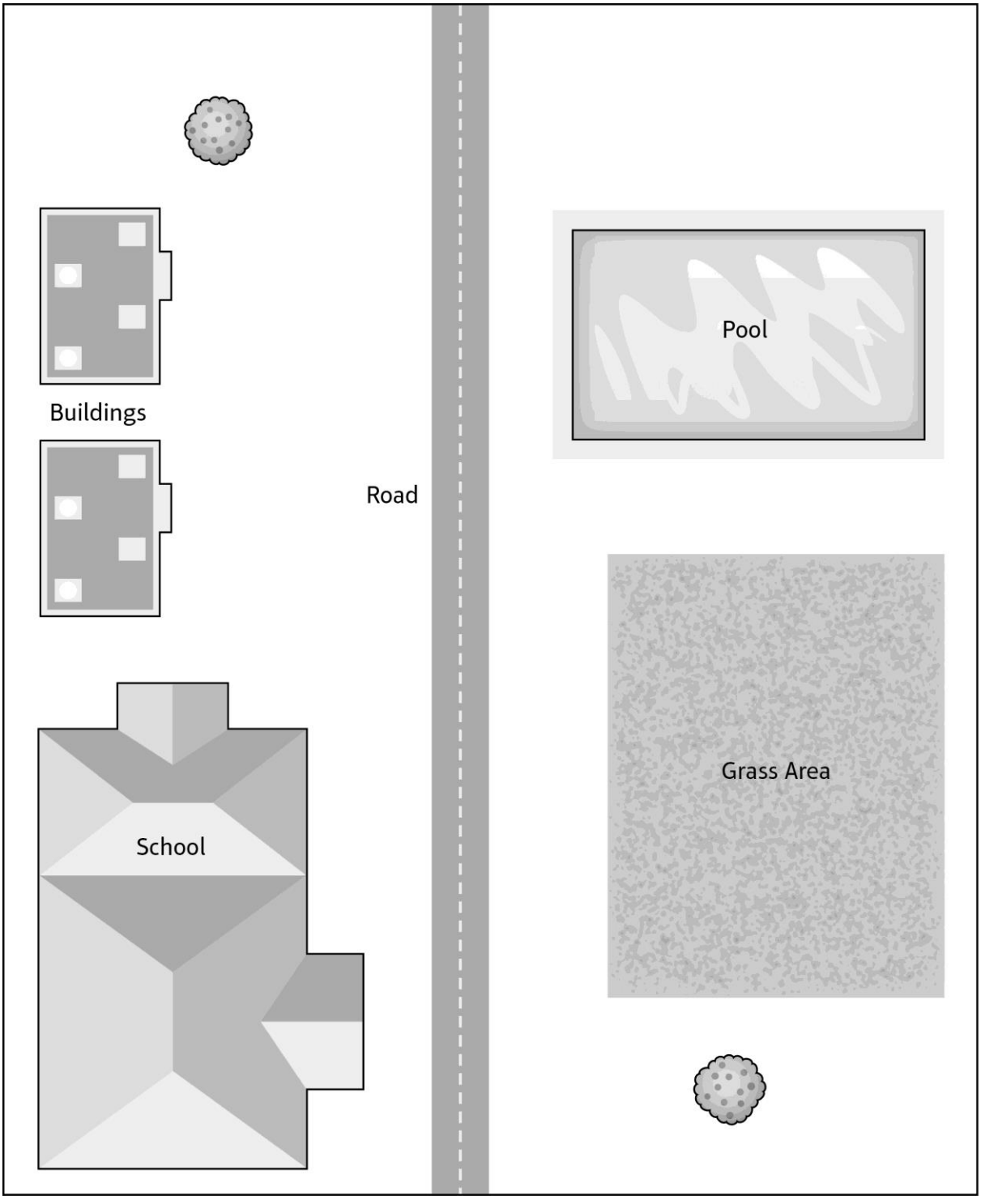
Maps



Name_____ Date _____

Master 36d

Maps



Geometry

Master 37: Activity 18 Assessment

Mapping

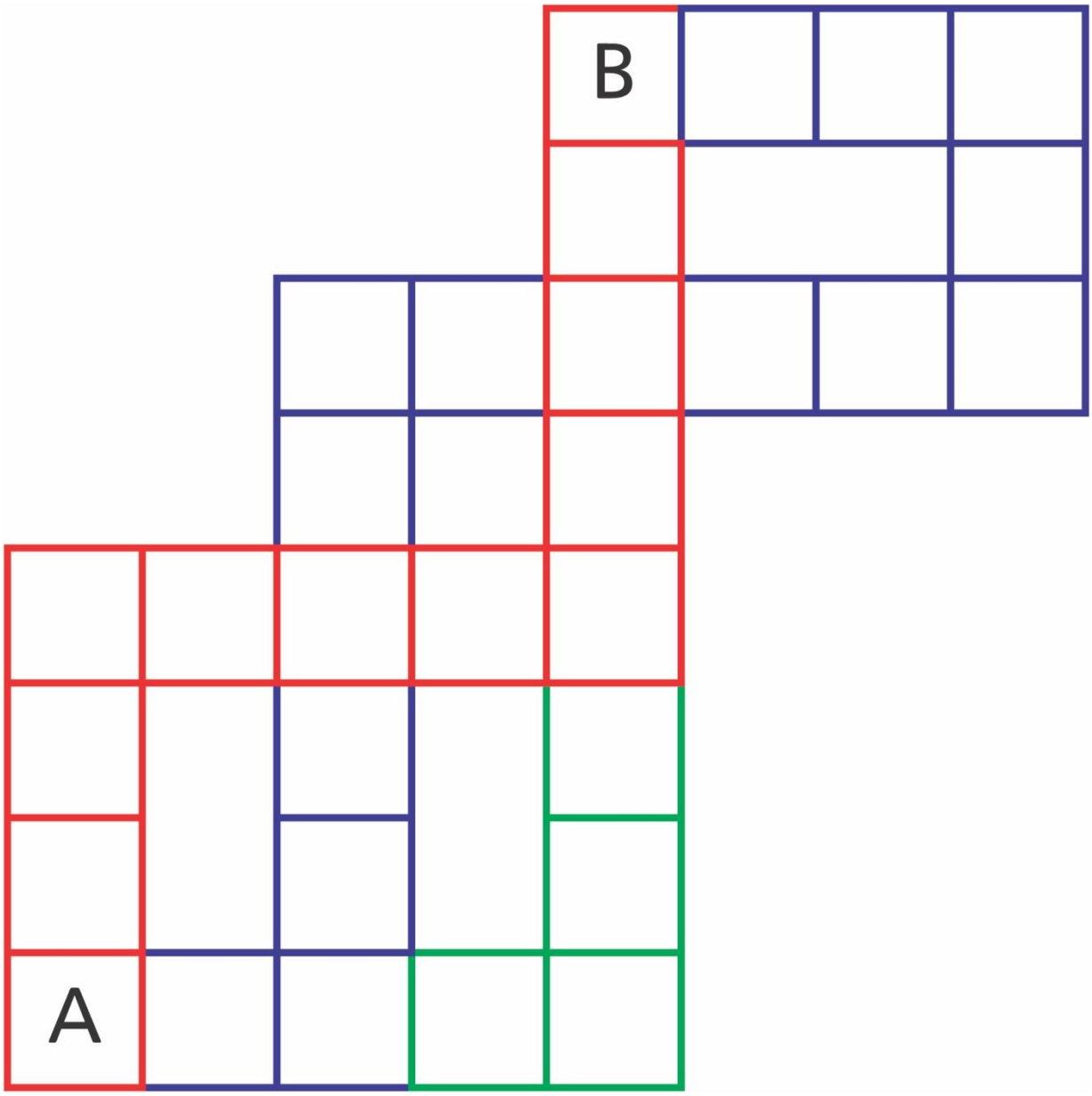
Reading a Map Behaviours/Strategies			
Student has little, if any, familiarity with maps.	Student has some familiarity with maps but has difficulty connecting a 2-D map with a 3-D model.	Student reads the map but has difficulty representing objects shown on the map.	Student reads the map and represents the objects and places shown.
Observations/Documentation			

Creating a Model Behaviours/Strategies			
Student is unable to locate objects on the model.	Student locates some objects on the model.	Student locates all objects but spacing of the objects does not match the map.	Student easily creates a model that matches the map.
Observations/Documentation			

Name _____ Date _____

Master 38

Find a Path



Name_____ Date _____

Master 39a

My Cube Path

Name_____ Date _____

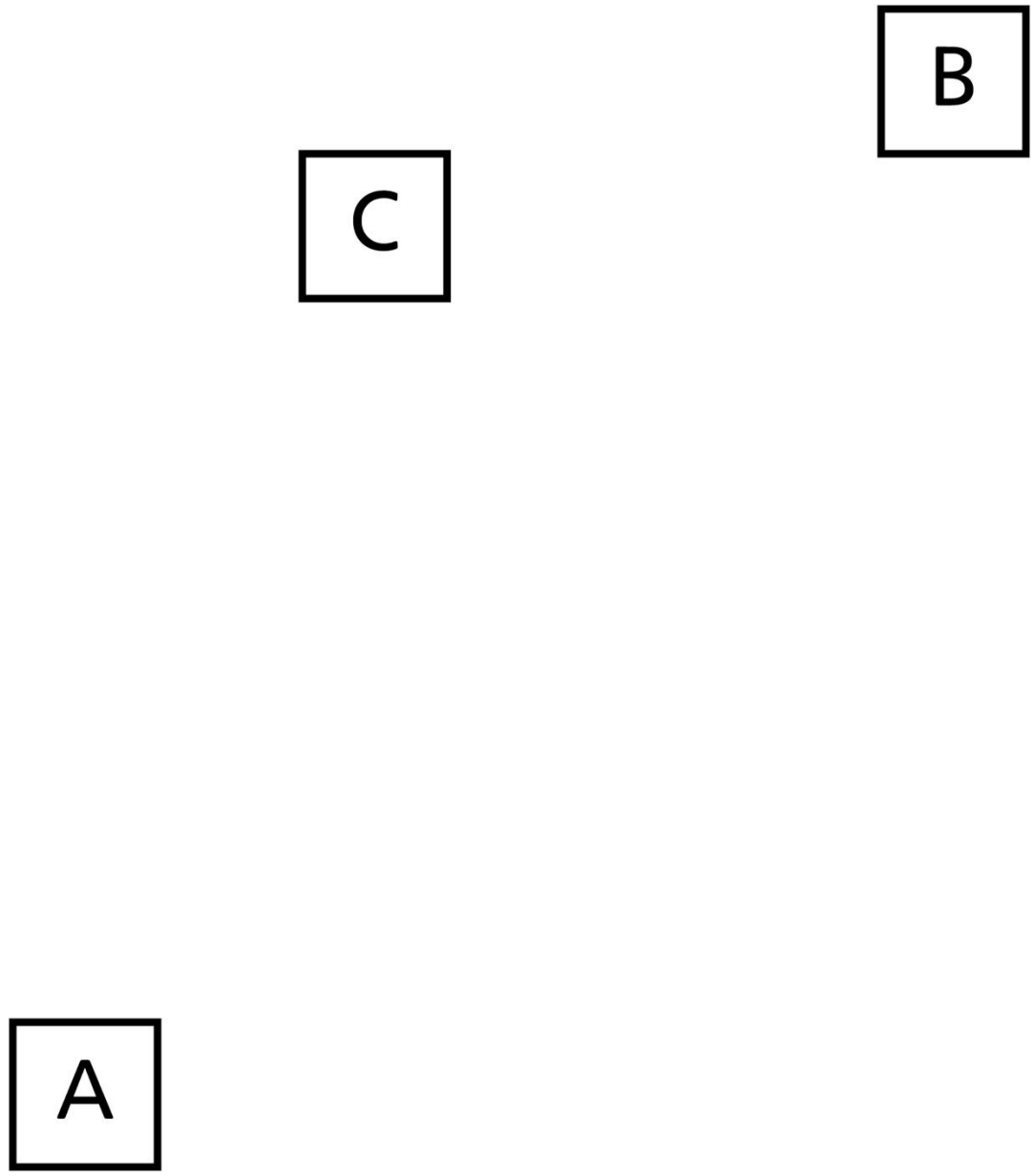
Master 39b

My Cube Path
(For Accommodations)

Name_____ Date _____

Master 39c

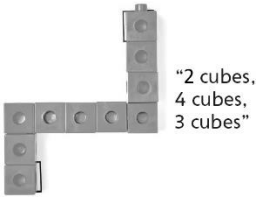
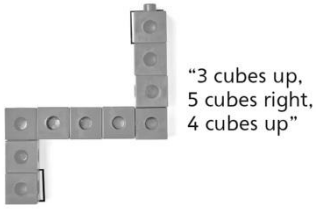
My Cube Path (For Extension)



Geometry

Master 40: Activity 19 Assessment

Exploring Coding

Describing Paths with Codes Behaviours/Strategies		
1. Student creates a path with cubes on a diagonal and struggles to write a code to describe the path. 	2. Student creates a path with cubes, but struggles to use positional language to write a code to describe the path. 	3. Student creates a path with cubes and uses positional language to write a code to describe the path, but counts the same cube twice. 
Observations/Documentation		

4. Student creates a path with cubes and uses positional language to write a code to describe the path from A to B, but starts over to write a code from B to A. "I don't know what to do to write a code to go from B to A. I'll start over."	5. Student creates a path with cubes and uses positional language to write codes to describe the paths from A to B and B to A, but starts over to find another path. "Let me take all the cubes off and start over."	6. Student creates different paths with cubes and successfully uses positional language to write codes to describe the paths from A to B and B to A.
Observations/Documentation		

Name _____ Date _____

Master 41

4 × 4 Grid (for *Before*)

Name_____ Date _____

Master 42

Grid A

Write a code using arrows to move from Start to Finish.

		Finish	
	Start		
Code:			

Name_____ Date _____

Master 43

Grid B

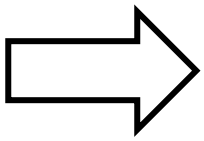
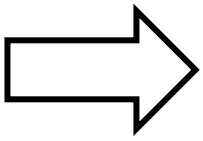
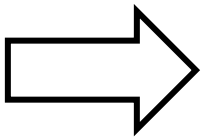
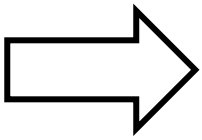
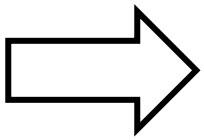
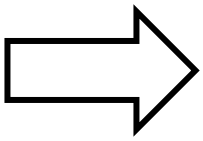
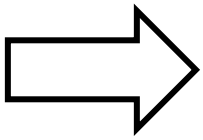
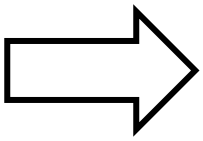
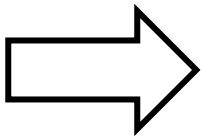
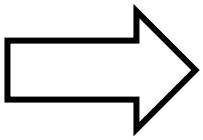
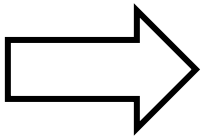
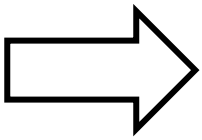
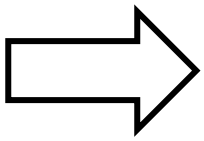
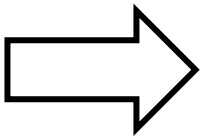
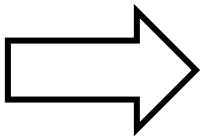
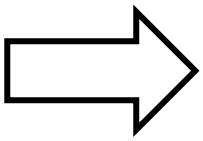
Player A: Place “Start” and “Finish” cutouts in any squares.
Player B: Use arrow cutouts to write a code to move from Start to Finish.
Player A: Check the code.

Code:			

Name _____ Date _____

Master 44

Cutouts

			
			
			
			
Start	Finish		

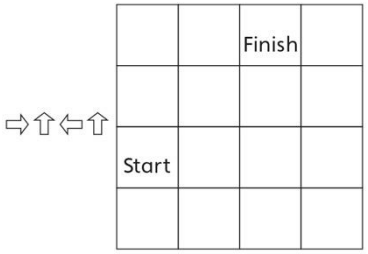
Geometry

Master 45: Activity 20 Assessment

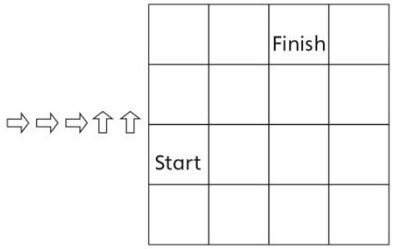
Coding on a Grid

Reading and Writing Code on Grids Behaviours/Strategies

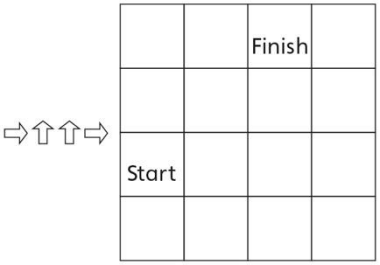
1. Student describes the movement from one location to another on a grid, but code is not accurate.



2. Student describes the movement from one location to another on a grid, but writes code by counting squares instead of steps, resulting in one extra arrow.



3. Student describes the movement from one location to another on a grid and accurately writes code, but struggles to check if partner's code is correct.



"Is this correct?"

Observations/Documentation

4. Student describes the movement from one location to another on a grid and writes accurate code, but struggles to write code from memory.

"How can I write the code without seeing the grid?"

5. Student describes the movement from one location to another on a grid and writes code from memory, but there are small mistakes.

6. Student describes the movement from one location to another on a grid and writes accurate codes, with and without seeing a grid.

Observations/Documentation

Name_____ Date _____

Master 46

Grid 1

Write “Start” and “Finish” in any squares.
Take turns to write a different code to move from Start to Finish.
Check each other’s codes.

Code 1:

Code 2:

Code 3:

Code 4:

Name_____ Date _____

Master 47a

Grid 2: Code Breakers

Write “Start” and “Finish” in any squares.

Write three correct codes and one wrong code to move from Start to Finish.

Code 1:

Code 2:

Code 3:

Code 4:

Name_____ Date _____

Master 47b

Grid 2: Code Breakers

Look at 3 other pairs' codes.
Spot and record any incorrect codes.
Rewrite the codes to correct them.

Incorrect Code 1:

Correct Code 1:

Name_____ Date _____

Master 47c

Grid 2: Code Breakers (cont'd)

Incorrect Code 2:

Correct Code 2:

Name_____ Date _____

Master 47d

Grid 2: Code Breakers (cont'd)

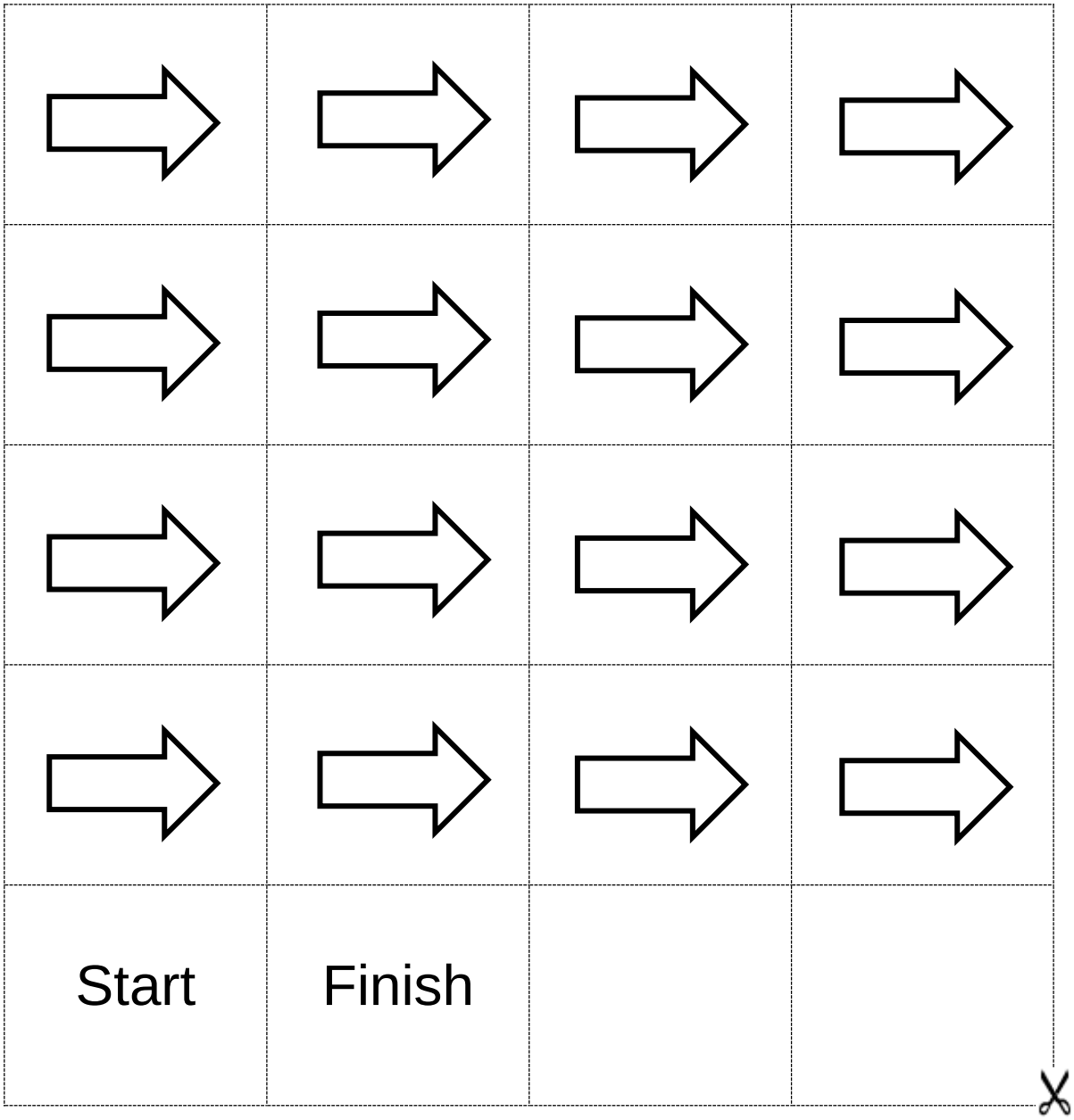
Incorrect Code 3:

Correct Code 3:

Name_____ Date _____

Master 48

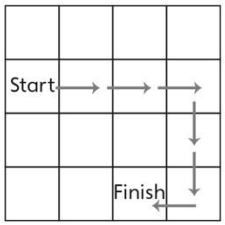
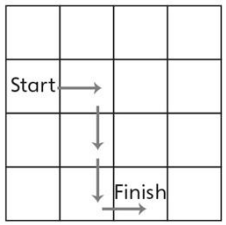
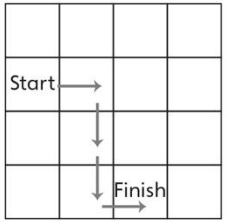
Cutouts



Geometry

Master 49: Activity 21 Assessment

Number Codes

Reading and Writing Codes with Numbers and Arrows Behaviours/Strategies		
1. Student describes the movement from one location to another on a grid and uses arrows on the grid to show a path, but struggles to write code. →, →, →, ↑, ↑, ← 	2. Student describes the movement from one location to another on a grid, but writes code by counting squares instead of steps, resulting in extra arrows. 2→, 3↓, 2→ 	3. Student describes the movement from one location to another on a grid, but writes incorrect code. 2↓, 2→ 
Observations/Documentation		

4. Student describes the movement from one location to another on a grid and writes code, but struggles to read code.	5. Student describes the movement from one location to another on a grid and reads and writes codes, but cannot spot the incorrect code. 1→, 2↑, 1→, 1↑ 3→, 3↑, 1→ 1↑, 2→, 2↑ 1→, 3↑, 1→	6. Student describes the movement from one location to another on a grid, reads and writes codes, and spots and corrects incorrect codes.
Observations/Documentation		

Name _____ Date _____

Master 50

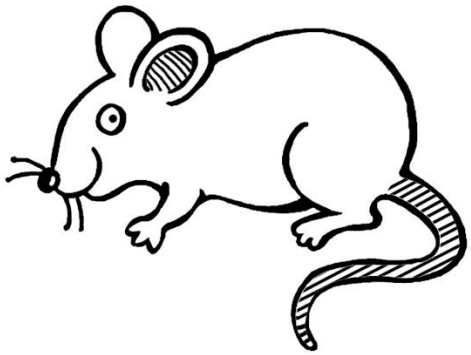
6 × 6 Grid

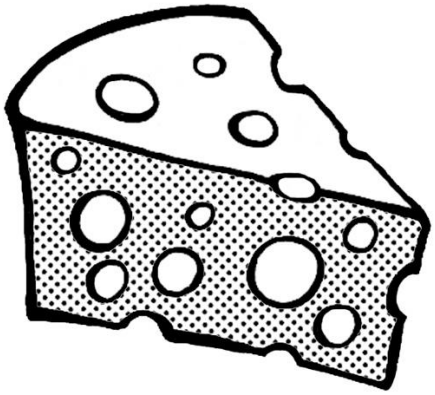
Name_____ Date _____

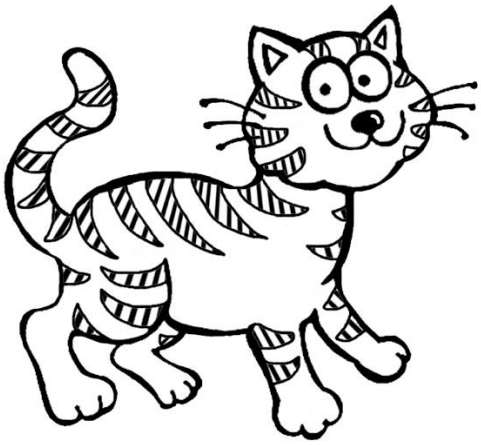
Master 51a

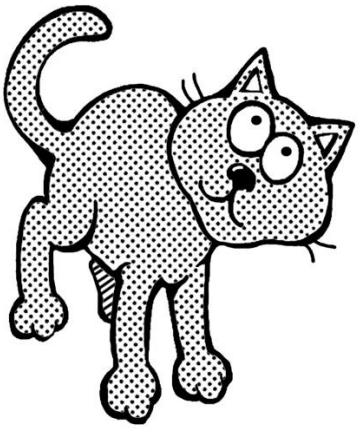
Consolidation Cutouts

Use these cutouts if using grids on the floor.







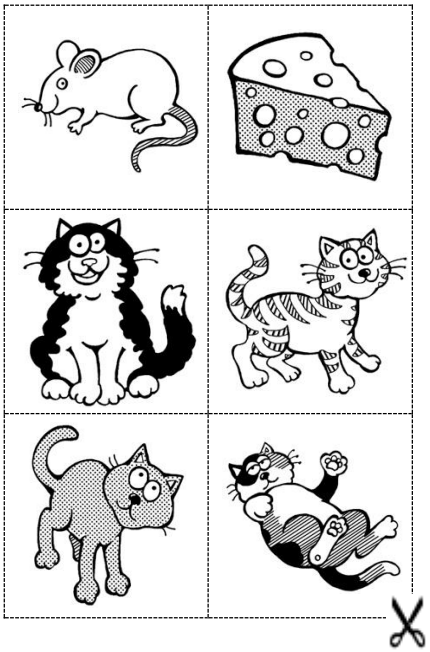


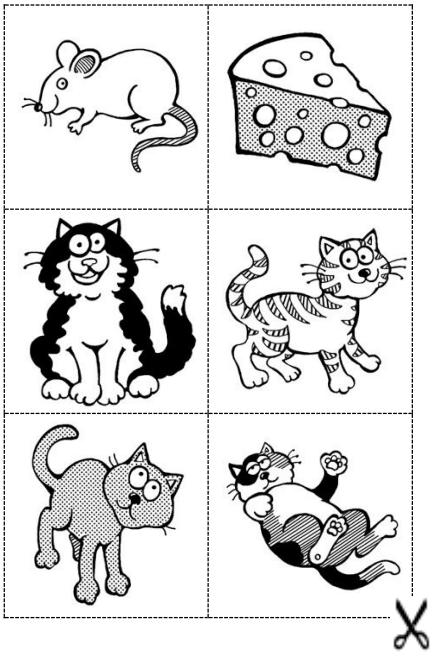
Name_____ Date _____

Master 51b

Consolidation Cutouts

Use these cutouts if using grid on Master 50.





Name_____ Date _____

Master 52

Recording Sheet

Code from mouse to cheese:

Code for avoiding 1 cat:

Code for avoiding 2 cats:

Code for avoiding 3 cats:

Code for avoiding 4 cats:

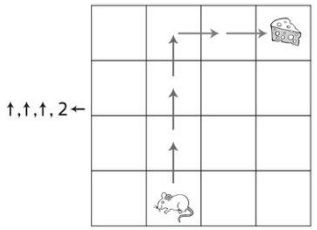
Geometry

Master 53: Activity 22 Assessment

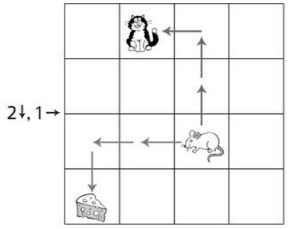
Coding: Consolidation

Reading and Writing Codes Behaviours/Strategies

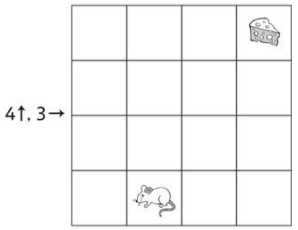
1. Student describes the movement from one location to another on a grid, but struggles to write it as a code.



2. Student describes the movement from one location to another on a grid and writes code, but makes perspective errors.



3. Student describes the movement from one location to another on a grid and writes code that is accurate in direction, but not in quantity.



Observations/Documentation

4. Student describes the movement from one location to another on a grid and writes accurate code, but starts over to make a code to avoid the cat.

5. Student describes the movement from one location to another on a grid and writes accurate code, but makes errors in where or how to adjust the code.

6. Student describes the movement from one location to another on a grid, reads and writes code, and accurately adjusts code to avoid cats.

Observations/Documentation

Master 1a

Curriculum Correlation

Data Management and Probability Cluster 1: Data Management

ON

Kindergarten
19.1 ask questions that can be answered through data collection (e.g., “What is your favourite …?”; “How many pets do our classmates have?”; “Which month had the most snowy days – January or February?”), collect data, and make representations of their observations, using graphs (e.g., concrete graphs such as people graphs or graphs using representational objects; picture graphs)
19.2 interpret data presented in graphs (e.g., “There are more children in the pizza line than in the hot dog line – that means more children like pizza”; “The blue bar is twice as long as the yellow bar”; “There were twice as many snowy days in January as snowy days in February”) and draw conclusions (e.g., “There are more blue cubes than yellow cubes”; “January was more snowy than February”)
19.3 respond to and pose questions about data collection and graphs
20.5 investigate and describe how objects can be collected, grouped, and organized according to similarities and differences (e.g., attributes like size, colour)

Master 1b

Curriculum Correlation

Data Management and Probability Cluster 1: Data Management

ON (con't)

Grade 1
Data Management and Probability Collection and Organization of Data – demonstrate an ability to organize objects into categories by sorting and classifying objects using one attribute (e.g., colour, size), and by describing informal sorting experiences (e.g., helping to put away groceries) (Sample problem: Sort a collection of attribute blocks by colour. Re-sort the same collection by shape.) (Activities 2, 4) – collect and organize primary data (e.g., data collected by the class) that is categorical (i.e., that can be organized into categories based on qualities such as colour or hobby), and display the data using one-to-one correspondence, prepared templates of concrete graphs and pictographs (with titles and labels), and a variety of recording methods (e.g., arranging objects, placing stickers, drawing pictures, making tally marks) (Sample problem: Collect and organize data about the favourite fruit that students in your class like to eat.). (Activities 2, 3, 4) Data Relationships – read primary data presented in concrete graphs and pictographs, and describe the data using comparative language (e.g., more students chose summer than winter as their single favourite season) (Activities 1–4) – pose and answer questions about collected data (Sample problem: What was the most popular fruit chosen by the students in your class?). (Activities 1–4) Cross Strands: Patterning and Algebra Patterns and Relationships – determine, through investigation using a "balance" model and whole numbers to 10, the number of identical objects that must be added or subtracted to establish equality Measurement Attributes, Units, and Measurement SEnse – demonstrate an understanding of the use of non-standard units of the same size (e.g., straws, index cards) for measuring – estimate, measure (i.e., by placing non-standard units repeatedly, without overlaps or gaps, and record lengths, heights, and distances. Measurement Relationships – compare and order objects by their linear measurements, using the same non-standard unit Number Quantity Relationships – represent, compare, and order whole numbers to 50, using a variety of tools and contexts – demonstrate, using concrete materials, the concept of one-to-one correspondence between number and objects when counting

Master 1c

Curriculum Correlation

Data Management and Probability Cluster 1: Data Management

ON (con't)

Grade 2
Data Management and Probability Collection and Organization of Data – demonstrate an ability to organize objects into categories, by sorting and classifying objects using two attributes simultaneously (e.g., sort attribute blocks by colour and shape at the same time) – gather data to answer a question, using a simple survey with a limited number of responses (e.g., What is your favourite season? How many letters are in your first name?) – collect and organize primary data (e.g., data collected by the class) that is categorical or discrete (i.e., that can be counted, such as the number of students absent), and display the data using one-to-one correspondence in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers (e.g., tally charts, diagrams), with appropriate titles and labels and with labels ordered appropriately along horizontal axes, as needed (Sample problem: Record the number of times that specific words are used in a simple rhyme or poem.). Data Relationships – read primary data presented in concrete graphs, pictographs, line plots, simple bar graphs, and other graphic organizers (e.g., tally charts, diagrams), and describe the data using mathematical language (e.g., "Our bar graph shows that 4 more students walk to school than take the bus.") – pose and answer questions about class-generated data in concrete graphs, pictographs, line plots, simple bar graphs, and tally charts (e.g., Which is the least favourite season?) – distinguish between numbers that represent data values (e.g., "I have 4 people in my family.") and numbers that represent the frequency of an event (e.g., "There are 10 children in my class who have 4 people in their family.") – demonstrate an understanding of data displayed in a graph (e.g., by telling a story, by drawing a picture), by comparing different parts of the data and by making statements about the data as a whole (e.g., "I looked at the graph that shows how many students were absent each month. More students were away in January than in September.").

Master 1e

Curriculum Correlation

Data Management and Probability Cluster 1: Data Management

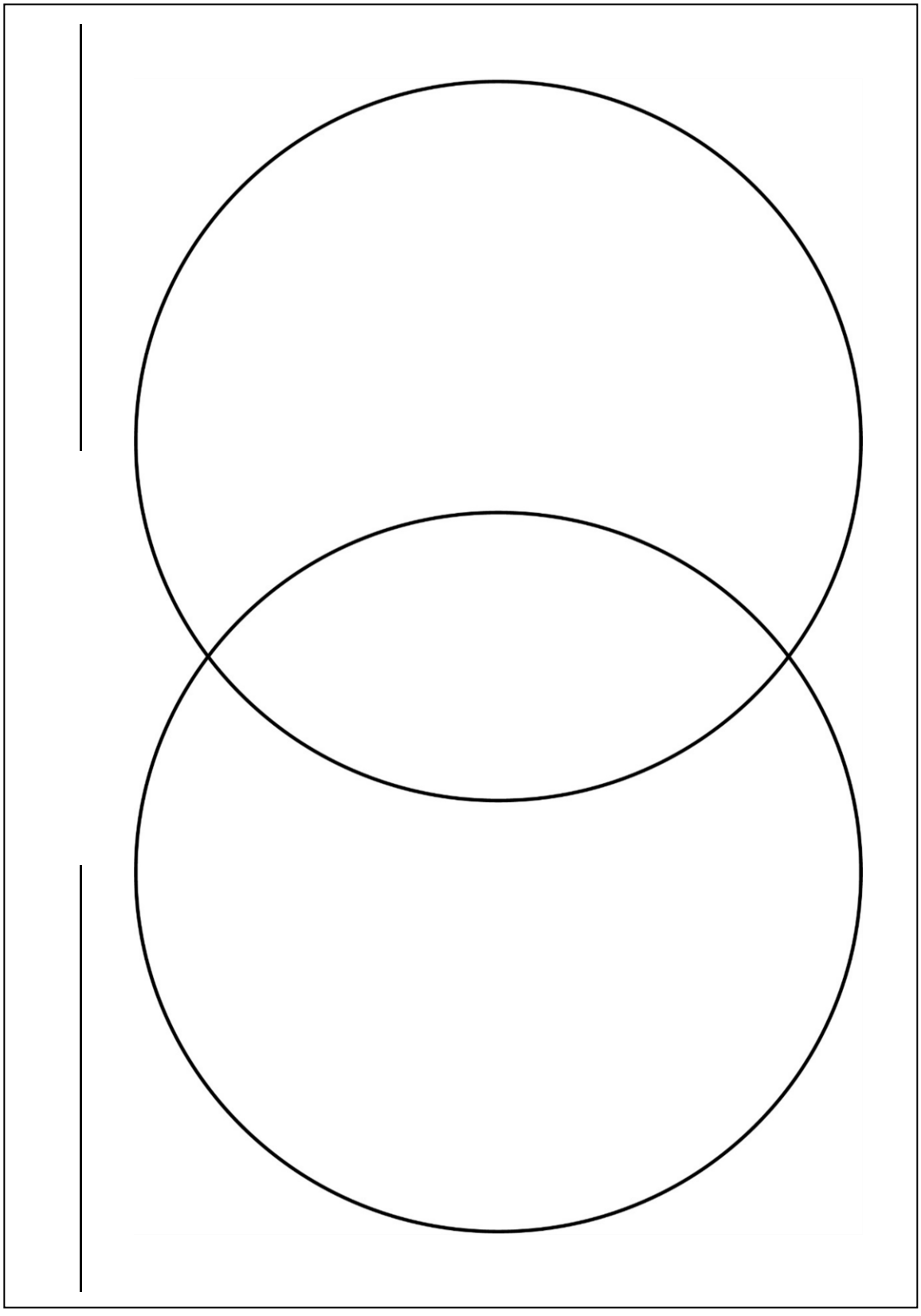
BC/YT

Kindergarten
Concrete or pictorial graphs as a visual tool for the class • Teachers may create concrete and pictorial graphs with their students to model the purpose of graphs and provide opportunities for mathematical discussions (e.g., survey the students about how they got to school, then represent the data in a graph and discuss together as a class)
Grade 1
Concrete graphs using one-to-one correspondence • creating, describing, and comparing concrete graphs (Activities 1, 2, 4) Cross Strands: Number concepts to 20 – comparing and ordering numbers to 20 Meaning of equality and inequality – demonstrating and explaining the meaning of equality and inequality Direct measurement with non-strandard units (non-uniform and uniform) – non-uniform units are not consistent in size (e.g., children's hands, pencils); uniform units are consistent in size (e.g., interlocking cubes, standard paper clips) – understanding the importance of using a baseline for direct comparison in linear measurement
Grade 2
Pictorial representation of concrete graphs using one-to-one correspondence • collecting data, creating a concrete graph, and representing the graph using a pictorial representation through grids, stamps, drawings • one-to-one correspondence

Name _____ Date _____

Master 2

Venn Diagram



Data Management and Probability

Master 3: Activity 1 Assessment

Sorting Data

Sorting Objects Using One Attribute Behaviours/Strategies			
Student identifies attributes of objects but struggles to sort them.  "The letters are of different colours and sizes. Some are big letters and some are small."	Student sorts a collection of objects in one way.  "These letters are small and these letters are big. I don't know how to sort them another way."	Student sorts a collection of objects in different ways but can't identify sorting rule for pre-sorted set.  "I sorted into 2 groups: letters with curves and letters without curves." "I'm not sure what the sorting rule is. The colours are different and the sizes are different." 	Student flexibly sorts a collection of objects in different ways and identifies sorting rule for pre-sorted set.  "The sorting rule is: Objects with holes and objects without holes."
Observations/Documentation			

Data Management and Probability

Master 4: Activity 2 Assessment

Interpreting Graphs

Reading Graphs Behaviours/Strategies		
Student doesn't understand what the pictograph shows.	Student counts one picture twice or mixes up the number word sequence. "I think I counted that ball already."	Student counts the objects but has difficulty reading the data from the graph (e.g., "Which column has the most pictures?").
Observations/Documentation		

Student reads data from the graph but has difficulty comparing the data.	Student reads and compares data on each graph but struggles to compare the two graphs to see how the information displayed is alike and how it is different.	Student answers "how many" questions about the graph and compares data using terms such as "more," "fewer," "most," and "least."
Observations/Documentation		

Data Management and Probability

Master 5: Activity 3 Assessment

Making Concrete Graphs

Making Concrete Graphs Behaviours/Strategies			
Student has difficulty sorting the cubes.	Student sorts the cubes into piles on the graph. 	Student sorts cubes in lines, but cubes are not equally spaced and aligned. 	Student sorts cubes in lines on the graph, placing one cube in each space. 
Observations/Documentation			

Reading Concrete Graphs Behaviours/Strategies			
Student has difficulty counting the number of cubes in a column. "I think I counted that cube already."	Student sorts and counts the cubes but has difficulty reading simple data from the graph (e.g., "Which column has the most cubes?").	Student reads data from the graph but has difficulty comparing the data.	Student answers "how many" questions about the graph and compares data using terms such as "more," "fewer," "most," and "least."
Observations/Documentation			

Name_____ Date _____

Master 6

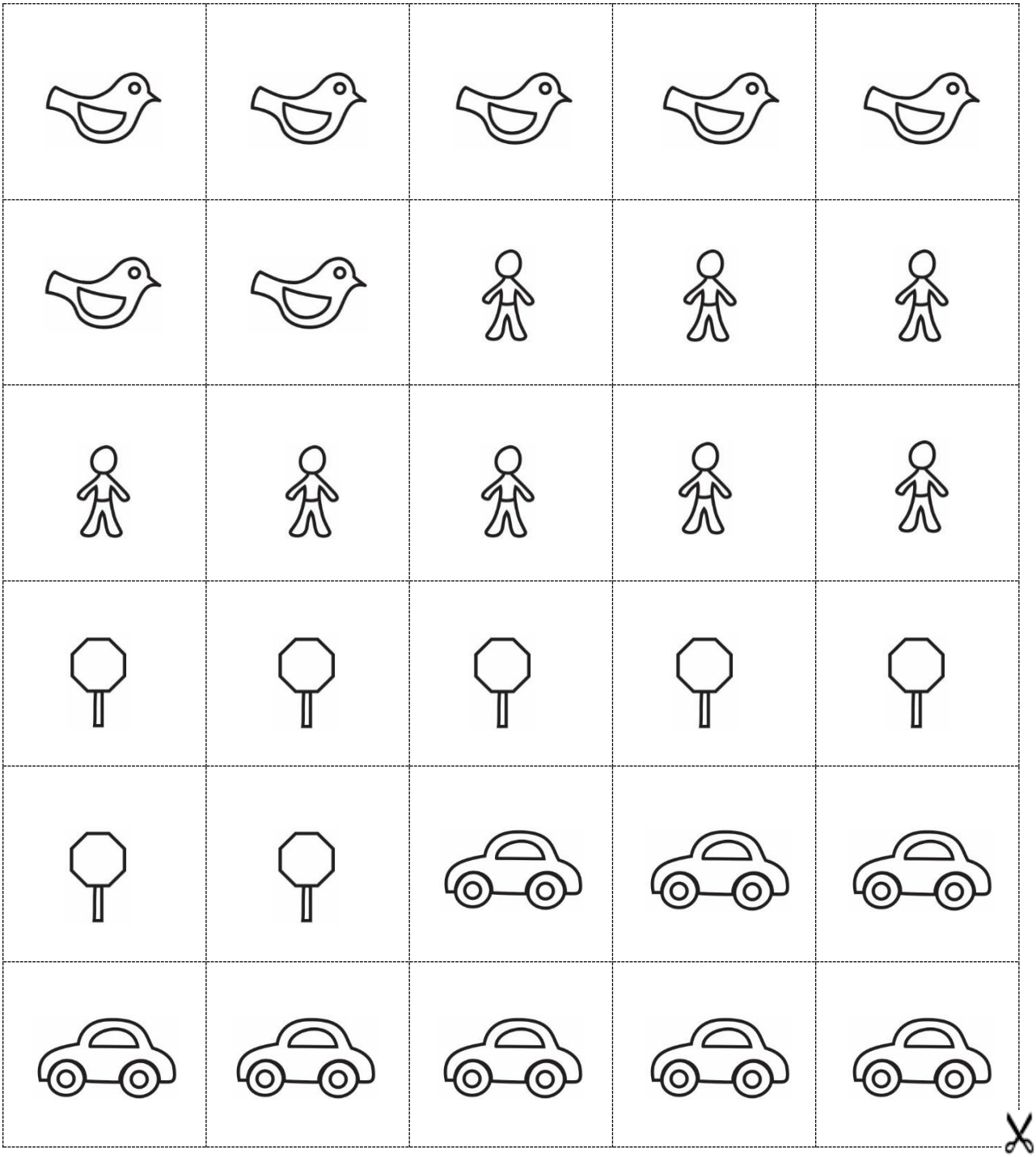
Tally Chart

Bird	Person	Stop Sign	Car
				

Name_____ Date _____

Master 7

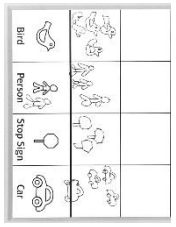
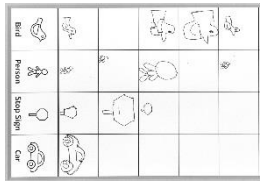
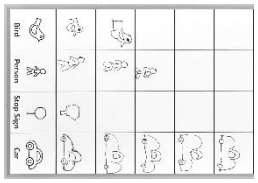
Pictograph Pictures



Data Management and Probability

Master 8: Activity 4 Assessment

Making Pictographs

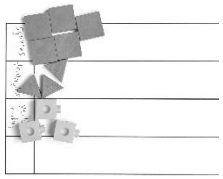
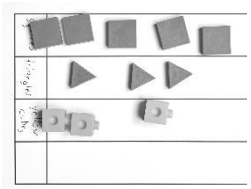
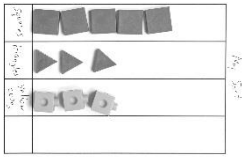
Making Pictographs Behaviours/Strategies			
Student has difficulty translating the information from the tally chart to the pictograph.	Student bunches pictures together on the graph. 	Student draws pictures in lines, but pictures are of different sizes and are not equally spaced and aligned. 	Student draws pictures in lines, all pictures are about the same size, and there is one picture in each space. 
Observations/Documentation			

Reading Pictographs Behaviours/Strategies			
Student has difficulty counting the number of pictures in a column.	Student draws and counts the pictures but has difficulty reading data from the graph (e.g., “Which column has the most pictures?”).	Student reads data from the graph but has difficulty comparing the data.	Student answers “how many” questions about the graph and compares data using terms such as “more,” “fewer,” “most,” and “least.”
Observations/Documentation			

Data Management and Probability

Master 9: Activity 5 Assessment

Data Management: Consolidation

Making Graphs Behaviours/Strategies			
Student has difficulty sorting the objects into three groups.	Student places objects or draws pictures in groups on the graph. 	Student sorts in lines, but objects or pictures are not equally spaced and aligned. Pictures may be of different sizes. 	Student sorts in lines, all pictures are about the same size, and objects or pictures are equally spaced and aligned. Graph has a title and labels. 
Observations/Documentation			

Reading Graphs Behaviours/Strategies			
Student has difficulty counting the number of objects in a column.	Student makes a pictograph or concrete graph but has difficulty reading data from the graph (e.g., "Which column has the most pictures or objects?").	Student reads data from the graph but has difficulty comparing the data.	Student answers "how many" questions about the graph and compares and orders data using terms such as "more," "fewer," "most," and "least."
Observations/Documentation			

Master 10a

Curriculum Correlation

Data Management and Probability Cluster 2: Probability and Chance

ON

Kindergarten
20.6 use mathematical language (e.g., “always/ sometimes/never”; “likely/unlikely”) in informal discussions to describe probability in familiar, everyday situations (e.g., “Sometimes Kindergarten children like pizza more than hot dogs”; “It is likely that January will be a snowy month”)
Grade 1
Data Management and Probability Probability – describe the likelihood that everyday events will occur, using mathematical language (i.e., impossible, unlikely, less likely, more likely, certain) (e.g., “It’s unlikely that I will win the contest shown on the cereal box.”). (Activities 5, 6)
Grade 2
Data Management and Probability Probability – describe probability as a measure of the likelihood that an event will occur, using mathematical language (i.e., impossible, unlikely, less likely, equally likely, more likely, certain) (e.g., “If I take a new shoe out of a box without looking, it’s equally likely that I will pick the left shoe or the right shoe.”) – describe the probability that an event will occur (e.g., getting heads when tossing a coin, landing on red when spinning a spinner), through investigation with simple games and probability experiments and using mathematical language (e.g., “I tossed 2 coins at the same time, to see how often I would get 2 heads. I found that getting a head and a tail was more likely than getting 2 heads.”) (Sample problem: Describe the probability of spinning red when you spin a spinner that has one half shaded yellow, one fourth shaded blue, and one fourth shaded red. Experiment with the spinner to see if the results are what you expected.).

Master 10b

Curriculum Correlation

Data Management and Probability Cluster 2: Probability and Chance

BC/YT

Kindergarten
Likelihood of familiar life events • using the language of probability, such as unlikely or likely (e.g., Could it snow tomorrow?)
Grade 1
Likelihood of familiar life events using comparative language • using the language of probability (e.g., never, sometimes, always, more likely, less likely) (Activities 5, 6)
Grade 2
Likelihood of familiar life events using comparative language • using comparative language (e.g., certain, uncertain; more, less, or equally likely)

Name_____ Date _____

Master 11

Could It Happen? Events

1. The sun will come up in the morning.
2. Someone in our class will cough today.
3. Two students will get the flu tomorrow.
4. Cats will start flying this afternoon.
5. Three people in our class will have a birthday in June.
6. We will stay at school all night long.
7. We will play indoors today.
8. Our teacher will wear a cape to school this week.
9. I will make someone smile today.
10. It will rain here this winter.
11. I will sleep tonight.
12. I will hear a bird sing today.
13. A rabbit will eat my lunch tomorrow.
14. I will go fishing today.
15. I will go to school by boat.

Name_____ Date _____

Master 12

More Likely or Less Likely

I will wear ski boots.	or	I will wear a hat.
I will ride a bicycle.	or	I will ride a horse.
I will eat a mango.	or	I will eat a banana.
I will ride in an airplane.	or	I will ride in a car.
I will wear something with red stars.	or	I will wear something blue.
I will have the hiccups.	or	I will laugh.
It will rain.	or	It will snow.
I will go to the circus.	or	I will play outside.
I will tell a story.	or	I will sing a song.
I will stay in bed all day tomorrow.	or	I will come to school tomorrow.

Data Management and Probability

Master 13: Activity 6 Assessment

Likelihood of Events

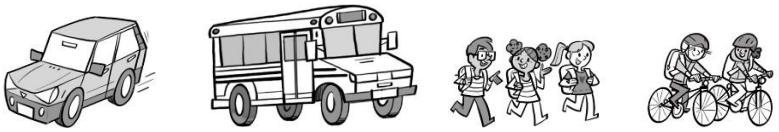
Determining the Likelihood of an Event Behaviours/Strategies			
Student struggles to use the language of chance and has difficulty identifying and describing events according to their likelihood.	Student decides the likelihood of an event based on ideas of luck. Decisions and descriptions of likelihood are impulsive and thinking cannot be justified. "I am certain to see four red cars on the street today because red is my favourite colour."	Student uses the language of chance to identify and describe single events. Student compares events and most often says which one is more likely, but has a difficult time justifying his or her thinking. "It is more likely that I will sleep tonight, but I don't know why."	Student uses the language of chance to compare and describe events. She or he compares events and describes which one is more likely. "It is more likely to rain today because it is cloudy outside."
Observations/Documentation			

Name_____ Date _____

Master 14

Survey Questions

How do you get to school?

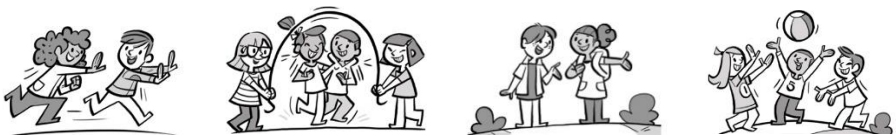


What's your favourite fruit?

What do you usually drink with your lunch?

If you could get rid of one vegetable forever, what would it be?

What do you like to do best after school?



What's your favourite season?

Spring Summer Fall Winter

Name_____ Date _____

Master 15

Recording Our Data

Our survey question:

Possible answers:

Name_____ Date _____

Master 16

Our Survey Results

Our Classroom

Which answer has the most tally marks? _____

How many? _____

Which answer has the fewest tally marks? _____

How many? _____

Do you think you will get the same results in the other class? ___

What do you **predict**? _____

_____

Other Classroom

Which answer has the most tally marks? _____

How many? _____

Which answer has the fewest tally marks? _____

How many? _____

Comparing Results

Do the results match your prediction? Explain.

_____

_____

Data Management and Probability

Master 17: Activity 7 Assessment

Making and Testing Predictions

Making and Testing Predictions Behaviours/Strategies			
Student makes predictions based on personal preferences or feelings. What is your favourite season: Spring, Summer, Fall, Winter? "My favourite season is Spring because of my birthday, so I think other people will pick Spring too."	Student makes reasonable predictions and uses past events to justify them. What is your favourite season: Spring, Summer, Fall, Winter? "Most students in our class chose Summer. So, I am certain the other class will choose Summer too."	Student makes reasonable predictions and tests them in another population but does not survey the same number of individuals. What is your favourite season: Spring, Summer, Fall, Winter? "In our class, 9 of 10 students chose Summer. I surveyed all students in the other class and 9 of 25 students chose Summer, so it's the same."	Student makes reasonable predictions and accurately tests those predictions. What is your favourite season: Spring, Summer, Fall, Winter? "In our class, 9 of 10 students chose Summer. I was certain most students in the other class would also choose Summer. Eight of the 10 students I surveyed did!"
Observations/Documentation			

Name_____ Date _____

Master 18a

Chance Words

Certain	Likely	Impossible
Certain	Likely	Impossible
Certain	Likely	Impossible
Certain	Likely	Impossible
Certain	Likely	Impossible
Certain	Likely	Impossible
Certain	Likely	Impossible

Name_____ Date _____

Master 18b

Chance Words

Possible	Unlikely
Possible	Unlikely
Possible	Unlikely
Possible	Unlikely
Possible	Unlikely
Possible	Unlikely
Possible	Unlikely

Data Management and Probability

Master 19: Activity 8 Assessment

Probability and Chance: Consolidation

Determining the Likelihood of an Event Behaviours/Strategies			
Student's picture does not match the chosen chance word.	Student makes decisions of likelihood based on what she or he would like to happen.	Student's picture matches the chosen chance word but student has a hard time justifying his or her thinking.	Student's picture matches the chosen chance word and student justifies his or her thinking. Student compares events, says which one is more likely, and predicts the likelihood of the same frequency of events in another place.
Observations/Documentation			