**Master 1**

**Pearson mathology**

# Mathology Grade 1 Correlation – Alberta
## Data Management Cluster 1: Data Management

**Organizing Idea:**
Statistics: The science of collecting, analyzing, visualizing, and interpreting data can inform understanding and decision making.

| Guiding Question: How can data be used to answer questions about the world? |||||
|---|---|---|---|---|
| **Learning Outcome:** Students investigate and represent data. |||||
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Data can be collected information. | Data can be answers to questions. | Share wonderings about people, things, events, or experiences. | **Data Management Cluster 1: Data Management**<br><br>3: Data in Our World | Graph It! |
| | | Gather data by sharing answers to questions. | **Data Management Cluster 1: Data Management**<br><br>1: Making Concrete Graphs<br>2: Making Pictographs | Graph It! |
| A graph is a visual representation of data.<br><br>A graph can represent data by using objects, pictures, or numbers. | Data can be represented in a graph. | Collaborate to construct a concrete graph using data collected in the learning environment. | **Data Management Cluster 1: Data Management**<br><br>1: Making Concrete Graphs<br>4: Consolidation | Graph It! |
| | | Create a pictograph from a concrete graph. | **Data Management Cluster 1: Data Management**<br><br>2: Making Pictographs<br>4: Consolidation | Graph It! |

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# Master 2: Activity 1 Assessment
## Making Concrete Graphs

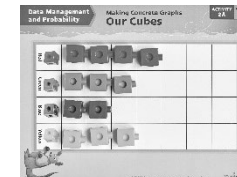| Making Concrete Graphs Behaviours/Strategies | | | |
|---|---|---|---|
| Student has difficulty sorting the cubes. | Student sorts the cubes into piles on the graph. | Student sorts cubes in lines, but cubes are not equally spaced and aligned. | Student sorts cubes in lines on the graph, placing one 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** | | | |
|  |  |  |  |
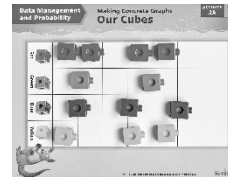
Name_____   Date _____

# Tally Chart

| Bird | Person | Stop Sign | Car |
|------|--------|-----------|-----|
|      |        |           |     |

# Pictograph Pictures

# Master 5: Activity 2 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. |
|---|---|---|---|
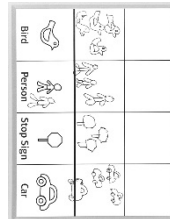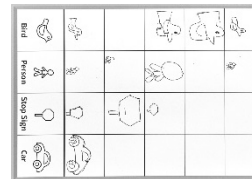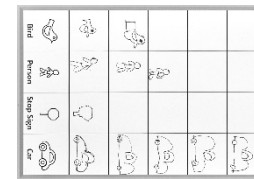
### Observations/Documentation

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

## 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

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

# Master 6: Activity 3 Assessment
## Data Management: Data in Our World

| Investigating and Representing Data Behaviours/Strategies | | | |
|---|---|---|---|
| Student struggles to share wonderings about people, things, events, or experiences. | Student shares wonderings, creating a survey question, but has difficulty identifying appropriate responses for the question to gather data. | Student shares wonderings, creating a survey question, but struggles to gather data by sharing the question. | Student shares wonderings about people, things, events, or experiences and gathers data by finding answers to questions. |
| **Observations/Documentation** | | | |
| | | | |

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Name_____ Date _____

**Party Time**

Complete the question below or write your own.
Write 4 possible answers.

What _____ should we bring for the party?

_____

_____


**Possible answers:**

| _____ | _____ | _____ | _____ |
|---|---|---|---|
|  |  |  |  |


**What this tells us:**

Most people want us to bring _____.

Fewest people want us to bring _____.

# Master 7: Activity 4 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 data using terms such as "more," "fewer," "most," and "least." |
| **Observations/Documentation** | | | |
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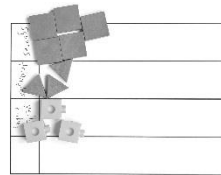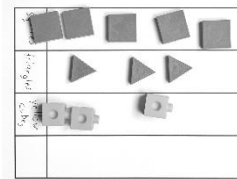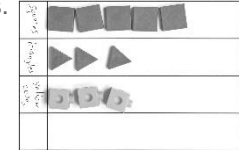
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**Mathology Grade 1 Correlation – Alberta**
**Geometry Cluster 1: 2-D Shapes**

**Organizing Idea:**
Geometry: Shapes are defined and related by geometric attributes.

| Guiding Question: In what ways can shape be characterized? | | | | |
|---|---|---|---|---|
| Learning Outcome: Students interpret shape in two and three dimensions. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Familiar two-dimensional shapes include<br>• squares<br>• circles<br>• rectangles<br>• triangles<br><br>Familiar three-dimensional shapes include<br>• cubes<br>• prisms<br>• cylinders<br>• spheres<br>• pyramids<br>• cones<br><br>A composite shape is composed of two or more shapes.<br><br>A line of symmetry indicates the division between the matching halves of a symmetrical shape. | A shape can be modelled in various sizes and orientations.<br><br>A shape is symmetrical if it can be decomposed into matching halves. | Identify familiar shapes in various sizes and orientations. | **Geometry Cluster 1: 2-D Shapes**<br>2: Identifying Triangles<br>3: Identifying Rectangles<br>4: Visualizing Shapes | Memory Book<br>What Was Here?<br><br>Kindergarten<br>The Castle Wall |
| | | Model two-dimensional shapes. | **Geometry Cluster 1: 2-D Shapes**<br>5: Constructing 2-D Shapes | |
| | | Sort shapes according to one attribute and describe the sorting rule. | **Geometry Cluster 1: 2-D Shapes**<br>1: Sorting Shapes<br>6: Sorting Rules<br>7: Consolidation | What Was Here? |
| | | Compose and decompose two- or three-dimensional composite shapes. | **Geometry Cluster 1: 2-D Shapes**<br>5: Constructing 2-D Shapes | The Tailor Shop |

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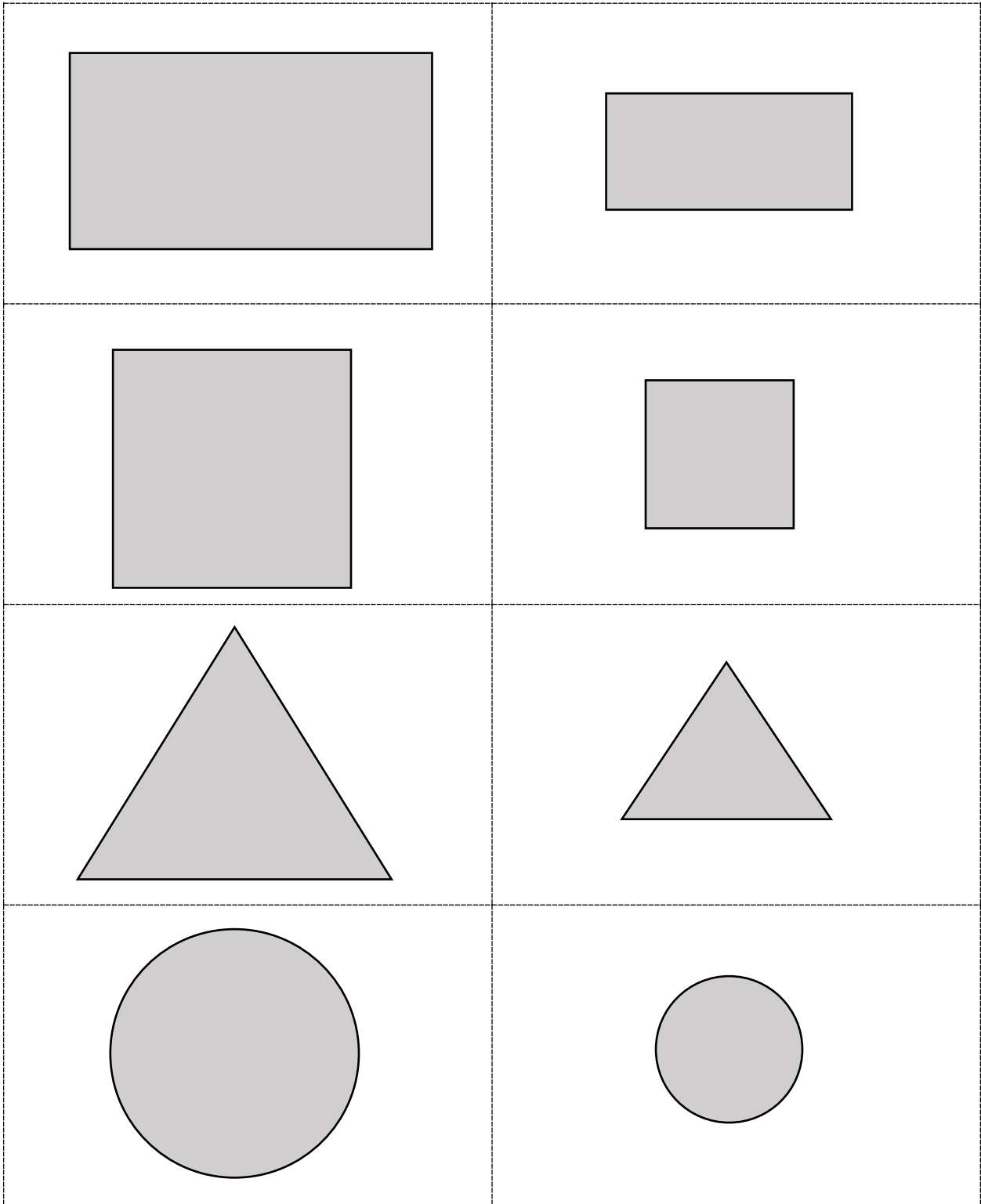
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# Attribute Shapes

**Master**

# Attribute Shapes
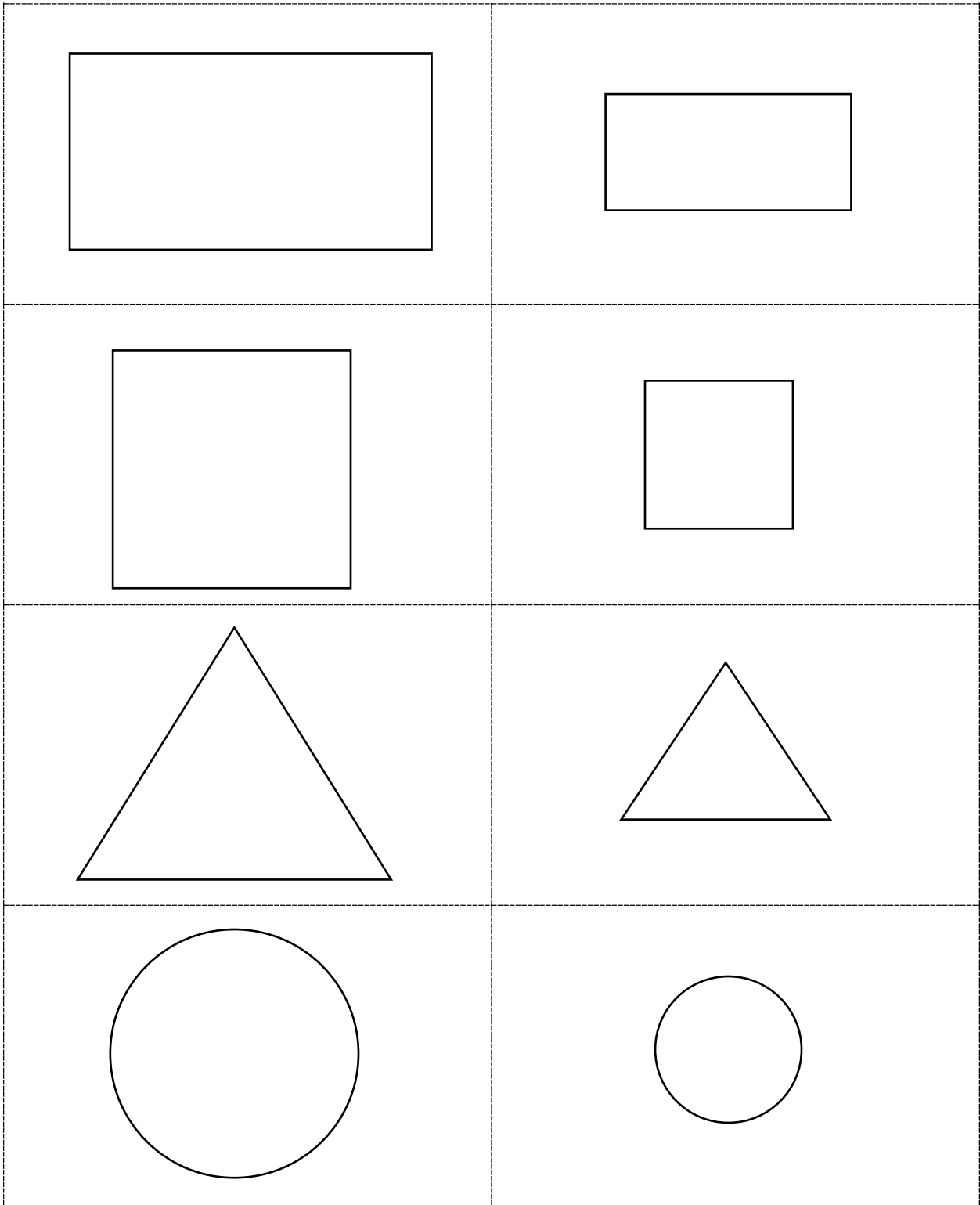
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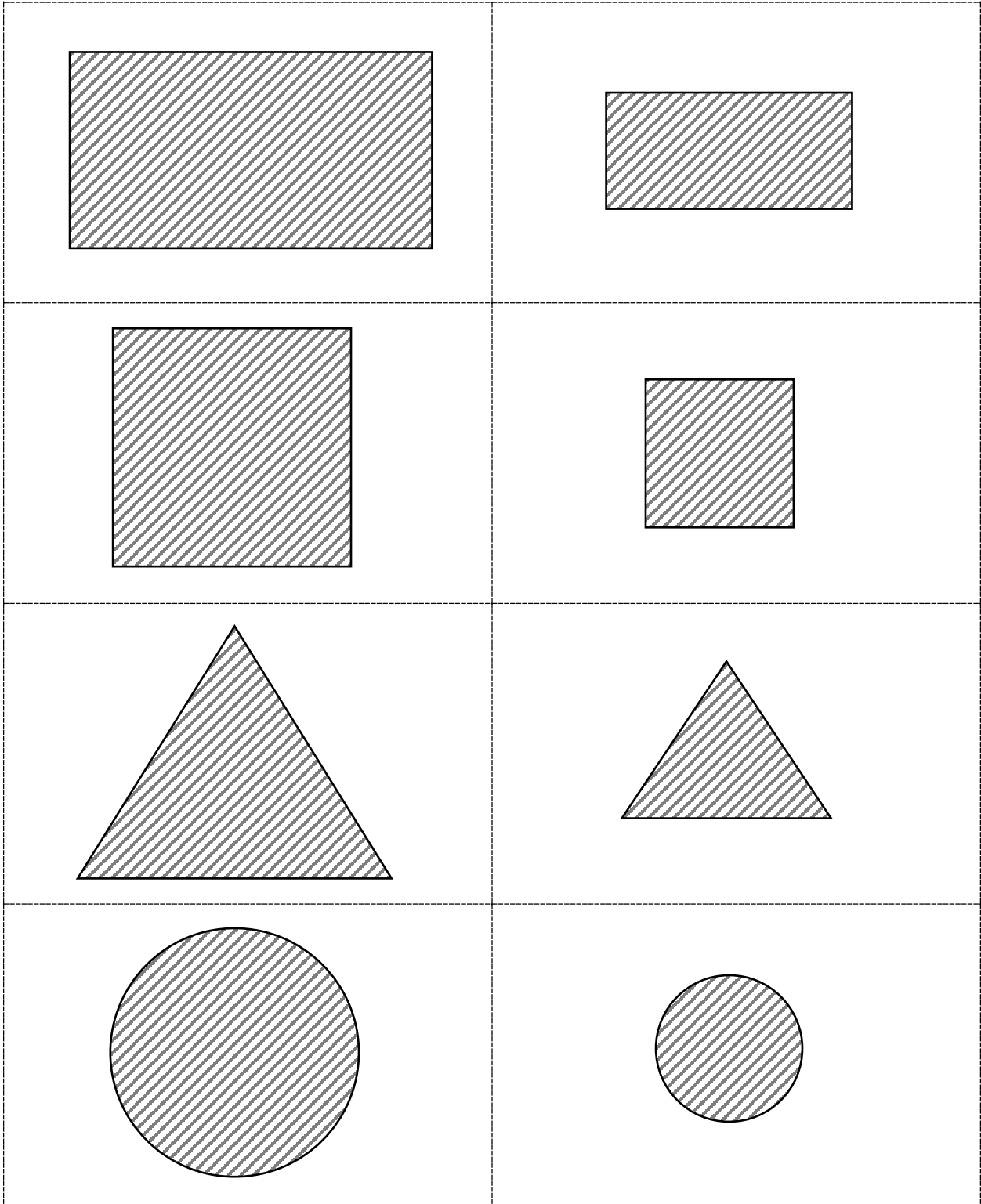
# Attribute Shapes

# 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** | | |
| | | |

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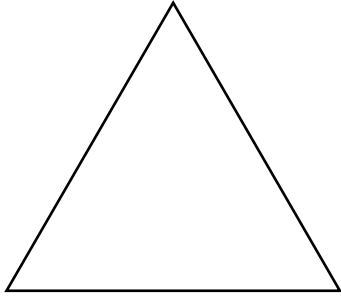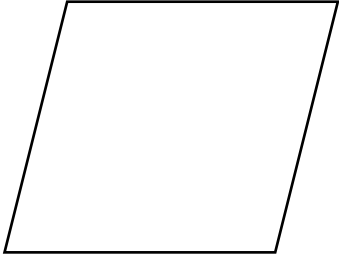
Same-Side Square is my name.
All four sides must be the same.
I have corners just like you,
'cause I'm a square and a rectangle too!

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

Name_____ Date _____
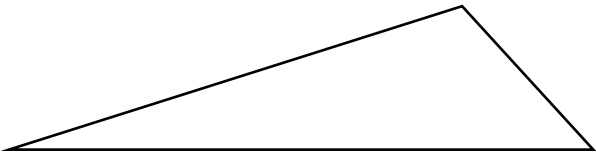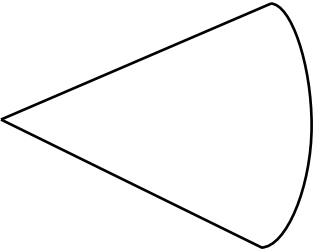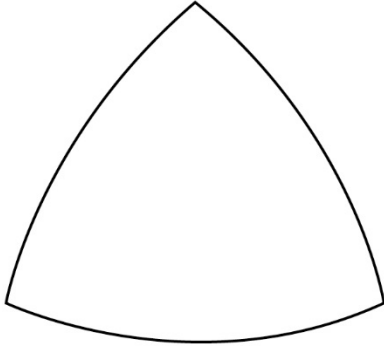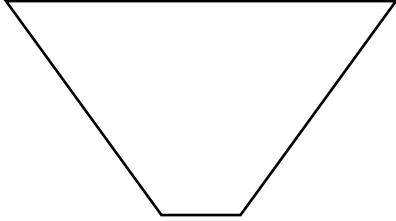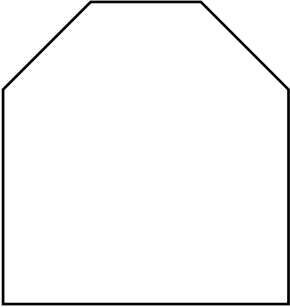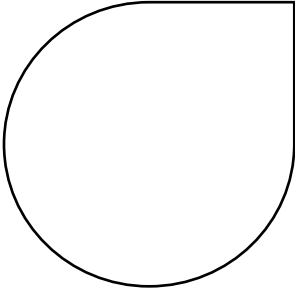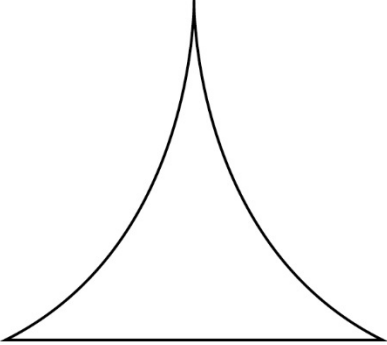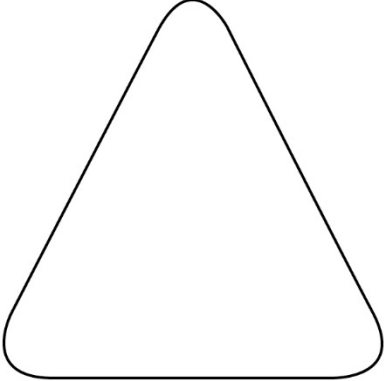
# Am I a Triangle? Cards

Name_____     Date _____

# Am I a Triangle? Cards

Name_____ Date _____
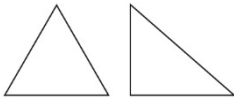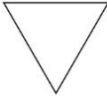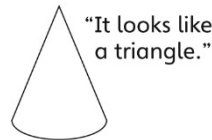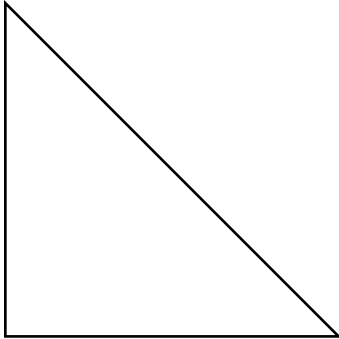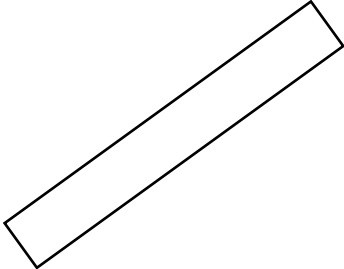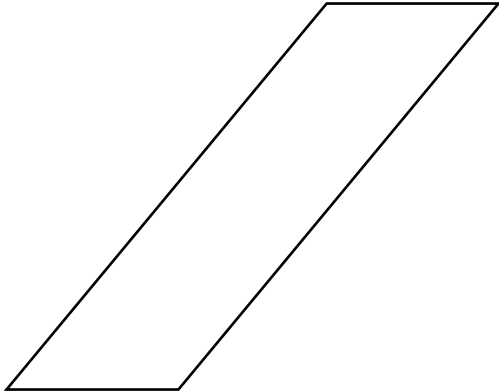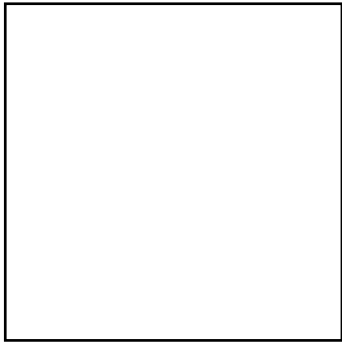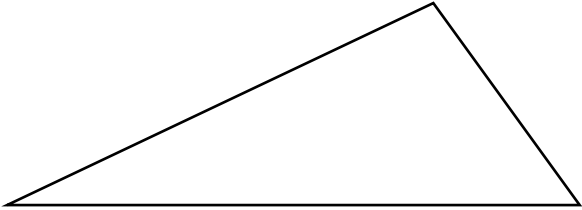
# Am I a Triangle? Cards

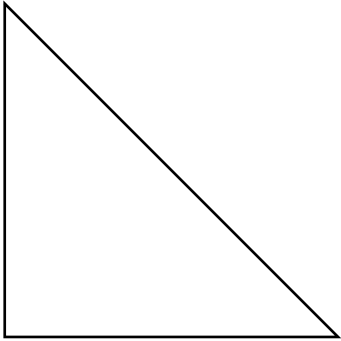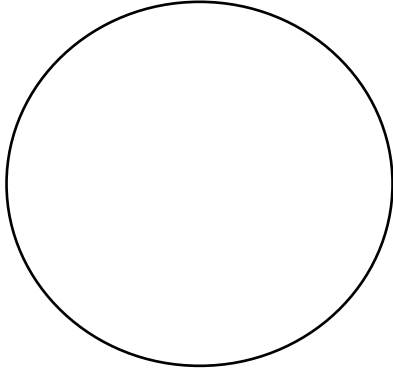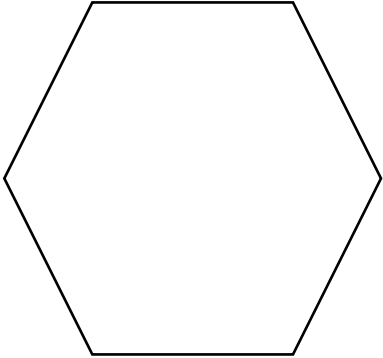| **Identifying Triangles Behaviours/Strategies** | | |
|---|---|---|
| Student does not have a mental image of a triangle and cannot identify a triangle. | Student only recognizes an equilateral or right triangle as a triangle. | Student recognizes some triangles but thinks that a triangle that is oriented differently is not a triangle. |
| **Observations/Documentation** | | |
| | | |
| Student uses a shape's appearance, not its geometric attributes, to identify a triangle. "It looks like 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** | | |
| | | |

**Master 7a**

# Am I a Rectangle? Cards
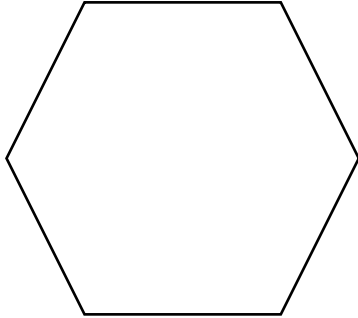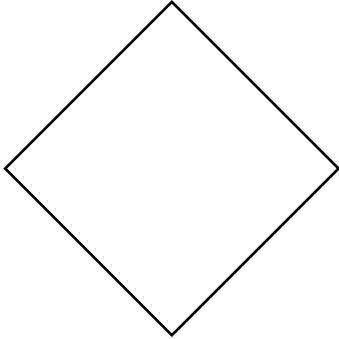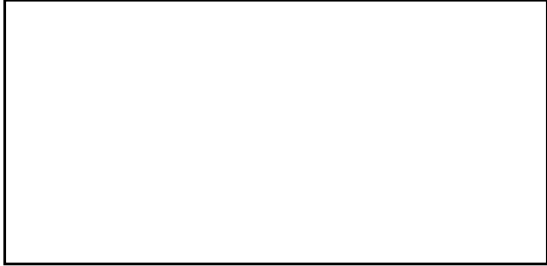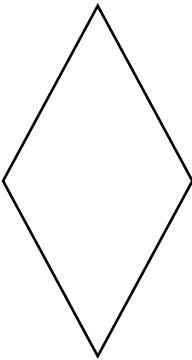
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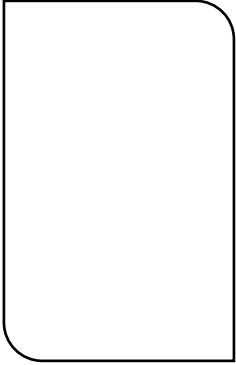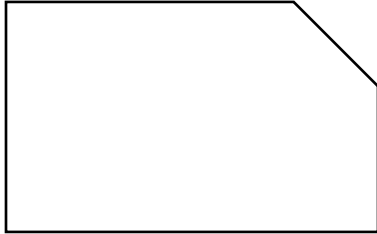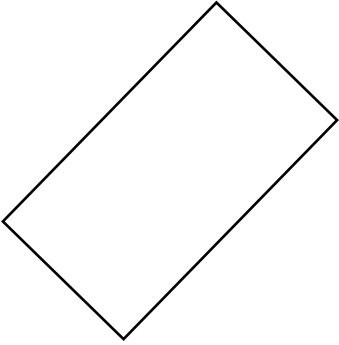
# Am I a Rectangle? Cards

Name_____ Date _____
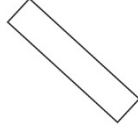
# Am I a Rectangle? Cards

# Master 8: Activity 3 Assessment
## Identifying Rectangles

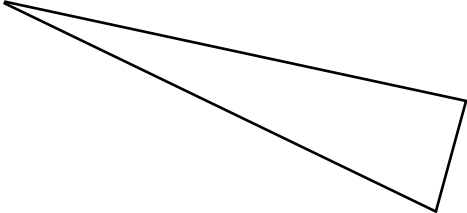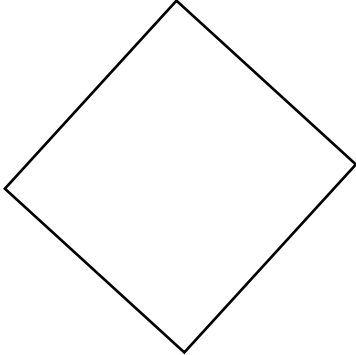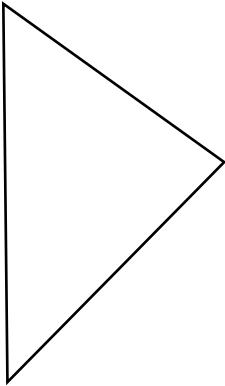| Identifying Rectangles Behaviours/Strategies | | |
|---|---|---|
| Student does not have a mental image of a rectangle and cannot identify a rectangle. | Student only recognizes a rectangle when it is lying on one of its longer sides. | Student recognizes some rectangles but thinks that a rectangle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

# 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.<br><br>"It feels like a hockey card."<br>"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** | | |
| | | |

# Master 10: Activity 5 Assessment
## Constructing 2-D Shapes

| **Constructing 2-D Shapes Behaviours/Strategies** | | |
|---|---|---|
| Student chooses materials, but struggles to construct 2-D shapes with given attributes (e.g., makes an open shape). <br><br> "This shape has 3 sides." | Student constructs 2-D shapes with given attributes, but makes typical shapes (e.g., equilateral triangle). <br><br> "This shape has 3 sides." | Student constructs 2-D shapes with 4 sides, but struggles to name the shape. |
| **Observations/Documentation** | | |
| | | |

| | | |
|---|---|---|
| Student constructs 2-D shapes with given attributes, but cannot describe how shapes are alike and how they are different. | Student constructs 2-D shapes with given attributes, but does not use math language to describe how shapes are alike and how they are different. <br><br> "They both have 3 points. One looks like a pizza slice and the other doesn't." | Student constructs 2-D shapes with given attributes and uses math language to describe how shapes are alike and how they are different. |
| **Observations/Documentation** | | |
| | | |
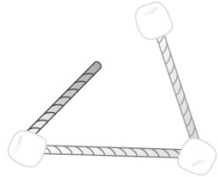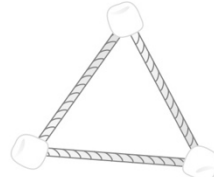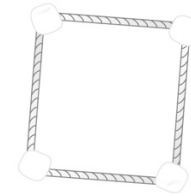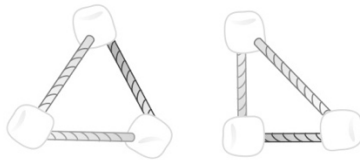
# Shape Cards

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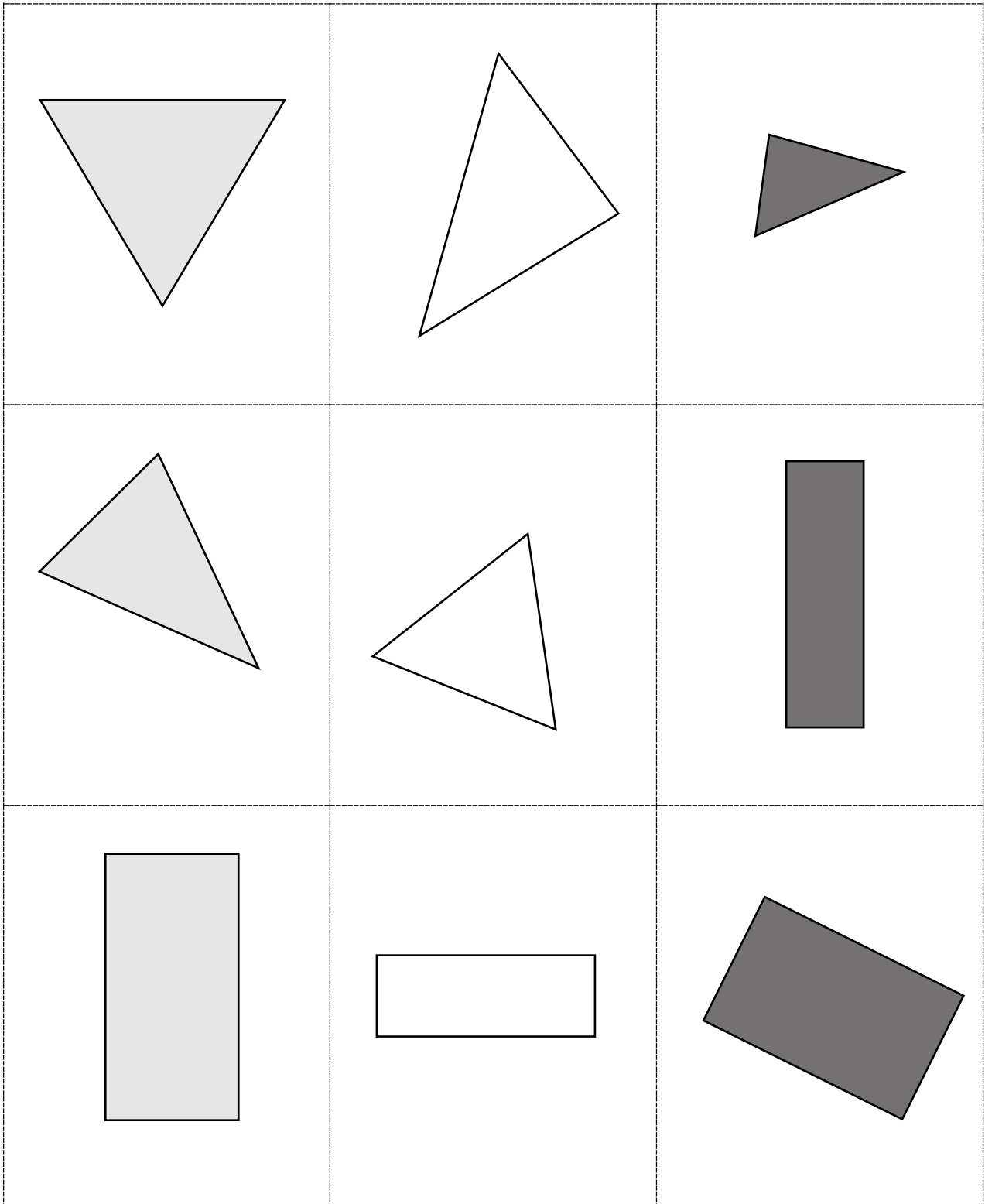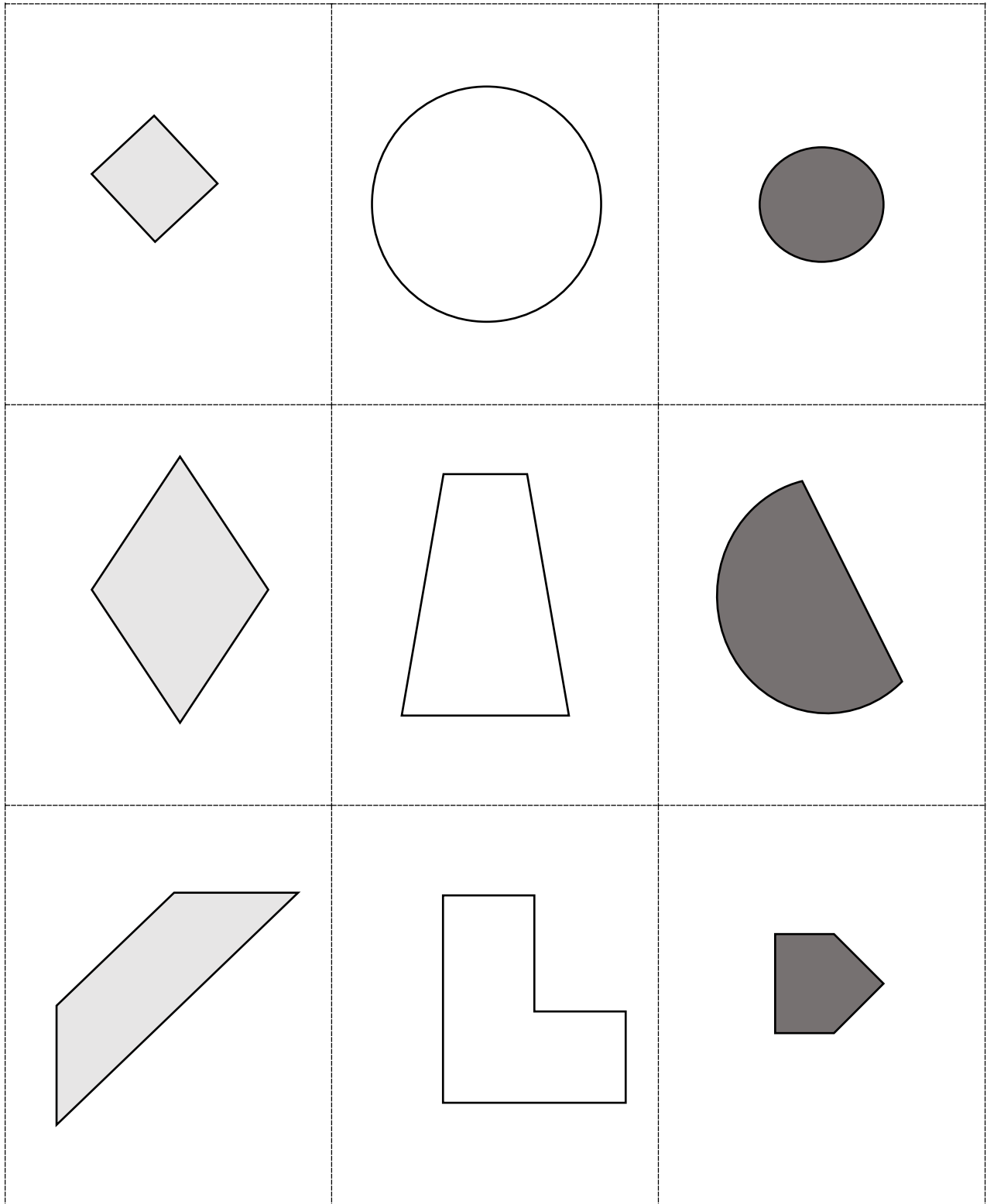
Name_____ Date _____

# Shape Cards

**Master 11c**

# Shape Cards

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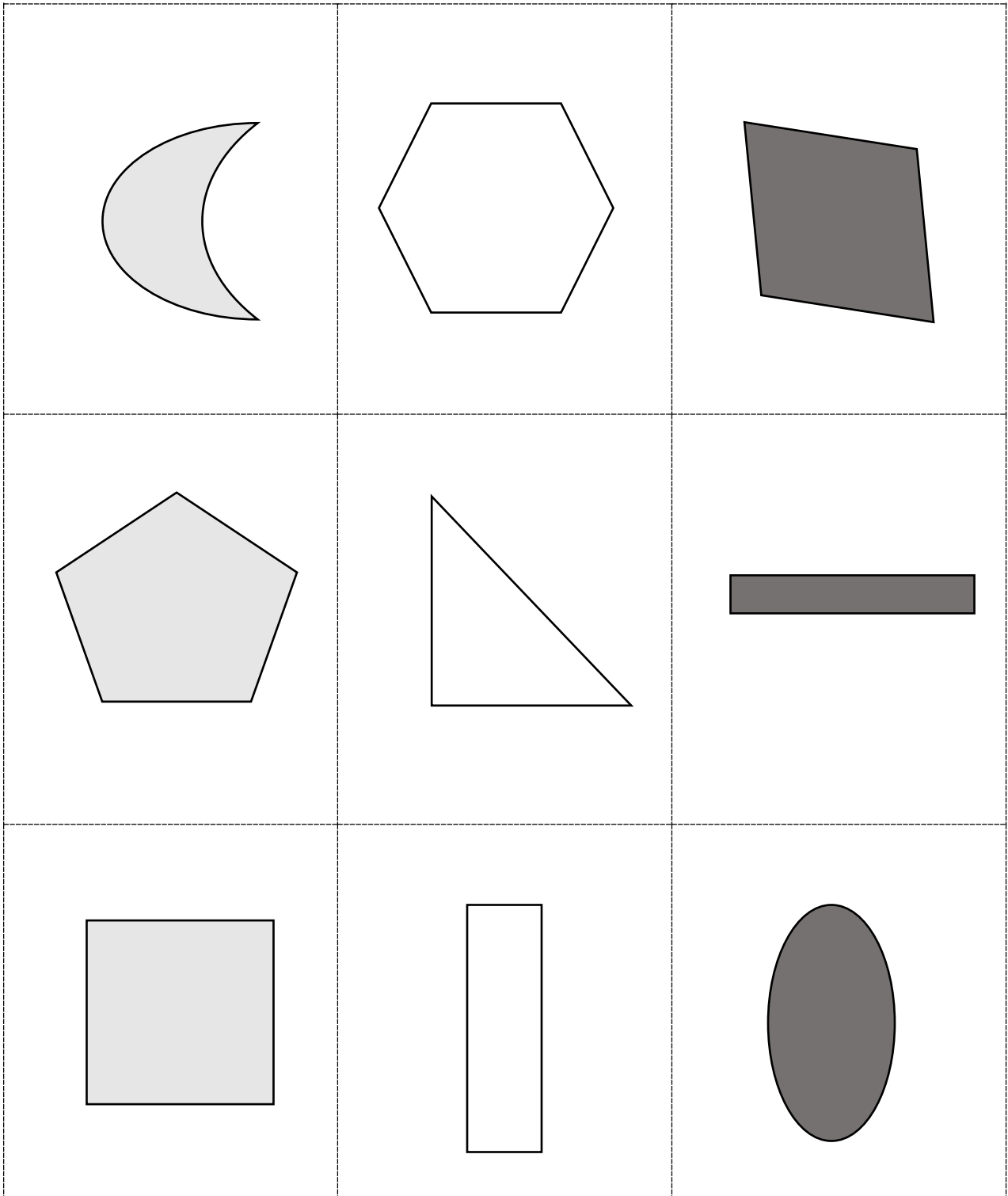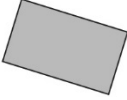
# Master 12: Activity 6 Assessment
## Sorting Rules

| Sorting Shapes and Identifying Sorting Rules Behaviours/Strategies | | |
|---|---|---|
| Student is unable to identify a shape with its mathematical name.<br><br>"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).<br><br>"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** | | |
| | | |

# Master 13: Activity 7 Assessment
## 2-D Shapes: Consolidation

| Sorting Shapes Behaviours/Strategies | | | |
|---|---|---|---|
| Student randomly sorts shapes without thinking about attributes.<br><br>"I just put shapes in columns. I didn't use a rule." | Student always sorts using non-geometric attributes (e.g., colour, size).<br><br>"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.<br><br>"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 is unable to 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** | | | |
|  |  |  |  |

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## Mathology Grade 1 Correlation – Alberta
## Geometry Cluster 2: 3-D Solids

**Organizing Idea:**

Geometry: Shapes are defined and related by geometric attributes.

| Guiding Question: In what ways can shape be characterized? | | | | |
|---|---|---|---|---|
| Learning Outcome: Students interpret shape in two and three dimensions. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Familiar two-dimensional shapes include <ul><li>squares</li><li>circles</li><li>rectangles</li><li>triangles</li></ul> Familiar three-dimensional shapes include <ul><li>cubes</li><li>prisms</li><li>cylinders</li><li>spheres</li><li>pyramids</li><li>cones</li></ul> A composite shape is composed of two or more shapes.<br><br>A line of symmetry indicates the division between the matching halves of a symmetrical shape. | A shape can be modelled in various sizes and orientations.<br><br>A shape is symmetrical if it can be decomposed into matching halves. | Identify familiar shapes in various sizes and orientations. | **Geometry Cluster 2: 3-D Solids**<br>8: Exploring 3-D Solids<br>9: Sorting 3-D Solids<br>10: Identify the Sorting Rule<br>11: Consolidation | Memory Book<br>What Was Here?<br><br>Kindergarten<br>The Castle Wall |
| | | Sort shapes according to one attribute and describe the sorting rule. | **Geometry Cluster 2: 3-D Solids**<br>8: Exploring 3-D Solids<br>9: Sorting 3-D Solids<br>10: Identify the Sorting Rule<br>11: Consolidation | What Was Here? |

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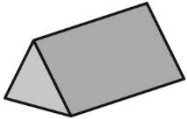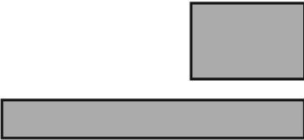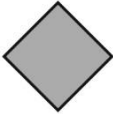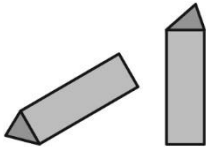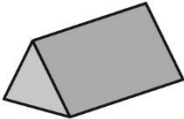
# Master 15: Activity 8 Assessment
## Exploring 3-D Solids

| 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. "It is this one, but I don't know what it is called." | Student correctly identifies and names the solid. "It is a rectangular prism." |
| **Observations/Documentation** | | | |
| | | | |
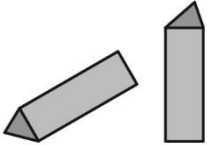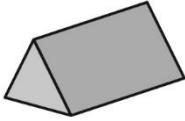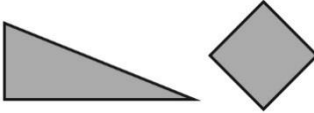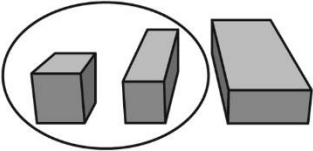
# Master 16: Activity 9 Assessment
## Sorting 3-D Solids

| 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 | | | |
|---|---|---|---|
| | | | |

# 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 doesn't fit the rule, and explains why the solid does not fit. |
| **Observations/Documentation** | | | |
| | | | |

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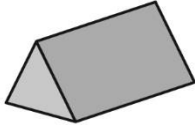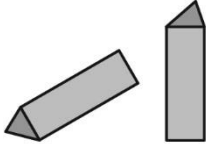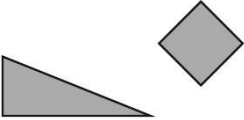
# The Unfinished Castle

# Master 19: Activity 11 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.<br><br>"I don't see any shapes." | Student identifies some faces but doesn't rotate the solid to see the different faces (shapes). |
| **Observations/Documentation** | | |
| | | |

| | | |
| --- | --- | --- |
| Student recognizes some shapes but doesn't recognize a shape when it doesn't match her or his mental image of the shape. | Student can only sort a solid in one way.<br><br>"It has a face that is a circle!" | Student can sort solids with ease. |
| **Observations/Documentation** | | |
| | | |

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**Pearson mathology**

## Mathology Grade 1 Correlation – Alberta
## Geometry Cluster 3: Geometric Relationships

**Organizing Idea:**

Geometry: Shapes are defined and related by geometric attributes.

| Guiding Question: In what ways can shape be characterized? |  |  |  |  |
|---|---|---|---|---|
| Learning Outcome: Students interpret shape in two and three dimensions. |  |  |  |  |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Familiar two-dimensional shapes include<br>• squares<br>• circles<br>• rectangles<br>• triangles<br><br>Familiar three-dimensional shapes include<br>• cubes<br>• prisms<br>• cylinders<br>• spheres<br>• pyramids<br>• cones<br><br>A composite shape is composed of two or more shapes.<br><br>A line of symmetry indicates the division between the matching halves of a symmetrical shape. | A shape can be modelled in various sizes and orientations.<br><br>A shape is symmetrical if it can be decomposed into matching halves. | Compose and decompose two- or three-dimensional composite shapes. | **Geometry Cluster 3: Geometric Relationships**<br>12: Making Shapes<br>13: Making Designs<br>14: Covering Outlines<br>17: Building with Solids<br>18: Consolidation | The Tailor Shop |
|  |  | Identify familiar shapes within two- or three-dimensional composite shapes. | **Geometry Cluster 3: Geometric Relationships**<br>12: Making Shapes<br>15: Identifying Shapes in Designs<br>16: Faces of Solids<br>17: Building with Solids | The Tailor Shop<br>What Was Here?<br>Memory Book<br><br>Kindergarten<br>The Castle Wall<br>Zoom In, Zoom Out |

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# Shapes from Squares
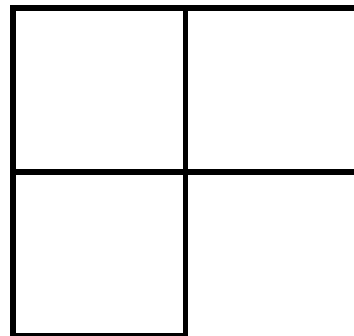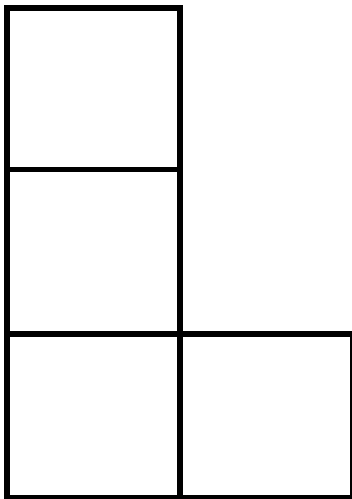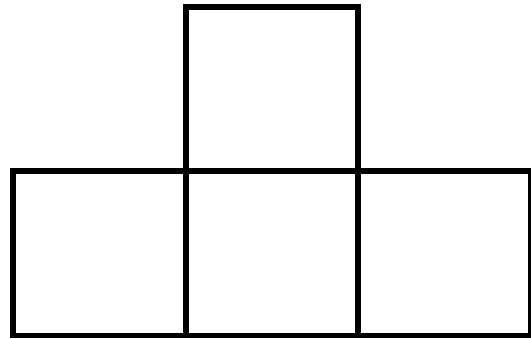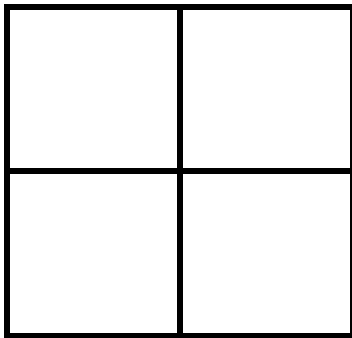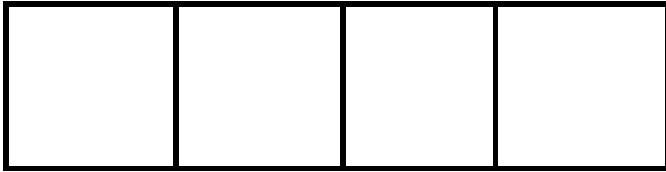
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# Fill the Hexagons

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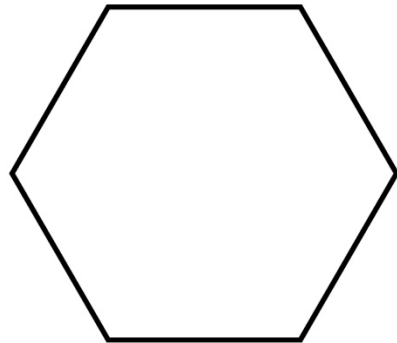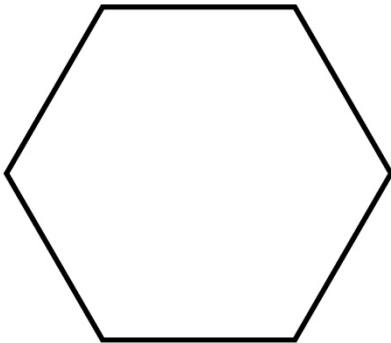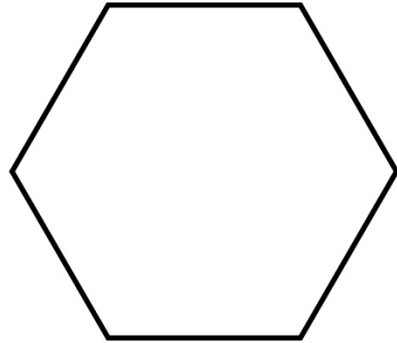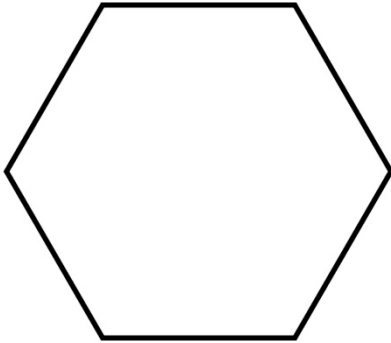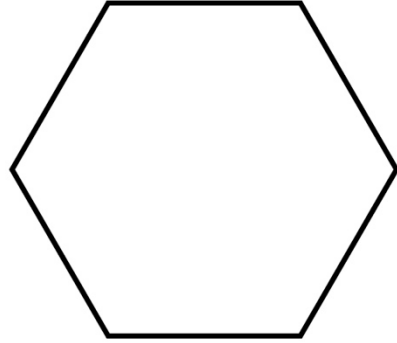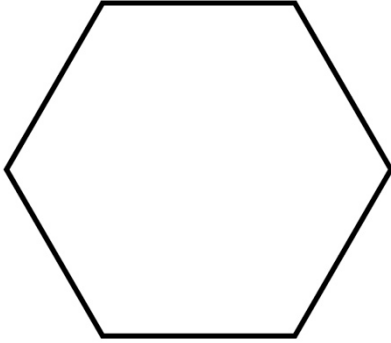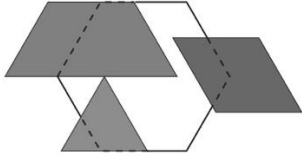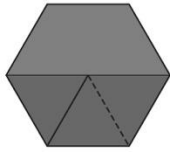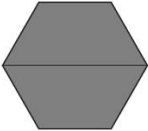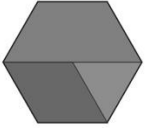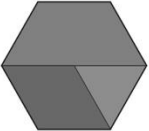
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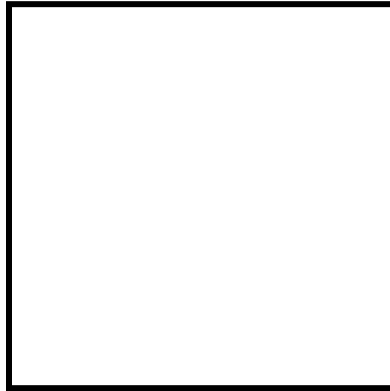
# Master 24: Activity 12 Assessment
## Making Shapes

| Constructing 2-D Shapes from Other Shapes Behaviours/Strategies | | |
|---|---|---|
| Student looks at the outline, but does not know which 2-D shapes to use to construct a composite shape (hexagon). | Student places blocks randomly with no thought to the outline to construct a composite shape (hexagon) from other 2-D shapes. | Student constructs a composite shape (hexagon) from other 2-D shapes, but leaves gaps or overlaps when using blocks to cover hexagon. |

**Observations/Documentation**

| | | |
|---|---|---|
| | | |

| | | |
|---|---|---|
| Student constructs a composite shape (hexagon) from other 2-D shapes, but cannot construct it in a different way. | Student constructs a composite shape (hexagon) from other 2-D shapes, but struggles to describe and identify shapes used. "I used a red, a green, and a blue block." | Student constructs a composite shape (hexagon) from other 2-D shapes in different ways and identifies shapes used. "I used a trapezoid, a rhombus, and a triangle." |

**Observations/Documentation**

| | | |
|---|---|---|
| | | |

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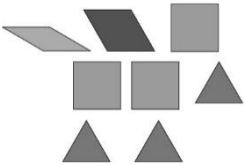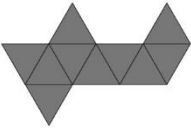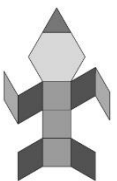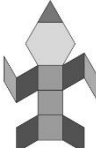
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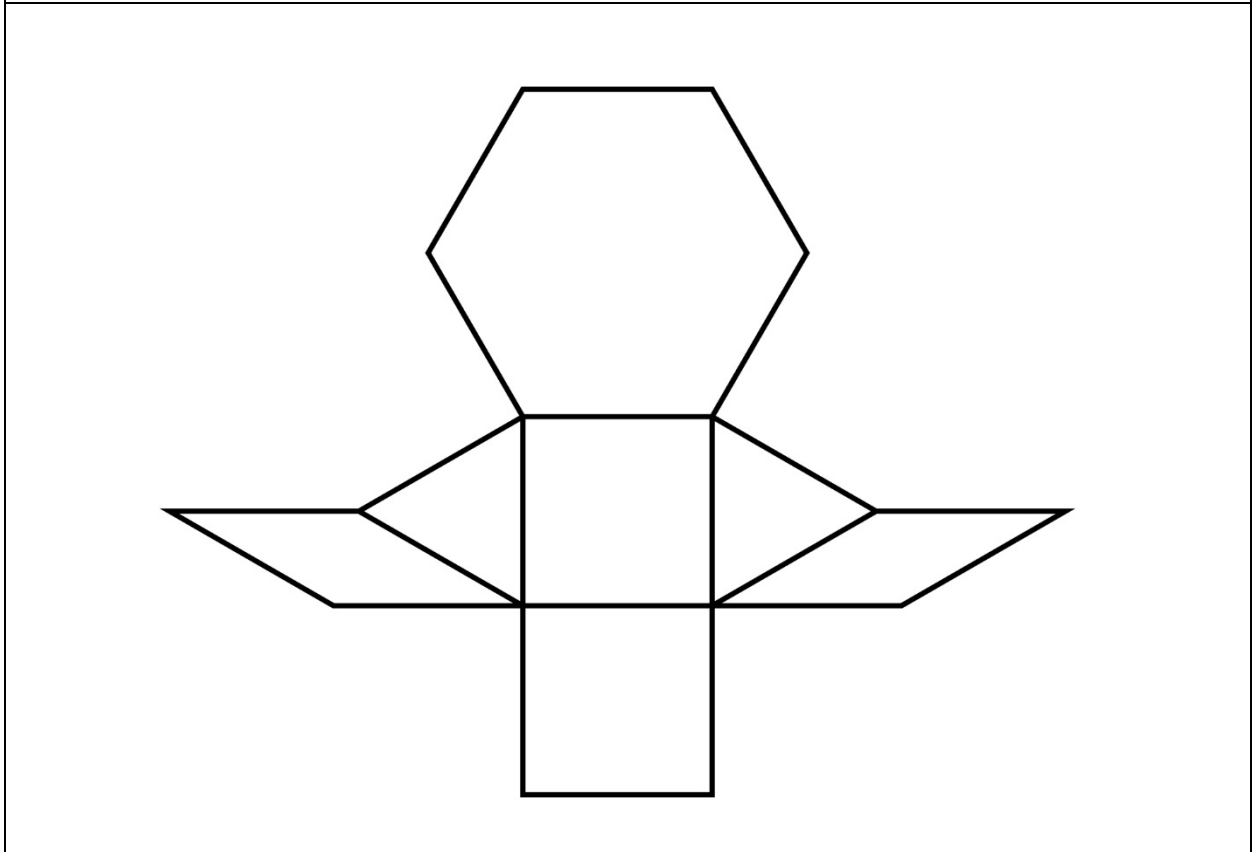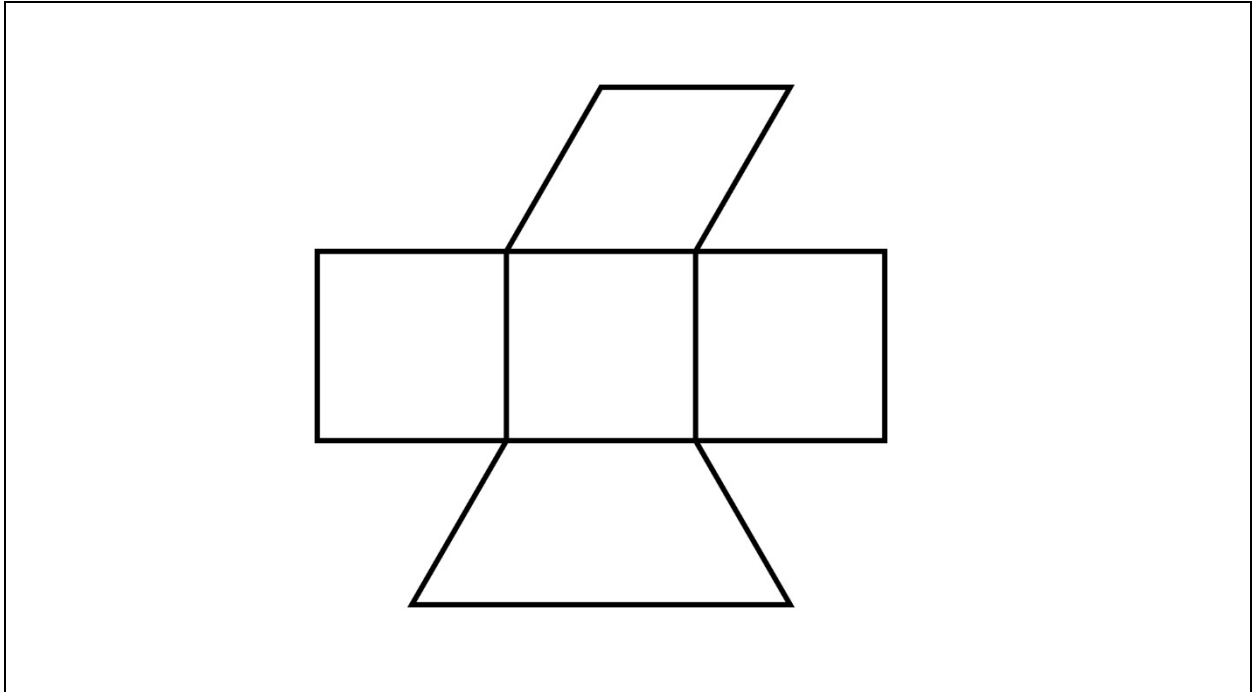
# Master 26: Activity 13 Assessment
## Making Designs

| Making Designs Behaviours/Strategies | | |
|---|---|---|
| Student makes a design or picture with no blocks touching. | Student makes a design or picture where some blocks are touching only at vertices. | Student makes a design or picture using only one type of block. |
| **Observations/Documentation** | | |
| | | |

| Student makes a design or picture where blocks match on at least one side, but has difficulty describing the design. | Student calls the blue rhombuses rectangles when describing the picture or design. "I used 4 blue rectangles and 3 orange squares." | Student makes a picture or design where blocks match on at least one side, and describes it using geometric and spatial language. |
|---|---|---|
| **Observations/Documentation** | | |
| | | |

# Master 27: Activity 14 Assessment
## Covering Outlines

| Covering Outlines with Pattern Blocks Behaviours/Strategies | | |
|---|---|---|
| Student randomly places blocks on the outline with no thought to the lines shown. | Student attempts to place the blocks without going over the lines. | Student has difficulty seeing shapes other than triangles in the outline. "I don't see where the yellow block can fit." |

| Observations/Documentation | | |
|---|---|---|
| | | |

| Student always tries to place the blocks in an upright position. "I don't see where another red block can fit." | Student fits blocks within the lines to fill the outline, but thinks there is only one way to fill it. | Student fits blocks within the lines to fill the outline and realizes there are many ways to fill it. |
|---|---|---|

| Observations/Documentation | | |
|---|---|---|
| | | |
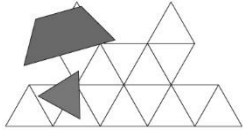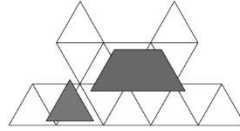
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# Quilt Design

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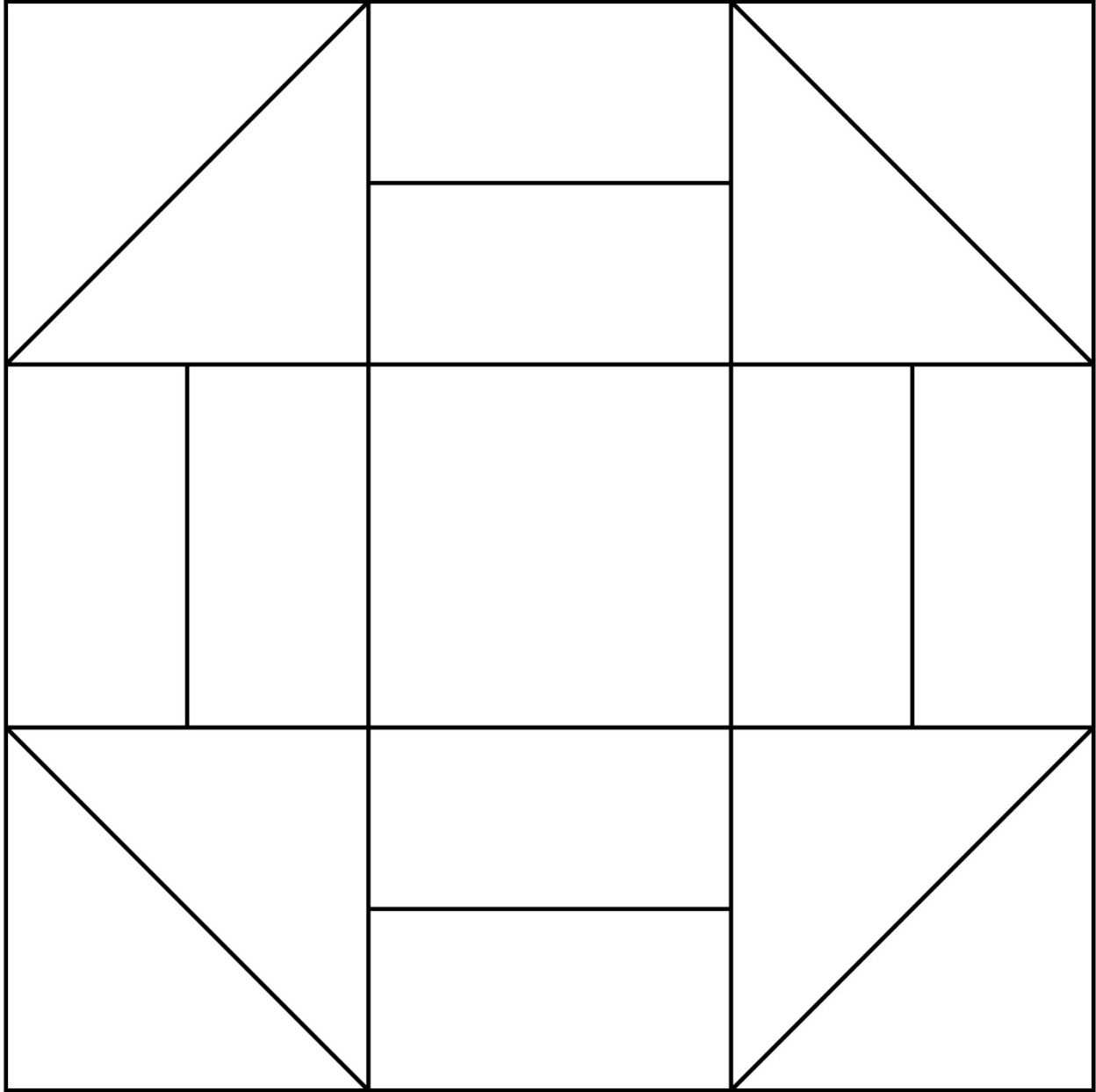
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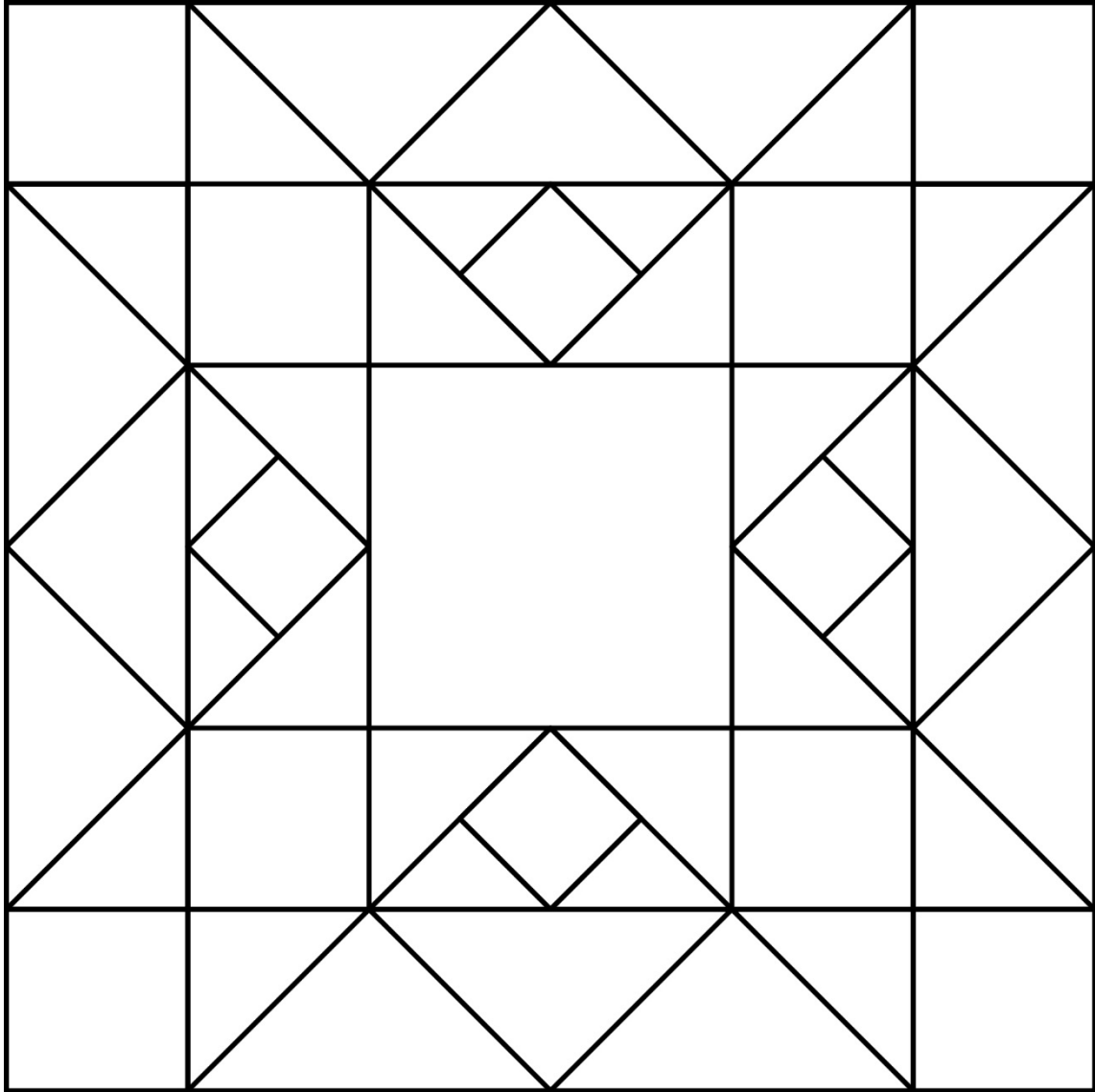
*Find the Shapes* Designs
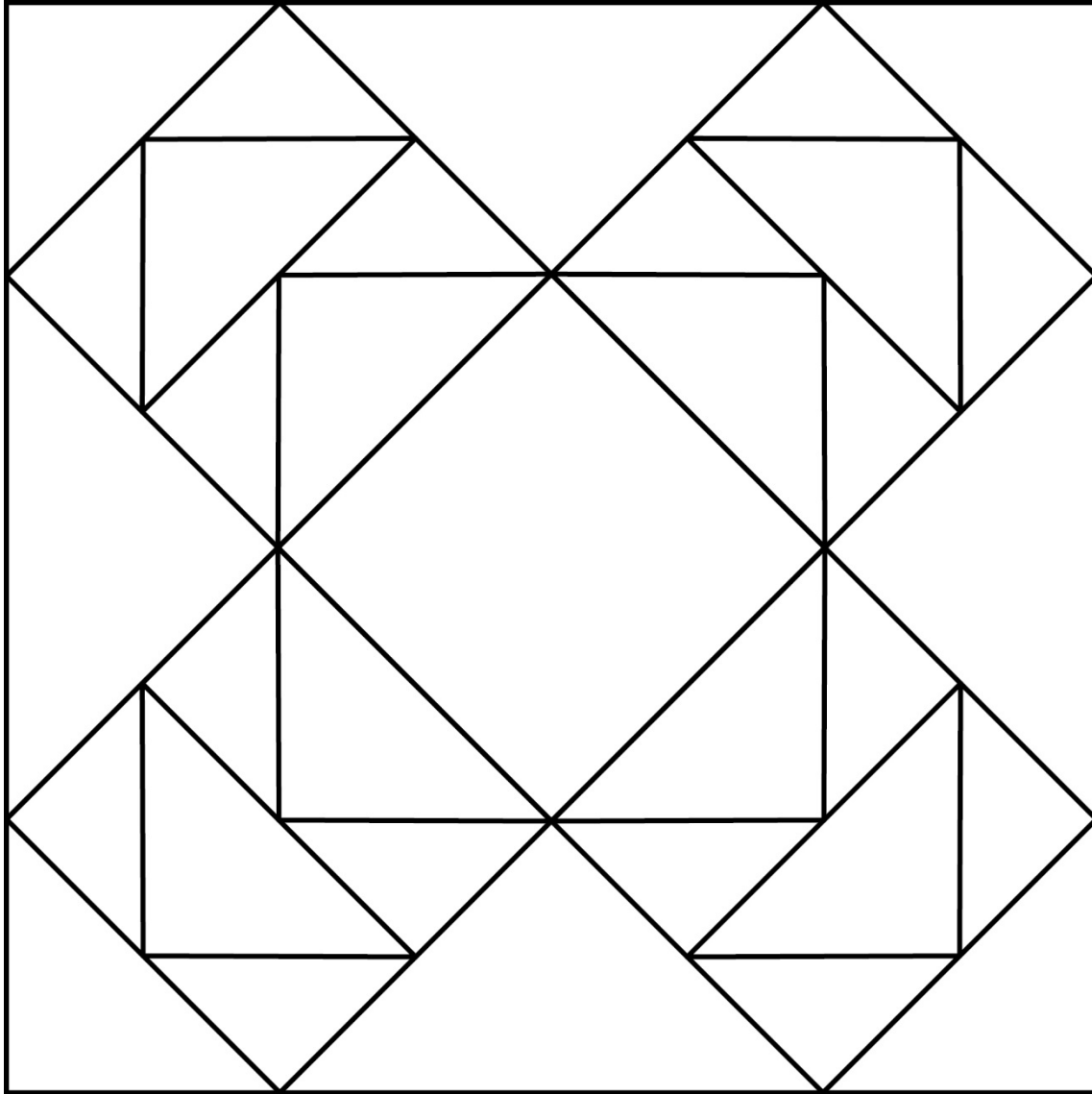
# *Find the Shapes* Designs

Name_____ Date _____

*Find the Shapes* Recording Sheet

| Triangles | Squares | Rectangles |
|---|---|---|
| | | |
| Total: | | |

# Master 31: Activity 15 Assessment
## Identifying Shapes

| Identifying Shapes in Designs Behaviours/Strategies | | |
|---|---|---|
| Student does not have a mental image of a triangle, rectangle, or square and cannot identify them. | Student recognizes some triangles, squares, and rectangles but does not recognize them when they are oriented differently. | Student finds some shapes but has difficulty seeing how shapes can be combined to make other shapes. |
| **Observations/Documentation** | | |
| | | |
| Student finds some shapes but has difficulty finding smaller shapes within larger shapes. | Student thinks all the shapes in the design have been found. | Student successfully identifies triangles, rectangles, and squares of all different sizes and orientations in the design. (Note: Student is not expected to find all shapes in the design.) |
| **Observations/Documentation** | | |
| | | |

# Master 32: Activity 16 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.<br><br>"It has sides that are shaped like hockey cards." | Student provides an incomplete description of the solid.<br><br>"The solid has faces that are rectangles." | Student guesses the solid and ignores partner's description, or focuses on only part of the description.<br><br>"It's a cylinder; no, it's a cube …" | Student correctly describes solids using geometric language and identifies them with ease. |

### Observations/Documentation

| | | | |
|---|---|---|---|
| | | | |
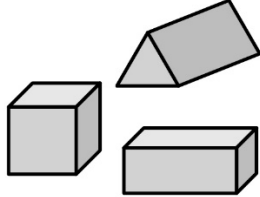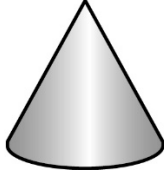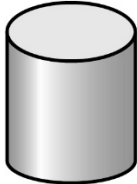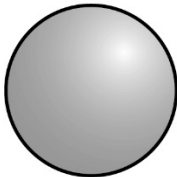
Name_____ Date _____

# Our Structure

## Stations 1 and 2

We built _____

Circle the solids you used.

| Solid | Number Used | Shapes of Faces You See on Structure |
|---|---|---|
| Prisms  | | |
| Cone  | | |
| Cylinder  | | |
| Sphere  | | |
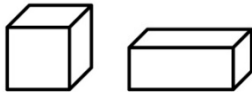
Name_____ Date _____

# Our Structure

## Station 3

We built _____

| Solid | Number of Linking Cubes Used | Shapes of Faces You See |
|---|---|---|
| Prisms  | | |

## Building Composite Structures Behaviours/Strategies

| | | |
|---|---|---|
| Student plays with 3-D solids, but does not know which solids to use to construct a composite structure. | Student constructs a composite structure with 3-D solids, but uses only one type of solid or only uses solids with square or rectangular faces. | Student constructs a composite structure with 3-D solids, but struggles to identify the solids used.<br><br>"I put a pointed solid on the top." |
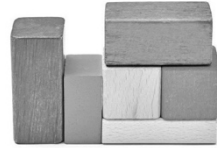
### Observations/Documentation

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|---|---|---|
| Student constructs a composite structure with 3-D solids and identifies the solids used, but struggles to name the shapes of visible faces.<br><br>"I don't see any faces." | Student constructs a composite structure with 3-D solids and identifies solids and faces, but struggles to compare structures. | Student successfully constructs a composite structure with 3-D solids, identifies solids and faces, and compares structures.<br><br>"I used a cone, cylinder, two prisms, and two cubes. There are faces that are squares, rectangles, and circles." |
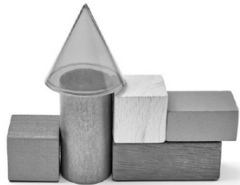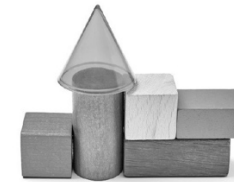
### Observations/Documentation

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**Master 35a**

# Shape Outline Cards
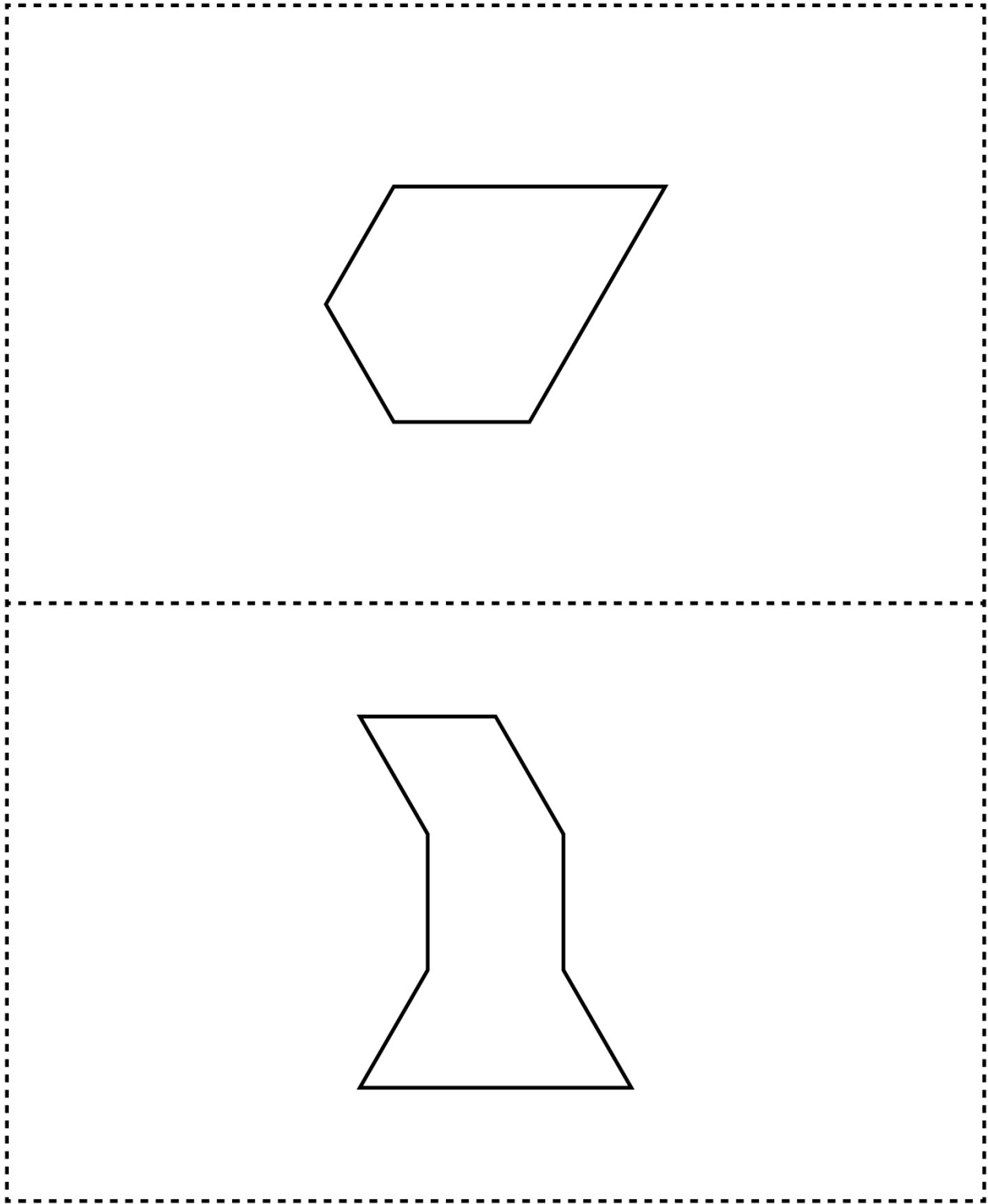
# Shape Outline Cards

# Made with Solids Cards

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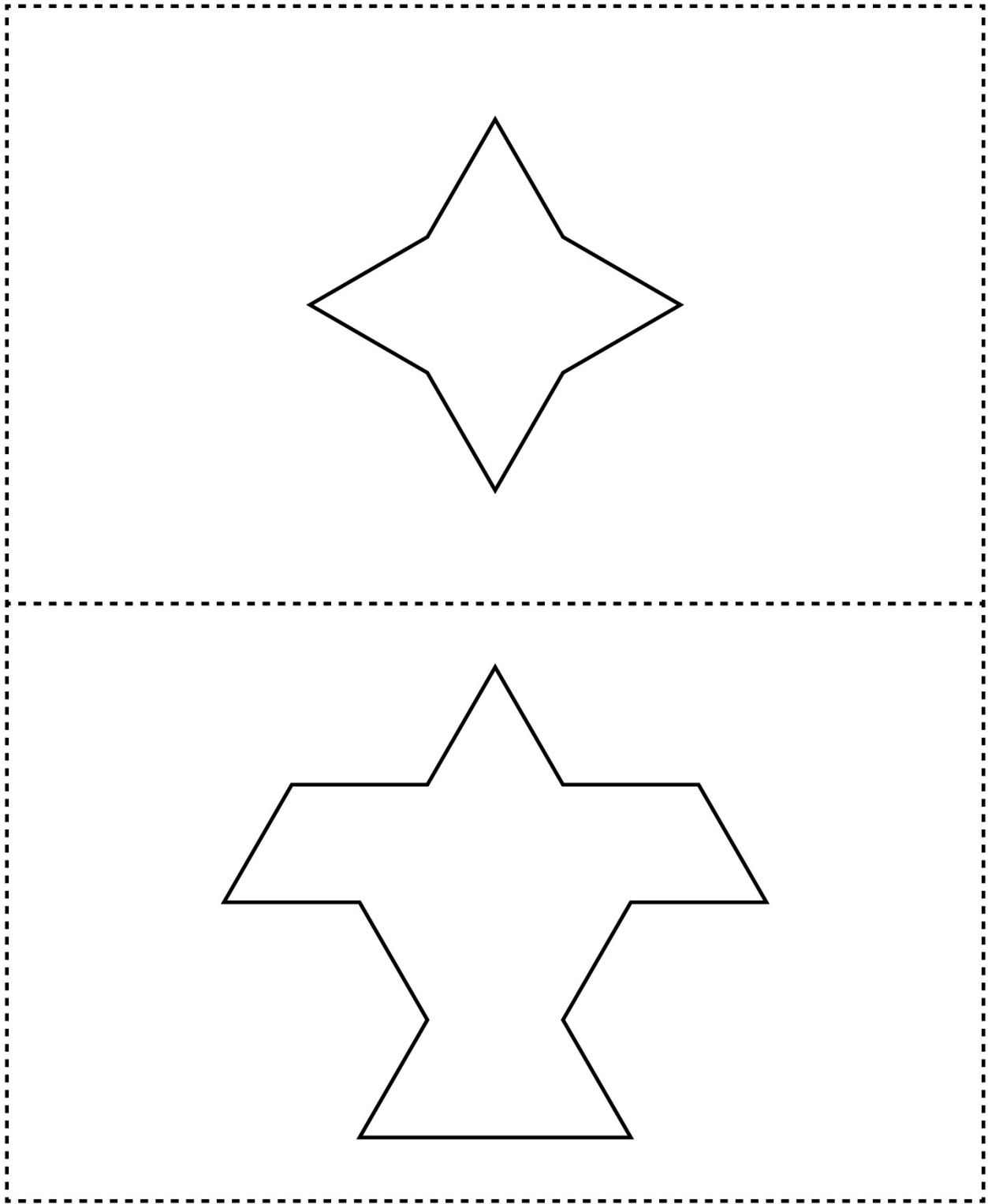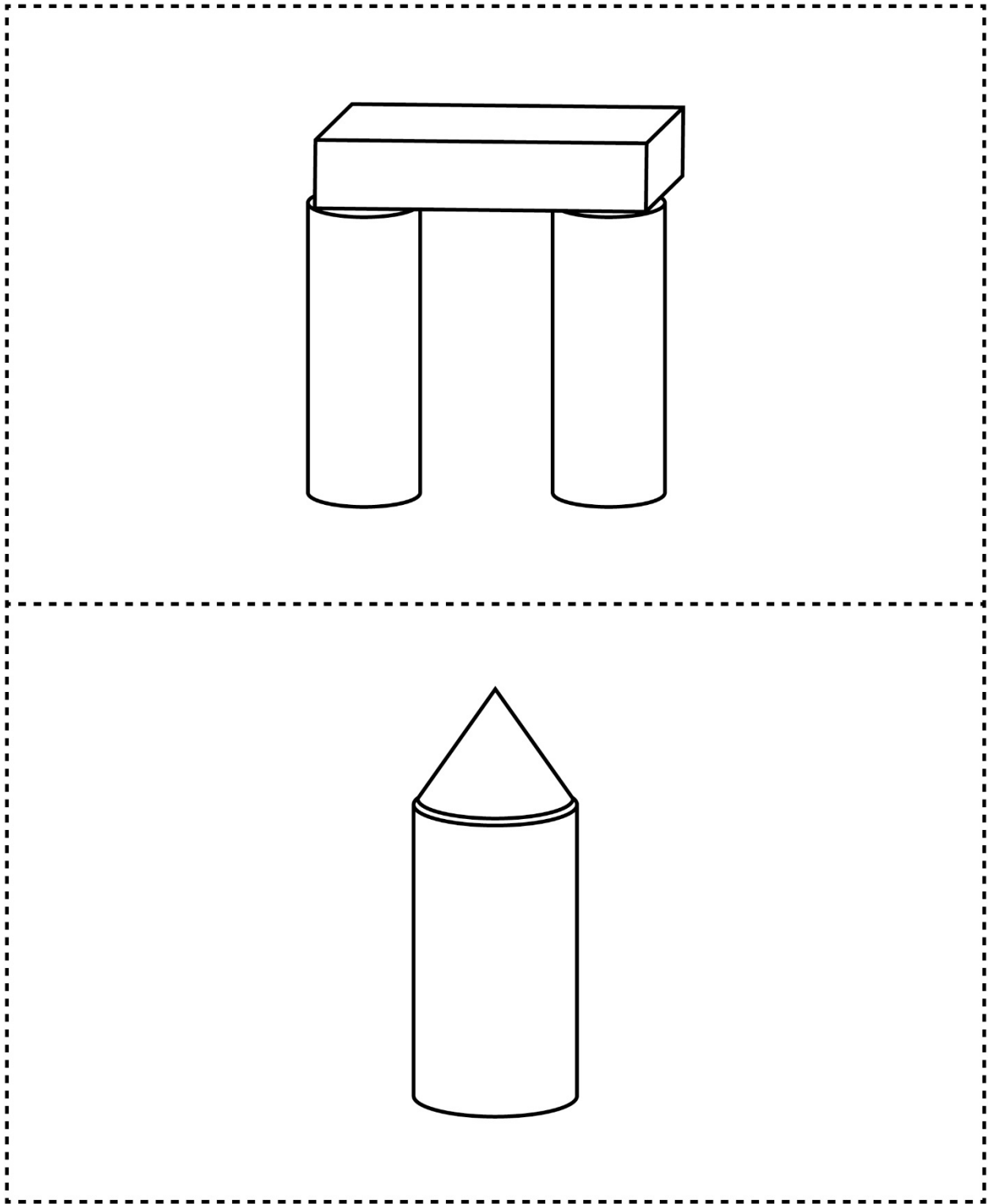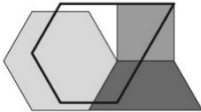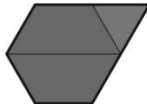
**Master 36b**

# Made with Solids Cards
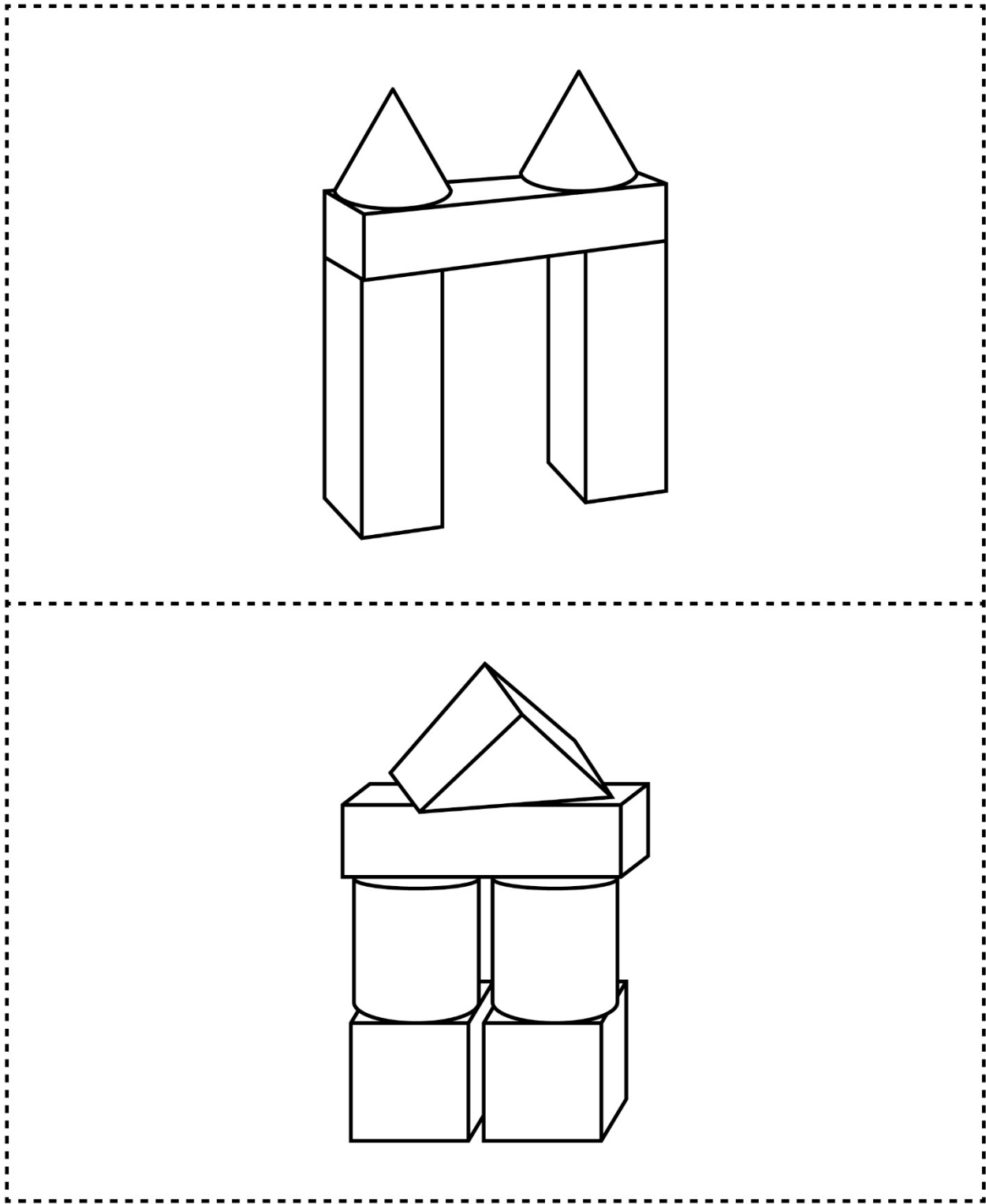
# Master 37: Activity 18 Assessment
## Geometric Relationships: Consolidation

**Identifying Shapes Used to Create Outlines Behaviours/Strategies**

| Student is unable to predict which blocks were used to make the outline. | Student randomly places blocks in the outline with no thought to the lines. | Student accurately places blocks in the outline, but thinks there is only one way to fill it. | Student accurately predicts the blocks used, fills the outline to check, and realizes there are many ways to fill it. |
|---|---|---|---|

**Observations/Documentation**

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**Identifying Solids Used to Make Structures Behaviours/Strategies**

| Student uses gestures or non-geometric language to identify the solids.<br><br>"It looks like a party hat." | Student knows the solids that were used but cannot name them by their mathematical names. | Student accurately names the solids but does not use geometric language to describe them. | Student uses geometric language with ease to name and describe the solids used. |
|---|---|---|---|

**Observations/Documentation**

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**Pearson mathology**

## Mathology Grade 1 Correlation – Alberta
## Geometry Cluster 4: Symmetry

**Organizing Idea:**

Geometry: Shapes are defined and related by geometric attributes.

| Guiding Question: In what ways can shape be characterized? | | | | |
|---|---|---|---|---|
| Learning Outcome: Students interpret shape in two and three dimensions. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Familiar two-dimensional shapes include<br>• squares<br>• circles<br>• rectangles<br>• triangles<br><br>Familiar three-dimensional shapes include<br>• cubes<br>• prisms<br>• cylinders<br>• spheres<br>• pyramids<br>• cones<br><br>A composite shape is composed of two or more shapes.<br><br>A line of symmetry indicates the division between the matching halves of a symmetrical shape. | A shape can be modelled in various sizes and orientations.<br><br>A shape is symmetrical if it can be decomposed into matching halves. | Investigate symmetry of two-dimensional shapes by folding and matching. | **Geometry Cluster 4: Symmetry**<br>19: Finding Lines of Symmetry<br>20: Symmetry in 2-D Shapes<br>21: Creating Symmetrical Designs<br>22: Consolidation | The Tailor Shop |

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Name_____ Date _____

# Exploring Lines of Symmetry
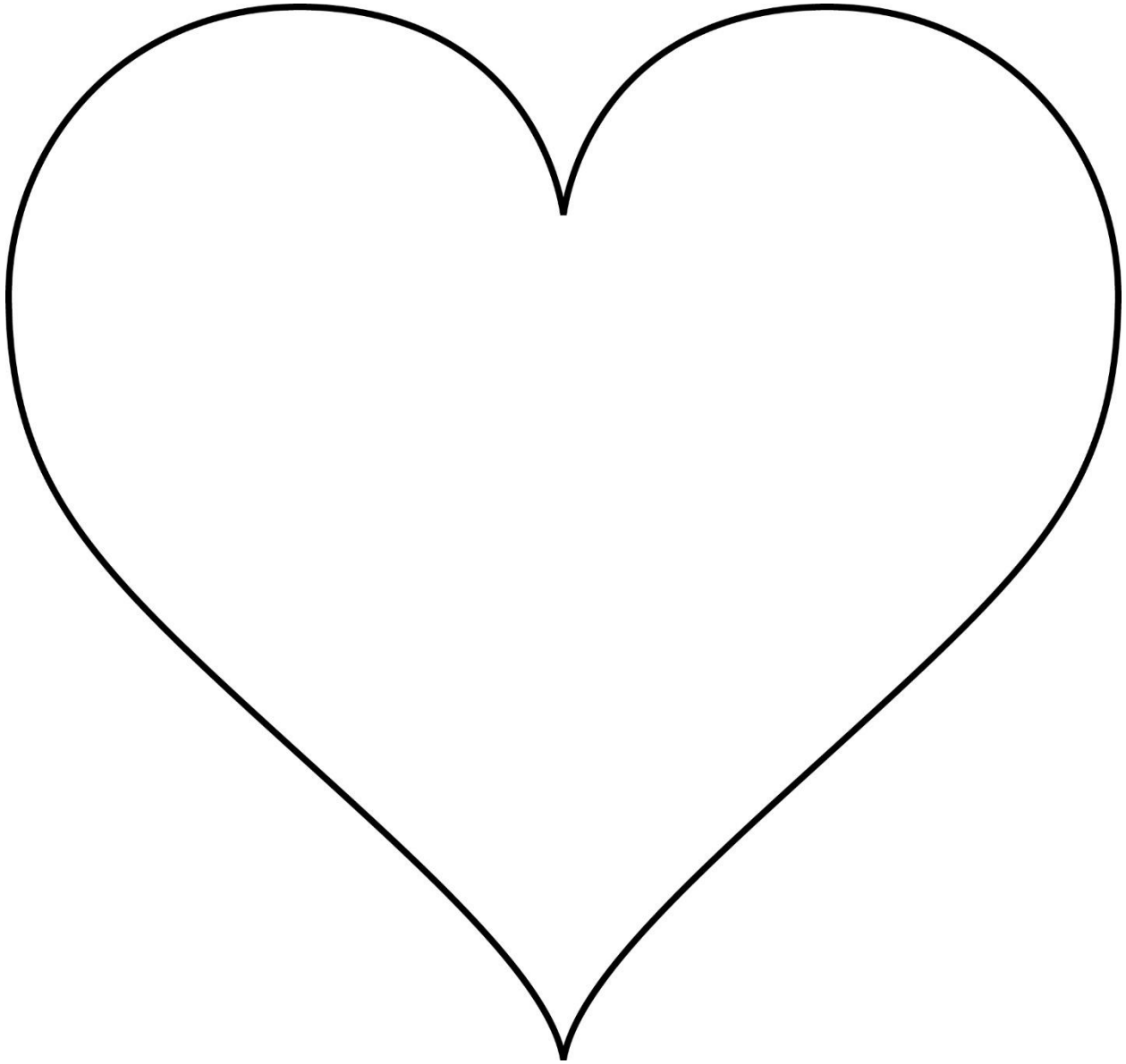
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**Exploring Lines of Symmetry**
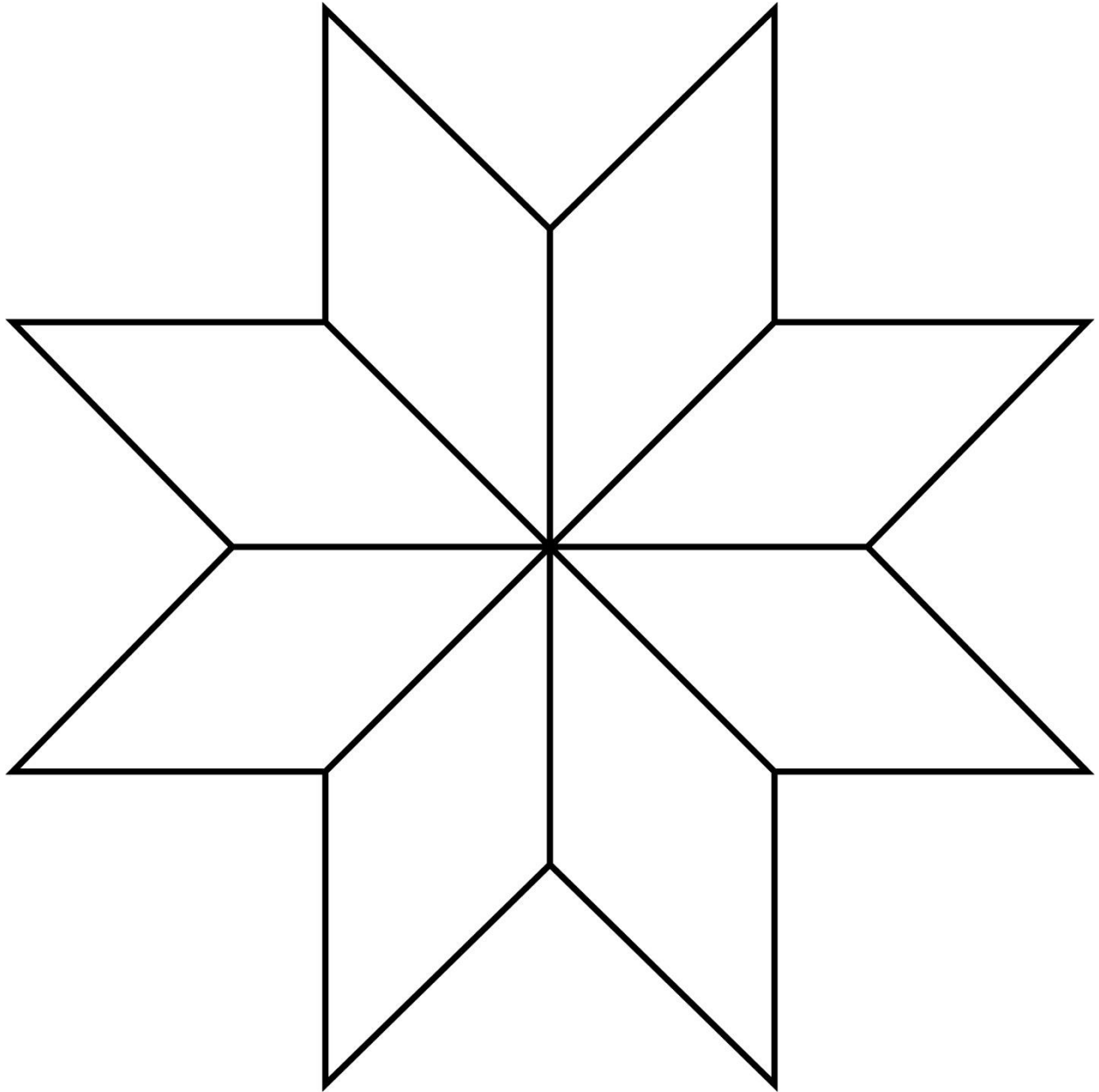
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**Exploring Lines of Symmetry**

Name_____ Date _____
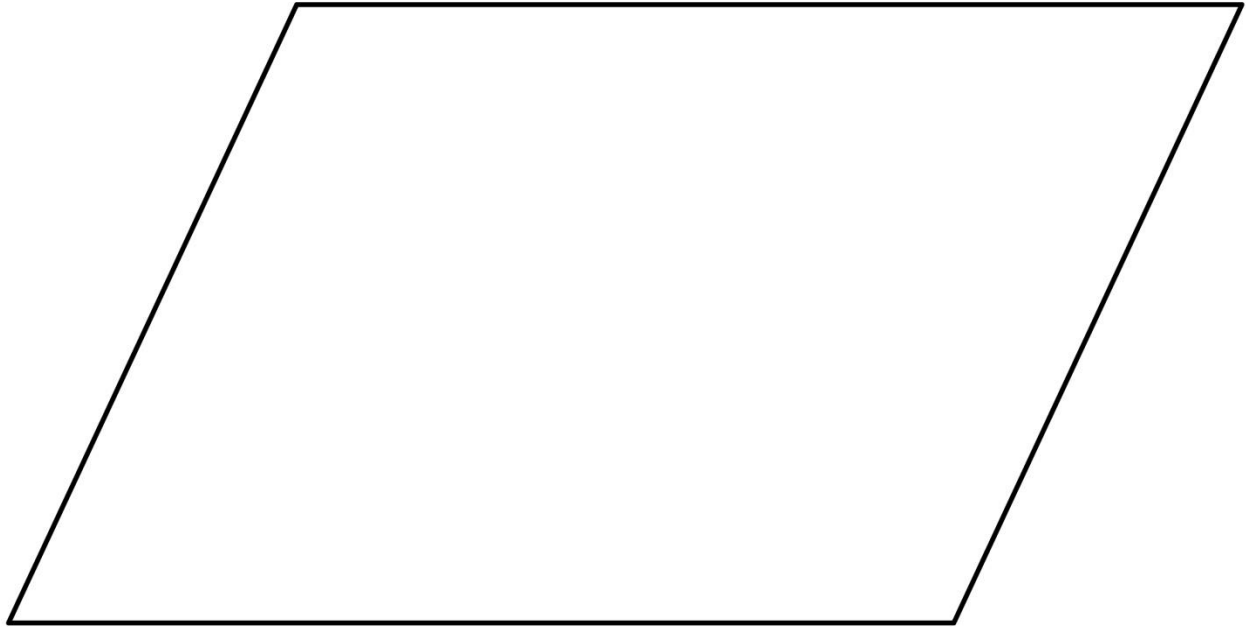
**Exploring Lines of Symmetry**

**Master 39e**

# Exploring Lines of Symmetry

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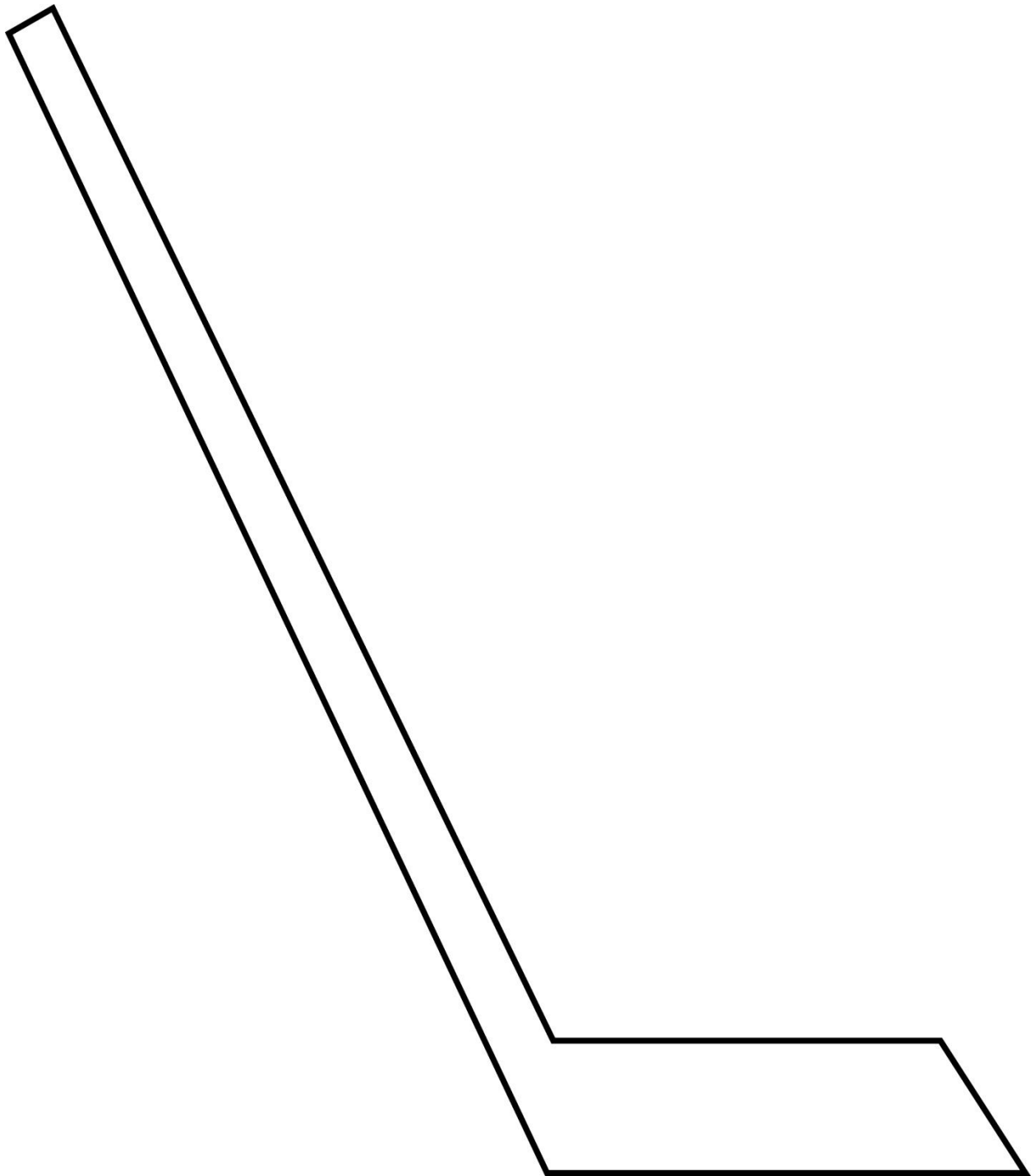
**Master 39f**

# Exploring Lines of Symmetry

Name_____ Date _____

# Symmetrical Images

Name_____ Date _____

# Symmetrical Images

Name_____ Date _____

# Symmetrical Images

Name_____ Date _____

# Symmetrical Images

# Symmetrical Images

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# Symmetrical Images
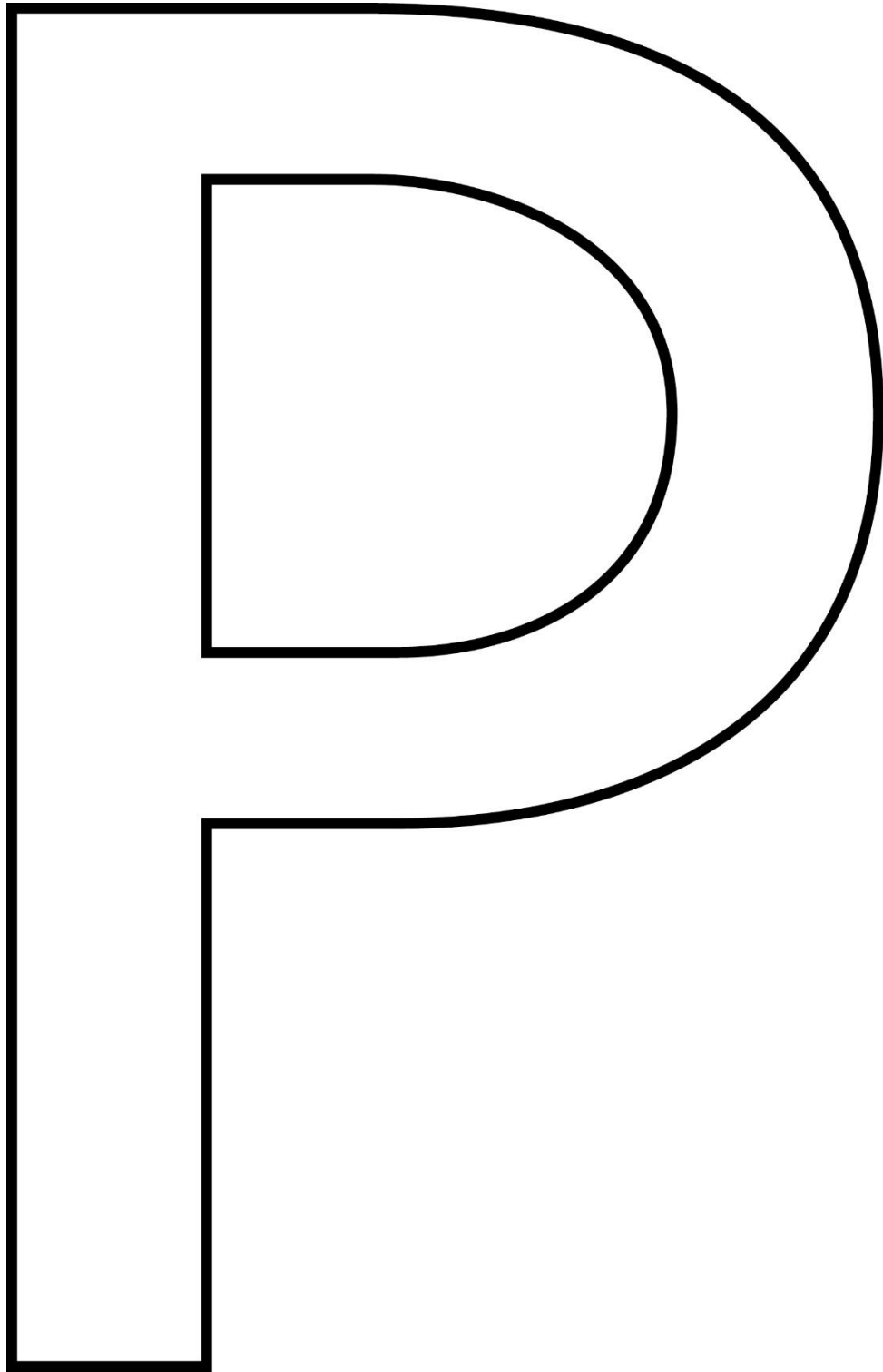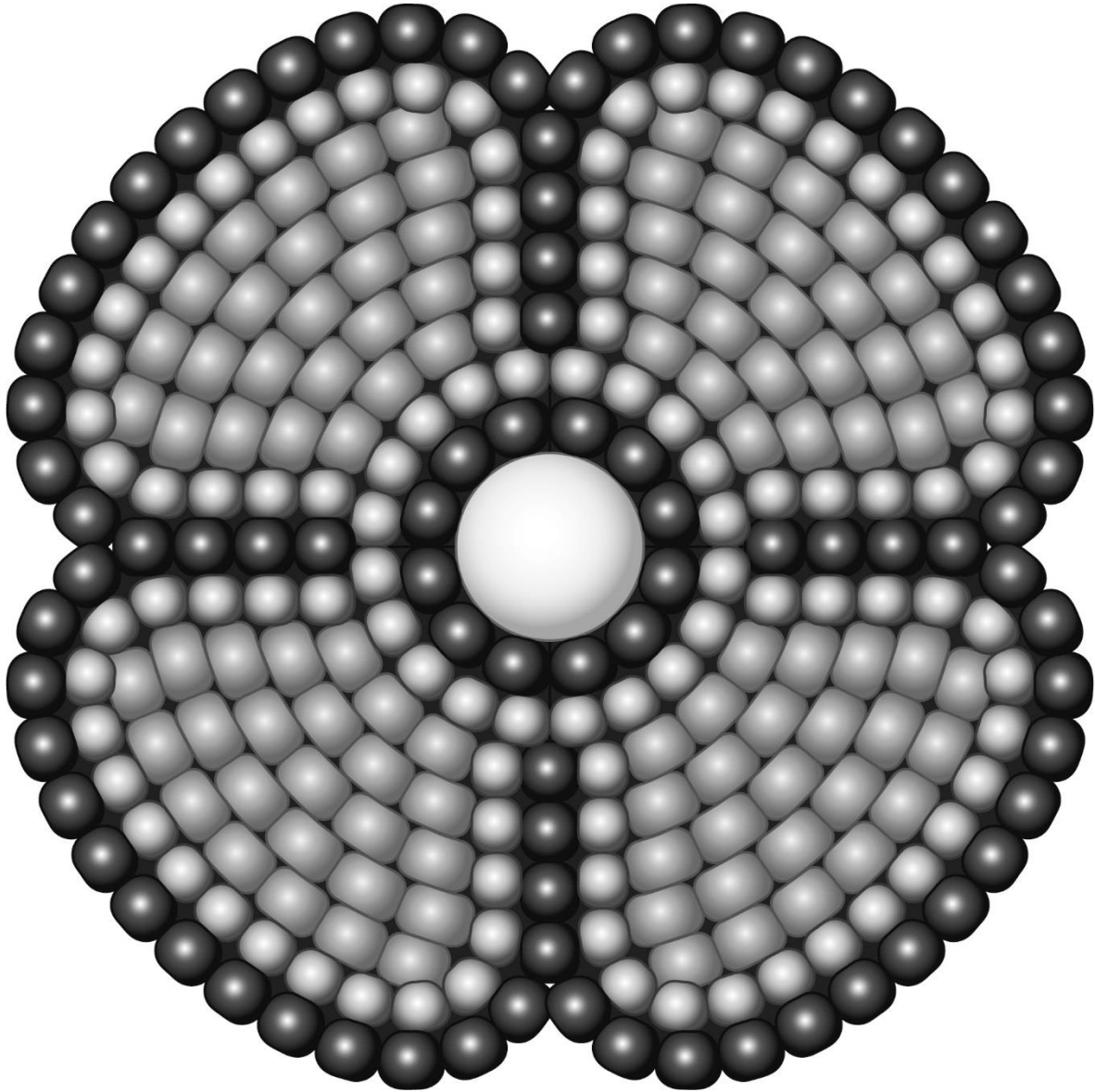
Name_____ Date _____

# Symmetrical Images

# Symmetrical Images
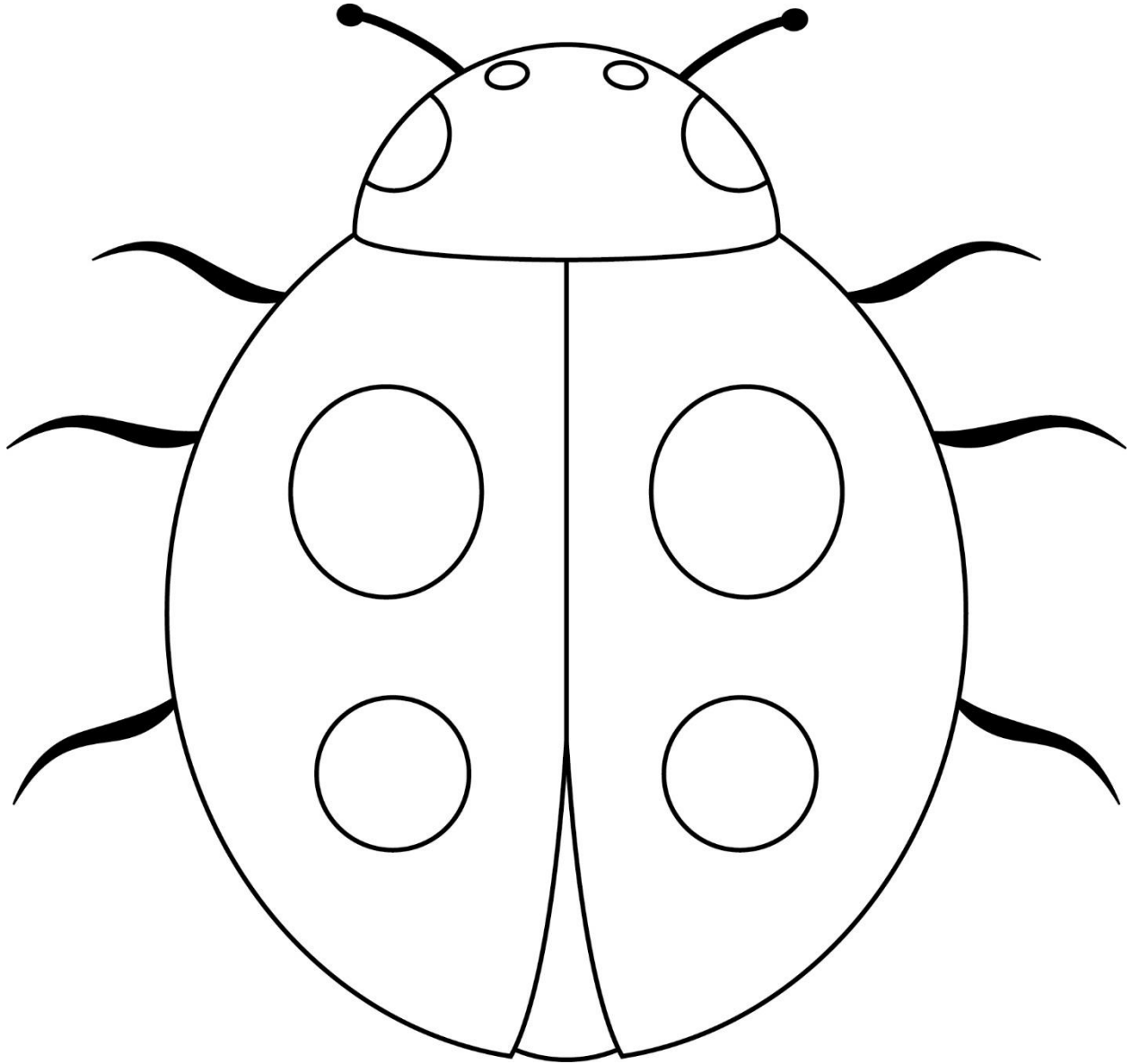
# Master 41: Activity 19 Assessment
## Finding Lines of Symmetry

| 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** | | |
| | | |

Name_____ Date _____

# Large Shapes (for *Before*)
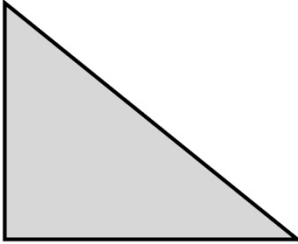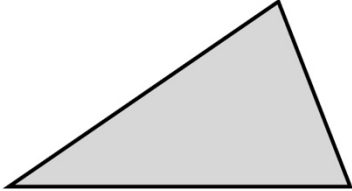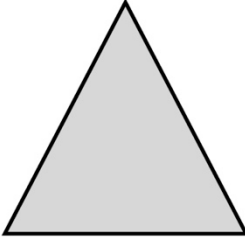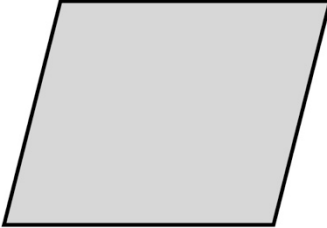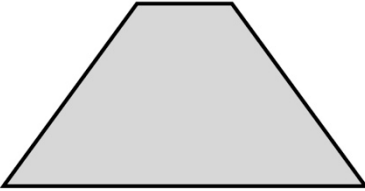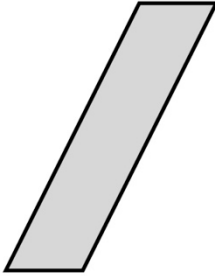
Name_____ Date _____

**Large Shapes (for *Before*)**
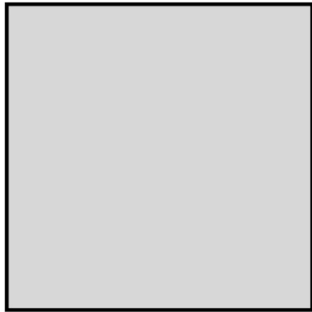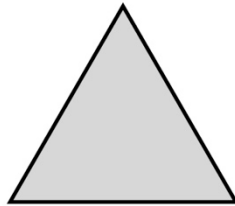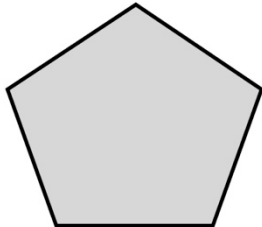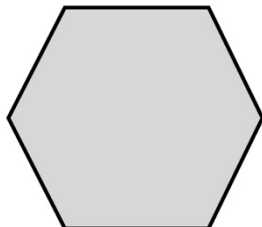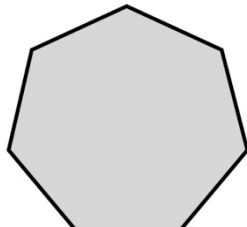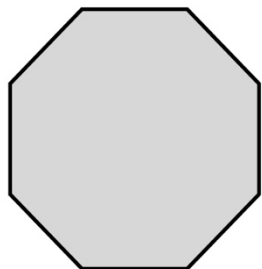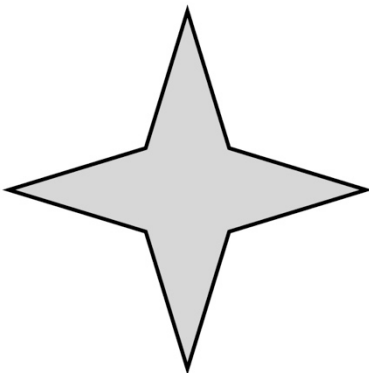
Name_____ Date _____

# Symmetry Cards

Name_____ Date _____

# Symmetry Cards (for Extension)

Name_____  Date _____
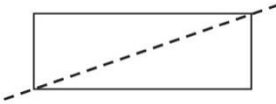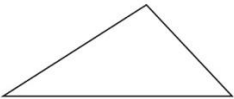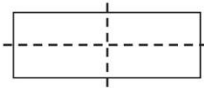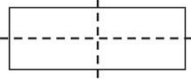
**Symmetry Sorting Mat**

| No Lines of Symmetry | One Line of Symmetry | More Than One Line of Symmetry |
| --- | --- | --- |
|  |  |  |

# Master 45: Activity 20 Assessment
## Symmetry in 2-D Shapes

| Identifying Lines of Symmetry Behaviours/Strategies | | |
|---|---|---|
| Student turns over a card but is unable to identify a line of symmetry on the 2-D shape.<br><br>"I don't know how to find it." | Student identifies and draws what he or she thinks is a line of symmetry, but does not fold the shape to check.<br><br> | Student identifies a line of symmetry, but does not realize that the shape has more than one line of symmetry.<br><br> |

| Observations/Documentation | | |
|---|---|---|
| | | |

| Student identifies lines of symmetry on most 2-D shapes, but does not realize that a shape can have no lines of symmetry.<br><br><br>"I am having trouble." | Student identifies all lines of symmetry on 2-D shapes but struggles to sort the shapes on the sorting mat.<br><br><br>"Where do I put it?" | Student successfully identifies all lines of symmetry on 2-D shapes and sorts them on the sorting mat.<br><br><br>"The rectangle has more than one line of symmetry." |
|---|---|---|

| Observations/Documentation | | |
|---|---|---|
| | | |

# Master 46: Activity 21 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** | | |
| | | |
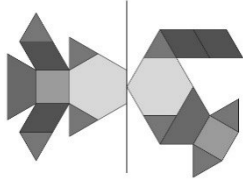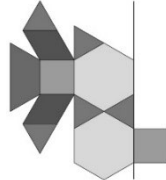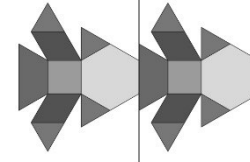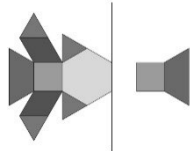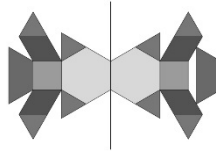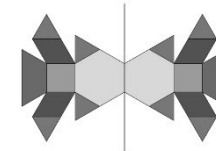
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**Necklace/Bracelet Template**

Name_____ Date _____

**Necklace/Bracelet Template**

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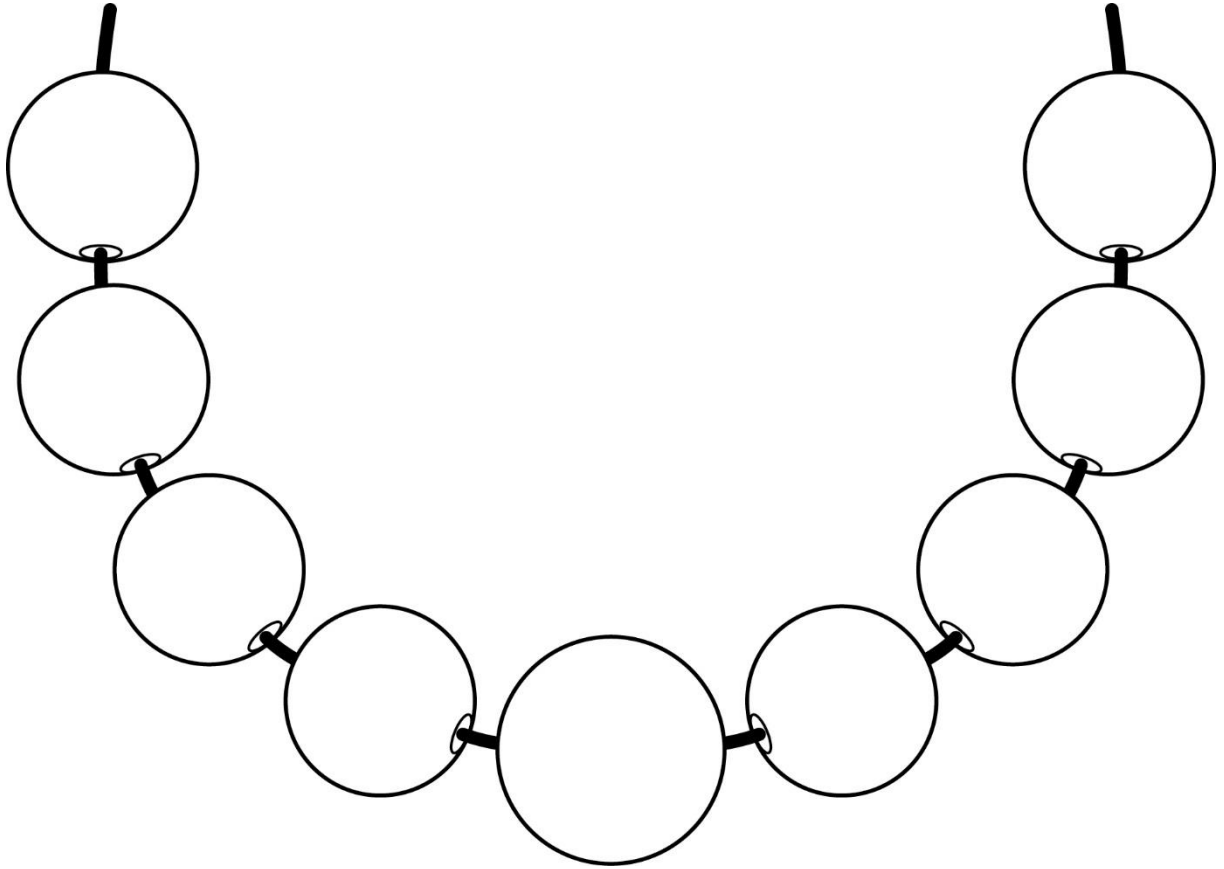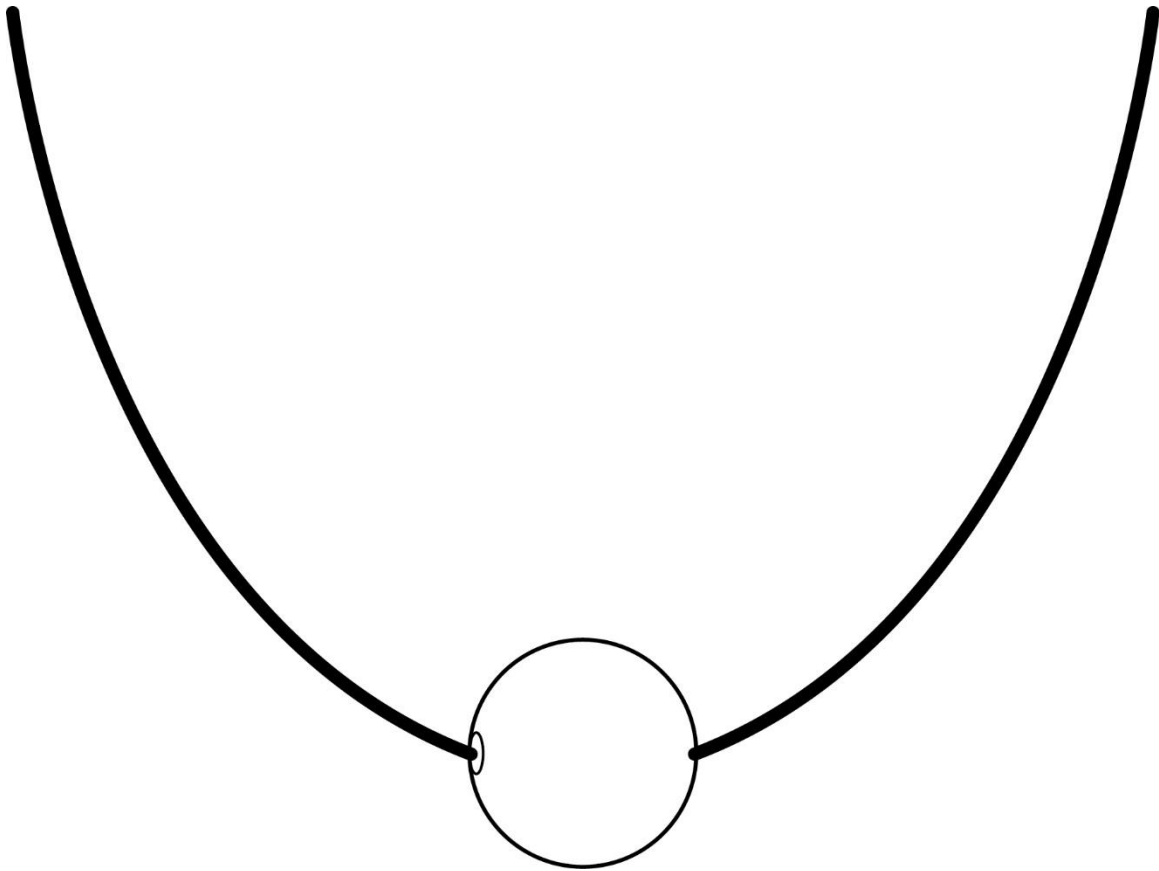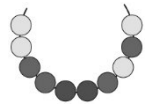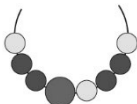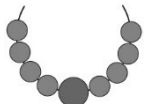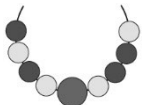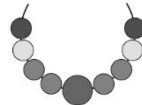
# Master 48: Activity 22 Assessment
## Symmetry: Consolidation

**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**

| | | |
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| 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**

| | | |
|---|---|---|
| | | |

**Pearson mathology**

**Mathology Grade 1 Correlation – Alberta**
**Measurement Cluster 1: Length, Capacity, and Area**

**Organizing Idea:**
Measurement: Attributes such as length, area, volume, and angle are quantified by measurement.

| | | | | |
|---|---|---|---|---|
| **Guiding Question:** In what ways can length provide perspectives of size? <br> **Learning Outcome:** Students relate length to the understanding of size. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Size may refer to the length of an object, including <br> • height <br> • width <br> • depth <br><br> A length does not need to be a straight line. <br><br> The length between any two points in space is called distance. <br><br> Familiar contexts of distance include <br> • distance between objects or people <br> • distance between objects on the land <br> • distance between home and school <br> • distance between towns or cities | Length is a measurable attribute that describes the amount of fixed space between the end points of an object. <br><br> Length remains the same if an object is repositioned but may be named differently. | Recognize the height, width, or depth of an object as lengths in various orientations. | **Measurement Cluster 1: Length, Capacity, and Area** <br> 2: Matching Lengths | Animal Measures <br> The Amazing Seed <br><br> Kindergarten <br> The Best in Show |
| | | Compare and order objects according to length. | **Measurement Cluster 1: Length, Capacity, and Area** <br> 1: Comparing Length <br> 2: Matching Lengths | Animals Measures |
| | | Describe distance in familiar contexts. | **Measurement Cluster 1: Length, Capacity, and Area** <br> 3: Exploring Distance | |

**Pearson**

**Master 1b**

| | | | | |
|---|---|---|---|---|
| Indirect comparison is useful when objects are fixed in place or difficult to move.<br><br>Comparisons of size can be described by using words such as<br>• higher<br>• wider<br>• deeper | The size of two objects can be compared indirectly with a third object. | Compare the length, area, or capacity of two objects directly or indirectly using a third object. | **Measurement Cluster 1:**<br>**Length, Capacity, and Area**<br>1: Comparing Length<br>2: Matching Lengths<br>4: Comparing Capacity<br>5: Making Comparisons<br>6: Comparing Area<br>7: Consolidation | Animals Measures<br>The Amazing Seed<br><br><u>Kindergarten</u><br>To Be Long |
| | | Order objects according to length, area, or capacity. | **Measurement Cluster 1:**<br>**Length, Capacity, and Area**<br>1: Comparing Length<br>2: Matching Lengths<br>4: Comparing Capacity<br>5: Making Comparisons<br>6: Comparing Area<br>7: Consolidation | The Amazing Seed |

# Master 2: Activity 1 Assessment
## Comparing Length

| Comparing Objects by Length Behaviours/Strategies | | |
|---|---|---|
| Student does not line up the pencil crayons 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. | Student correctly orders the pencil crayons and uses measurement language to compare the lengths. |
| **Observations/Documentation** | | |
| | | |

Name_____ Date _____

# Sorting Mat

**Shorter than**



**Same as**



**Longer than**
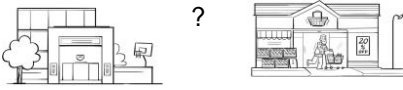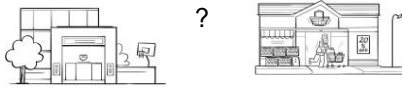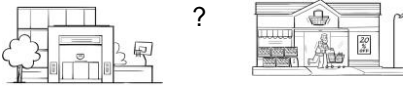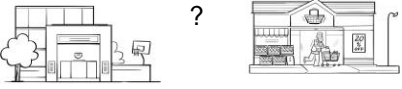
# Master 4: Activity 2 Assessment
## Matching Lengths

| 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** | | |
| | | |

# Master 5: Activity 3 Assessment
## Length, Capacity, and Area: Exploring Distance

| Describing Distance Behaviours/Strategies | | | |
|---|---|---|---|
| Student does not recognize that the length between two points (places, people, objects) is distance.  ? | Student has difficulty describing the distance between two points (places, people, objects).  ? **"The distance is…"** | Student describes the distance between two points (places, people, objects) but in relative terms.  ? **"The grocery store is closer to the school than the zoo."** | Student understands distance is the length between two points (places, people, objects) and uses measurement language (e.g., near, far away, short, long) to describe distance.  ? **"The grocery store is near the school."** |

| Observations/Documentation | | | |
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# Place Cards

## Playground

## Zoo
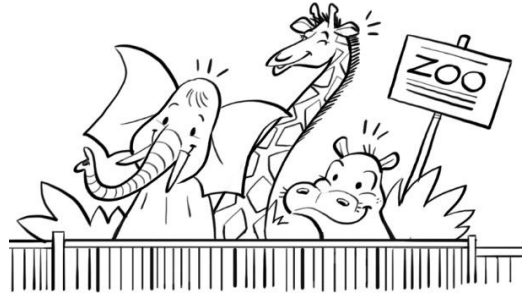
## School

## Library

## Campground

## Grocery Store

## City

## Tropical Island
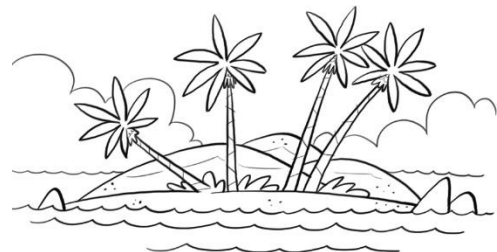
# Transportation Cards

## Walk
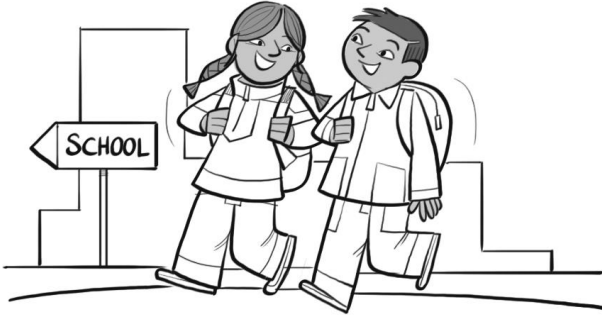
## Bicycle

## Scooter

## Bus

## Car
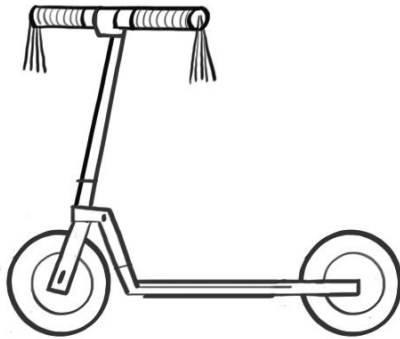
## Airplane

Name_____ Date _____
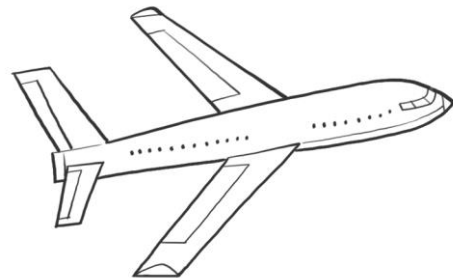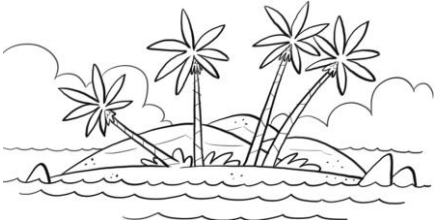
**Exploring Distance**

Draw ways to get to each place.

| **Playground** | |
|---|---|
| | |
| **Zoo** | |
| | |
| **Library** | |
| | |

**Master 26b** **Exploring Distance** (cont'd)

| Campground | |
|---|---|
| **Grocery Store** | |
| **City** | |
| **Tropical Island** | |

**Measurement**

# Master 6: Activity 4 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**

| | | |
|---|---|---|
| | | |

# Comparison Cards

| | |
|---|---|
| Wider | Higher |
| Shorter | Longer |
| Holds More | Holds Less |

Name_____  Date _____

A _____ is wider than a _____.

A _____ is higher than a _____.

A _____ is longer than a _____.
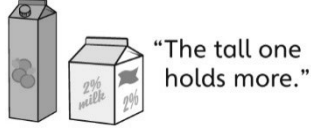
A _____ is shorter than a _____.

A _____ holds more than a _____.

A _____ holds less than a _____.
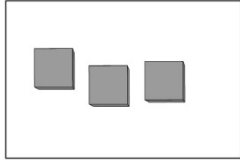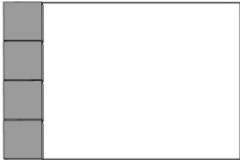
# Master 9: Activity 5 Assessment
## Making Comparisons

| Comparing Objects Behaviours/Strategies | | |
|---|---|---|
| Student chooses unsuitable objects to make a comparison.<br><br>"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 taller object has a greater capacity.<br><br>"The tall one holds more." |
| **Observations/Documentation** | | |
| | | |

| | | |
|---|---|---|
| Student successfully chooses a tool to compare length 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** | | |
| | | |

# Master 10: Activity 6 Assessment
## Comparing Area

| Comparing Area Behaviours/Strategies | | |
|---|---|---|
| Student leaves gaps or overlaps. | Student lines up the squares 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 | | |
|---|---|---|
| | | |

**Master 11**

# Word Cards

| Area | Height |
|---|---|
| Length | Capacity |
| Width | Your Choice |

# Master 12: Activity 7 Assessment
## Length, Capacity, and Area: Consolidation

| **Setting Up Stations Behaviours/Strategies** | | |
|---|---|---|
| Student chooses objects that do not have the attribute being compared.<br><br>"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 marbles 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** | | |
| | | |

**Pearson mathology**

## Mathology Grade 1 Correlation – Alberta
## Measurement Cluster 2: Time

**Organizing Idea:**

Time: Duration is described and quantified by time.

| Guiding Question: How can time characterize change? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students explain time in relation to cycles. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Time can be perceived through observable change.<br><br>First Nations, Métis, and Inuit experience time through sequences and cycles in nature, including cycles of seasons.<br><br>Cycles from a calendar include days of the week and months of the year. | Time is an experience of change.<br><br>Time can be perceived as a cycle. | Describe cycles of time encountered in daily routines and nature. | **Measurement Cluster 2: Time**<br>8: Ordering Events<br>9: Cycles in Seasons | |
| | | Describe observable changes that indicate a cycle of time. | **Measurement Cluster 2: Time**<br>10: The Calendar<br>11: Cycles in the Calendar | |
| | | Relate cycles of seasons to First Nations, Métis, or Inuit practices. | **Measurement Cluster 2: Time**<br>9: Cycles in Seasons | |
| | | Identify cycles from a calendar. | **Measurement Cluster 2: Time**<br>10: The Calendar<br>11: Cycles in the Calendar<br>12: Consolidation | |

**Master 14**

# Building a Snow Figure

Name_____ Date _____
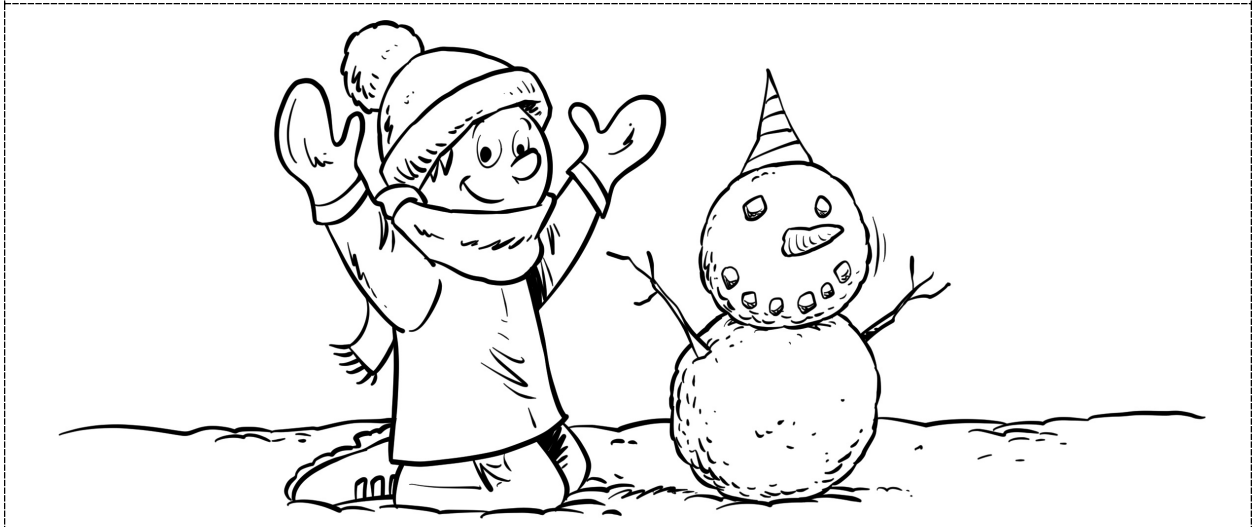
# Activity Pictures

## Wake up

## Go to bed

## Eat breakfast

## Eat lunch

## Eat dinner

## Play soccer

Name_____ Date _____
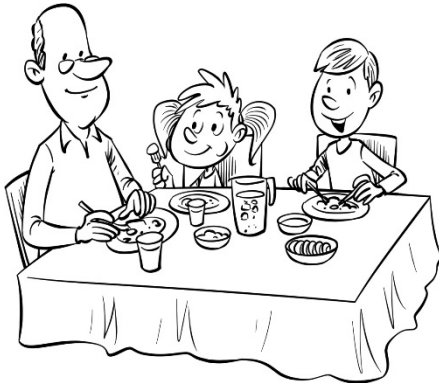
**Take the bus**
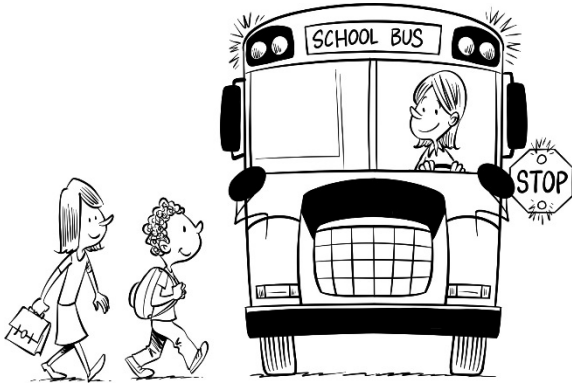


**Brush my teeth**



**Read a bedtime story**

# Master 17: Activity 8 Assessment
## Ordering Events

| Ordering Events Behaviours/Strategies | | | |
|---|---|---|---|
| Student has difficulty knowing which event or picture to start with. | Student orders some of the events correctly but has difficulty with others. | Student successfully orders events, but has difficulty communicating her or his thinking. | Student successfully orders events and communicates his or her thinking using sequencing language. |
| **Observations/Documentation** | | | |
|  |  |  |  |

# Master 18: Activity 9 Assessment
## Time: Cycles in Seasons

| Relating Cycles in Seasons to Traditional Practices Behaviours/Strategies | | | |
|---|---|---|---|
| Student does not know what a cycle is. | Student has difficulty remembering or identifying the cycle of the seasons. | Student has difficulty relating the cycle of the seasons to First Nations, Métis, or Inuit practices. | Student relates the cycle of the seasons to First Nations, Métis, or Inuit practices with ease. |
| **Observations/Documentation** | | | |
| | | | |

# Seasonal Inuit Practices

## Hunting in Spring



## Dogsledding in Spring



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# Seasonal Inuit Practices

## Fishing in Spring



## Kayaking in Summer

# Seasonal Inuit Practices

## Picking Berries in Fall



## Sewing in Winter

Name_____ Date _____

**My Seasonal Activities**

Draw yourself doing something you like to do in each season.

**Spring**                    **Summer**




**Winter**                    **Fall**
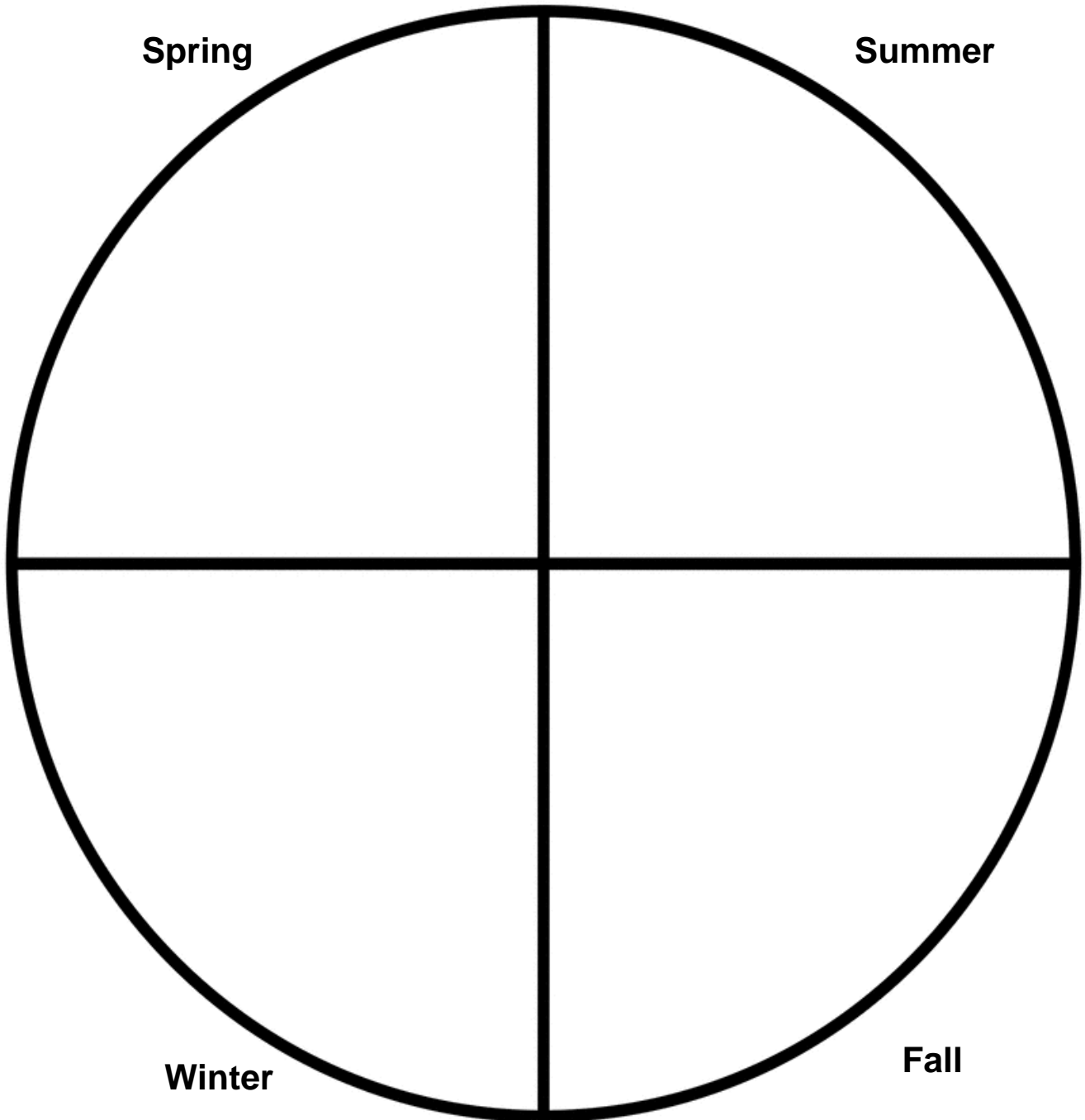
**Master 19a**

# Month Cards

| | |
|---|---|
| January | February |
| March | April |
| May | June |
| July | August |

Name_____ Date _____

**Month Cards**

| | |
|---|---|
| September | October |
| November | December |

**Master 20a**  **Ordinal Number Cards**

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

Name_____ Date _____

**Ordinal Number Cards**

| | |
|---|---|
| **9th** | **10th** |
| **11th** | **12th** |

✂

# Master 21: 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. |
| **Observations/Documentation** | | | |
| | | | |

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# Master 22: Activity 11 Assessment
## Time: Cycles in the Calendar

| Identifying Cycles in the Calendar Behaviours/Strategies | | | |
|---|---|---|---|
| Student does not know the days of the week and/or months of the year. | Student mixes up the order of the days of the week and/or months of the year.<br><br>**"Sunday, Monday, Tuesday, Thursday, Wednesday, Friday, Saturday, …"** | Student has difficulty identifying cycles in the days of the week and/or months of the year.<br><br>**"The days are here. I'm not sure about the cycles."** | Student identifies cycles in days of the week and months of the year with ease.<br><br>**"The days of the week repeat in the same order over and over. So do the months of the year."** |
| **Observations/Documentation** | | | |
| | | | |

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Name_____ Date _____

# My Month

Write the month in the top box. Number the days.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# Master 23: Activity 12 Assessment
## Time: Consolidation

| Describing and Identifying Cycles of Time Behaviours/Strategies | | |
|---|---|---|
| Student has difficulty describing cycles of time in daily routines and nature. | Student has difficulty describing observable changes that indicate a cycle of time. | Student mixes up the order of the days of the week, the months of the year, or the seasons. |
| **Observations/Documentation** | | |
| | | |

| | | |
|---|---|---|
| Student has difficulty identifying the cycle in the days of the week. | Student identifies the cycle in the days of the week but has difficulty identifying the cycle in the months of the year. | Student describes cycles of time in daily routines and nature, including observable changes indicative of a cycle, and identifies cycles from a calendar with ease. |
| **Observations/Documentation** | | |
| | | |

Name_____ Date _____

# The Calendar

Write the month in the top box. Number the days.

| | | | | | | |
|---|---|---|---|---|---|---|
| **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** | **Saturday** |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Name_____  Date _____

# My Notes on the Season

Circle the season we are in:   Spring      Summer      Fall      Winter

Look out the window. Draw how a tree looks today. Put in lots of details.

What are you wearing today?

On top?

On bottom?

On your feet?

On your head?

**Master 1**

# Mathology Grade 1 Correlation – Alberta
# Number Cluster 1: Counting

**Organizing Idea:**

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

| Guiding Question: How can quantity be communicated? |
|---|
| Learning Outcome: Students interpret and explain quantity to 100. |

| Knowledge | Understanding | Skills & Procedures | Grade 1 Mathology | Mathology Little Books |
|---|---|---|---|---|
| A numeral is a symbol or group of symbols used to represent a number.<br><br>The absence of quantity is represented by 0. | Quantity is expressed in words and numerals based on patterns.<br><br>Quantity in the world is represented in multiple ways. | Represent quantities using words, numerals, objects, or pictures. | **Number Cluster 1: Counting**<br>1: Counting to 20<br>2: Counting to 50 | A Family Cookout (Numbers to 50)<br><br>Grade 2<br>Ways to Count (Numbers to 100) |
| | | Identify a quantity of 0 in familiar situations. | **Number Cluster 1: Counting**<br>3: Counting On and Back | |
| Counting can begin at any number.<br><br>Counting more than one object at a time is called skip counting. | Each number counted includes all previous numbers (counting principle: hierarchical inclusion).<br><br>A quantity can be determined by counting more than one object in a set at a time. | Count within 100, forward by 1s, starting at any number, according to the counting principles. | **Number Cluster 1: Counting**<br>1: Counting to 20<br>2: Counting to 50<br>3: Counting On and Back<br>4: Bridging Tens<br>6: Consolidation | Cats and Kittens |
| | | Count backward from 20 to 0 by 1s. | **Number Cluster 1: Counting**<br>3: Counting On and Back | |
| | | Skip count to 100, forward by 5s and 10s, starting at 0. | **Number Cluster 1: Counting**<br>5: Skip-Counting Forward<br>6: Consolidation | How Many is too Many?<br><br>Grade 2<br>Ways to Count<br>Family Fun Day |
| | | Skip count to 20, forward by 2s, starting at 0. | **Number Cluster 1: Counting**<br>5: Skip-Counting Forward<br>6: Consolidation | On Safari! |

Name_____ Date _____

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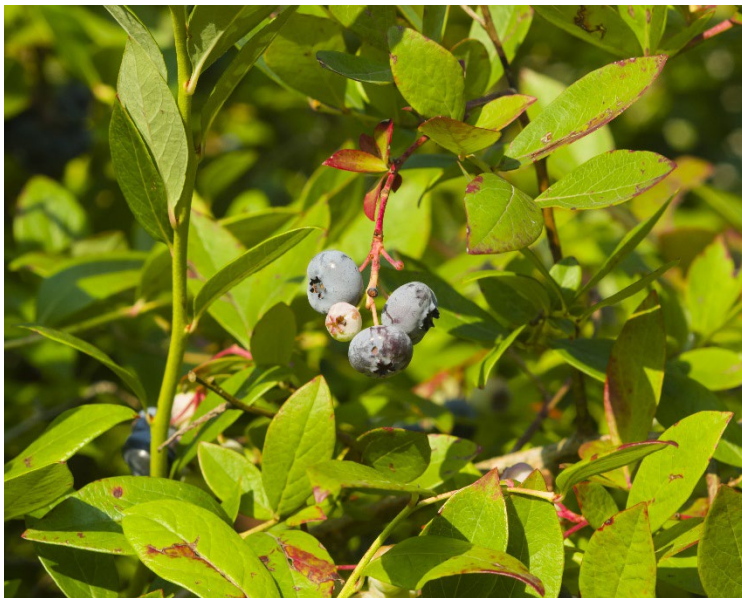
'*utsoo* (grandma) loved *duje* (huckleberries). She would use them in jams, pies, and bannock.

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.

**Master 3a** **First Nations Languages and Dialects**

## Cree

| | | |
|---|---|---|
| 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 _____

**First Nations Languages and Dialects**

## Gitxan

| 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 _____

**First Nations Languages and Dialects**

## Lheidli

| 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                    |

( Master 3d )  **First Nations Languages and Dialects**

## Ojibwe-Anishinaabemowin

| | | |
|---|---|---|
| 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 _____

**First Nations Languages and Dialects Audio Recordings**

## 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 _____

**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 _____

**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'l (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 _____

**First Nations Languages and Dialects**

## Ojibwe- Anishinaabemowin

Audio recording courtesy of Jodi Johnston.
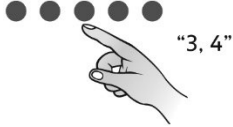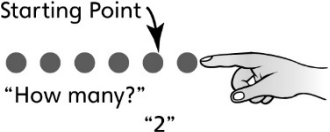
To listen to the audio file, click the link below:
**Ojibwe-Anishinaabemowin 1-20**

| 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 |

# Master 5: Activity 1 Assessment
## Counting to 20

### Counting Behaviours/Strategies

| Student has difficulty saying the counting sequence. | 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. |
|---|---|---|
| "1, 2, 3, 5, 4, 7, 8…" | | ● ● ● ● ● <br> "3, 4" |

### Observations/Documentation

| | | |
|---|---|---|
| | | |

| Student recounts when asked "How many?" <br> ● ● ● ● ● ● <br> "I'll count again." | Student gets a different number when the beads are counted in a different order. <br> Starting Point <br> ● ● ● ● ● ● <br> "How many?" <br> "2" | Student correctly counts the number of beads and realizes that the last number said tells how many (cardinality). |
|---|---|---|

### Observations/Documentation

| | | |
|---|---|---|
| | | |

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**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** |
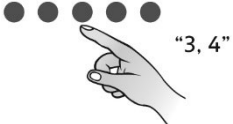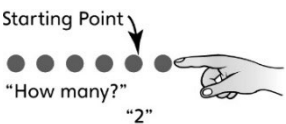
# Master 7: Activity 2 Assessment
## Counting to 50

| Counting Behaviours/Strategies | | |
|---|---|---|
| Student does not say the number sequence correctly.<br><br><br>"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.<br><br>● ● ● ● ●<br>"3, 4" |

| Observations/Documentation | | |
|---|---|---|
|  |  |  |

| | | |
|---|---|---|
| Student recounts when asked "How many?"<br><br>● ● ● ● ● ●<br>"I'll count again." | Student gets a different number when the counters are rearranged or counted in a different order.<br><br>Starting Point<br>● ● ● ● ● ●<br>"How many?"<br>"2" | 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 | | |
|---|---|---|
|  |  |  |

# *Hopping On* Game Boards

Name_____ Date _____

# *Hopping On* Game Boards
# (for Accommodation)

Name_____ Date _____

# *Hopping On* Game Boards
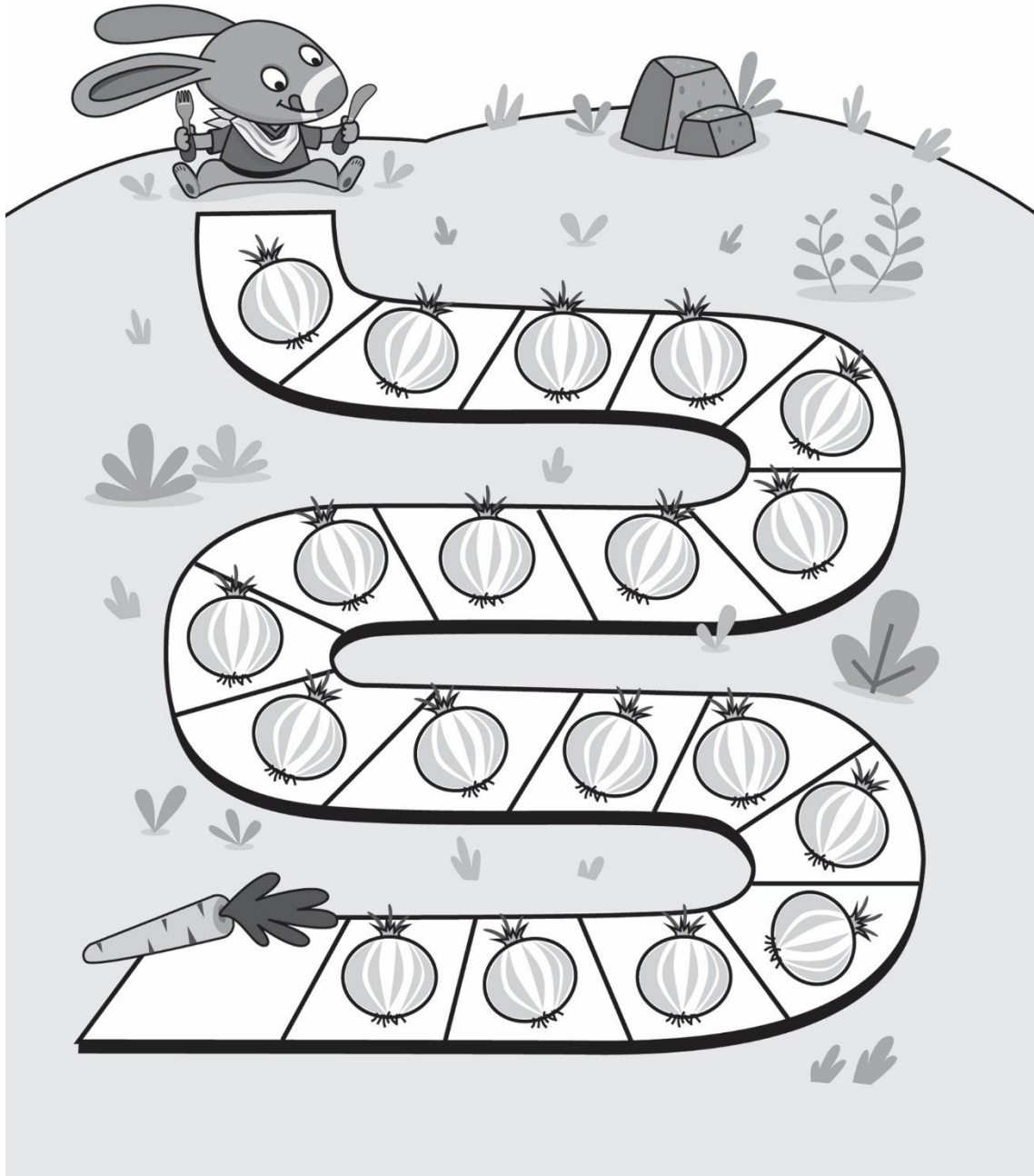
**Master 8d**

# *Hopping On* Game Boards

Name_____ Date _____
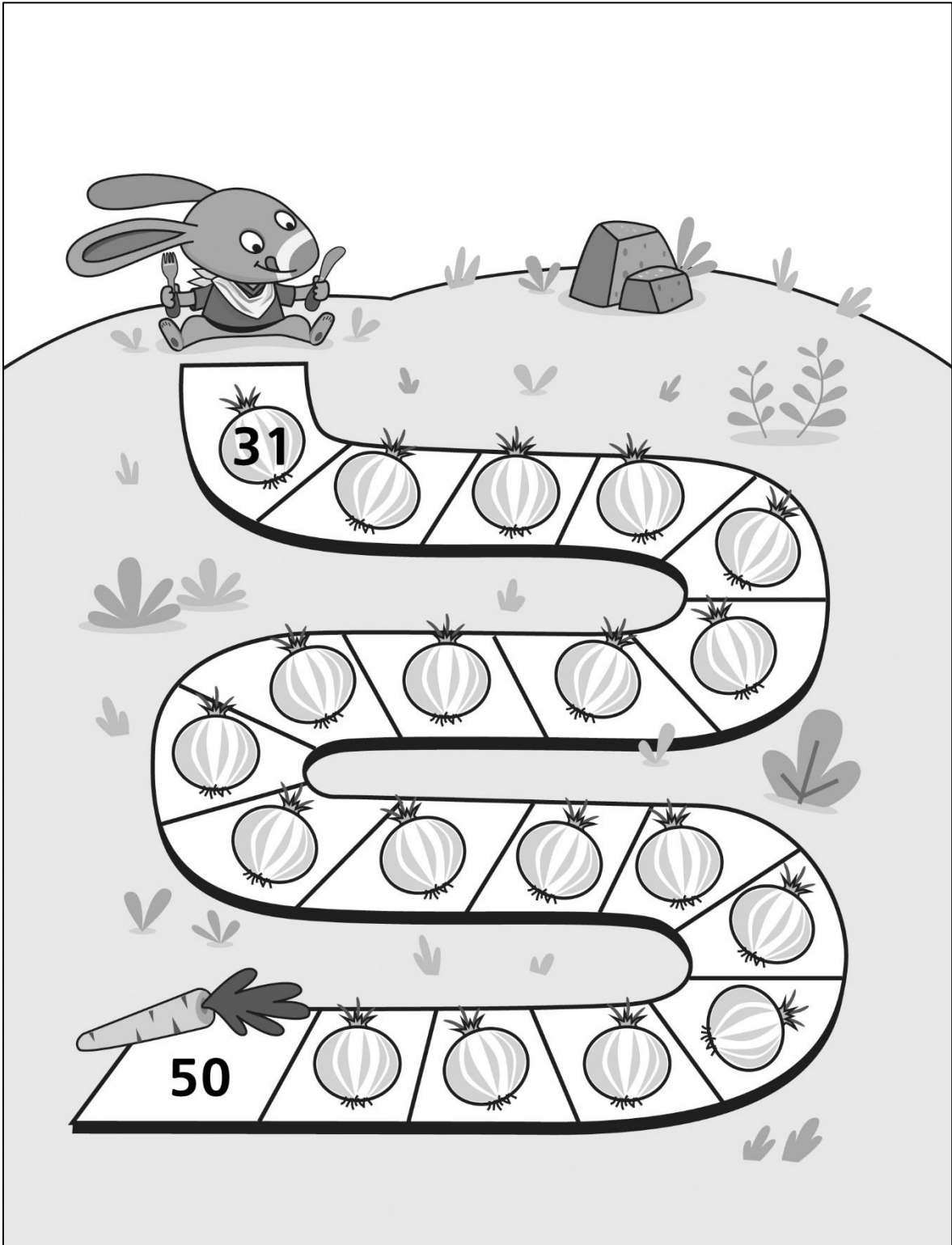
***Hopping On* Game Boards
(for Extension)**

Name_____ Date _____
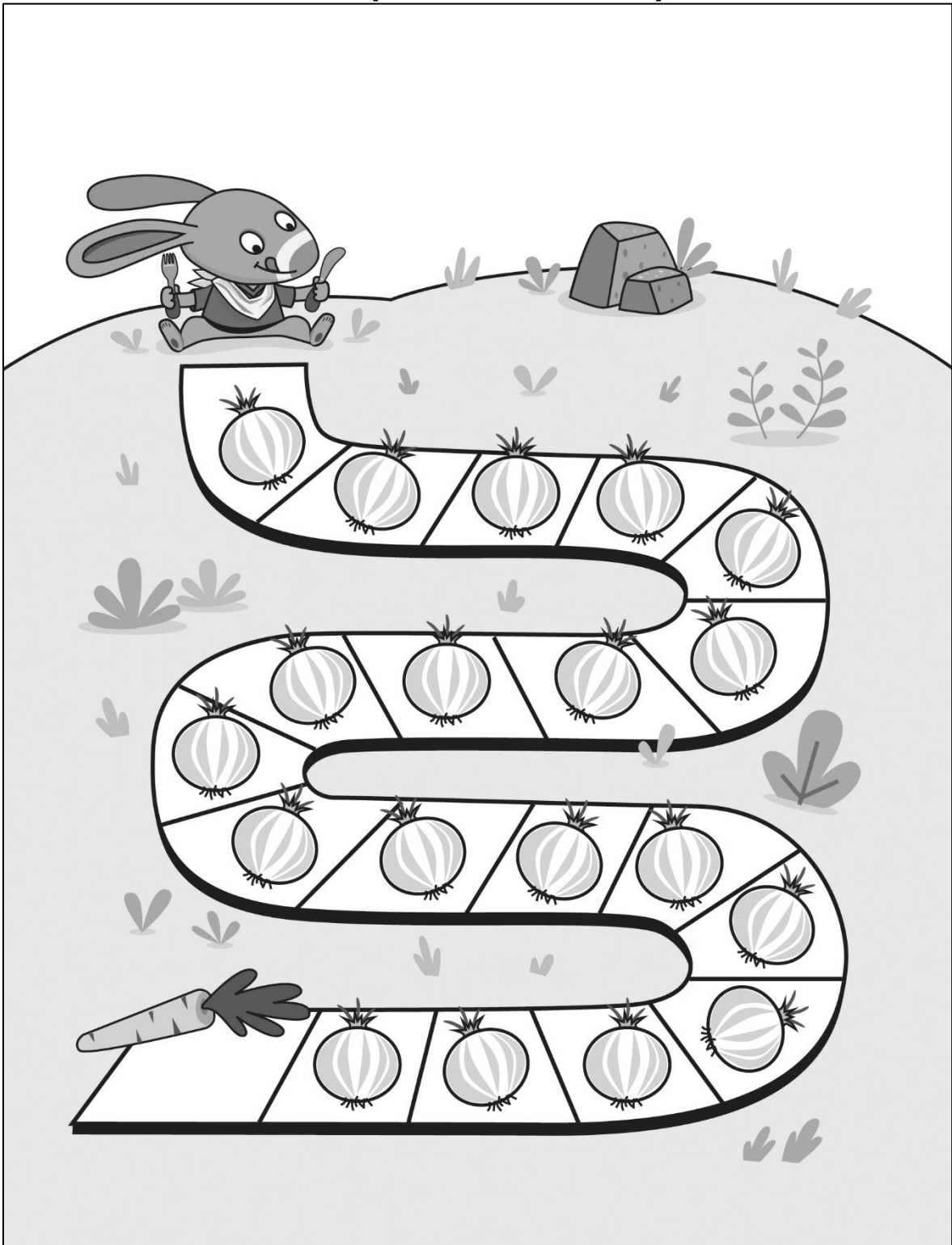
*Hopping Back* Game Boards
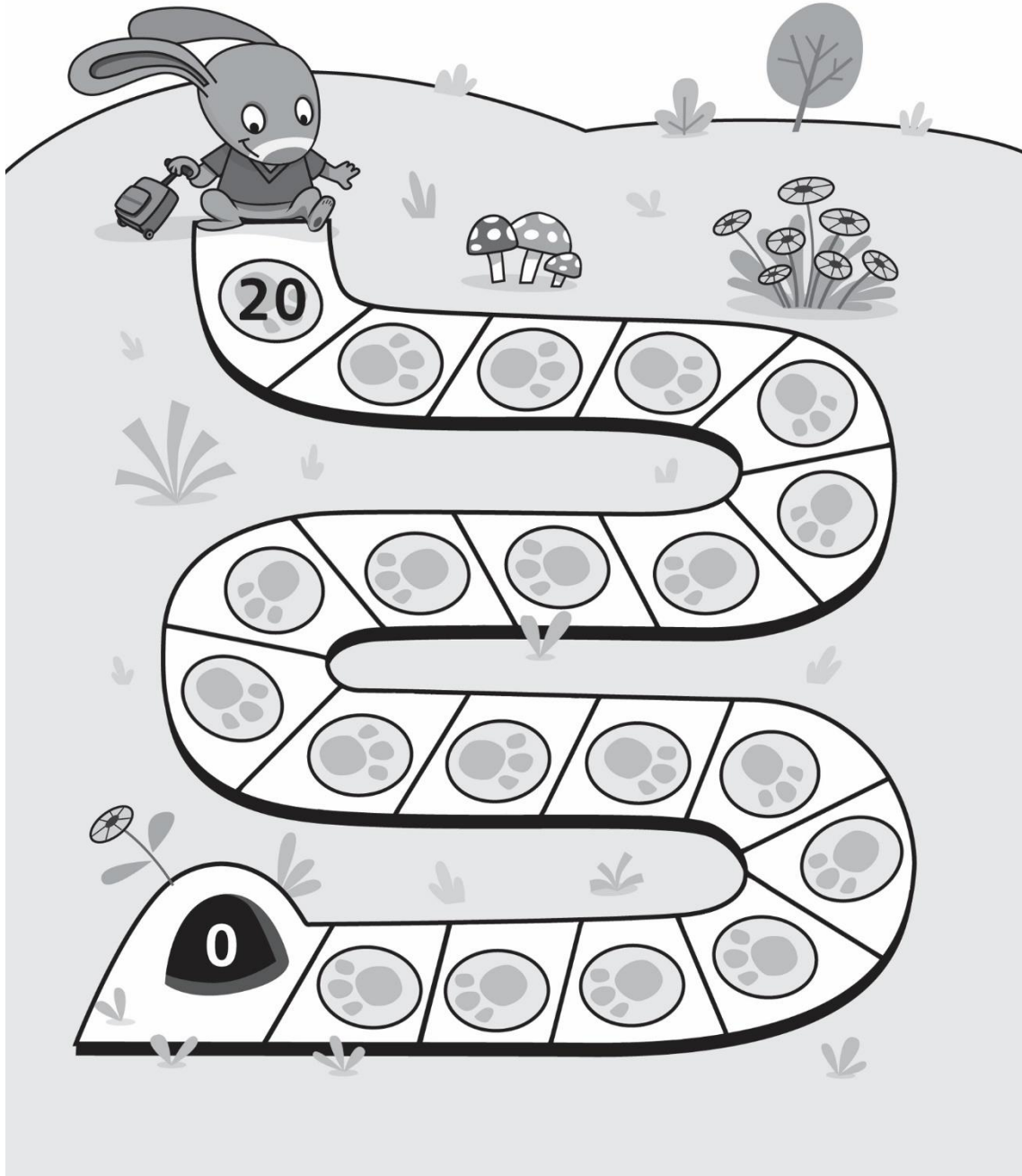
**Master 9b**

# *Hopping Back* Game Boards
# (for Accommodation)

Name_____  Date _____

*Hopping Back* Game Boards

*Hopping Back* Game Boards

Name_____ Date _____
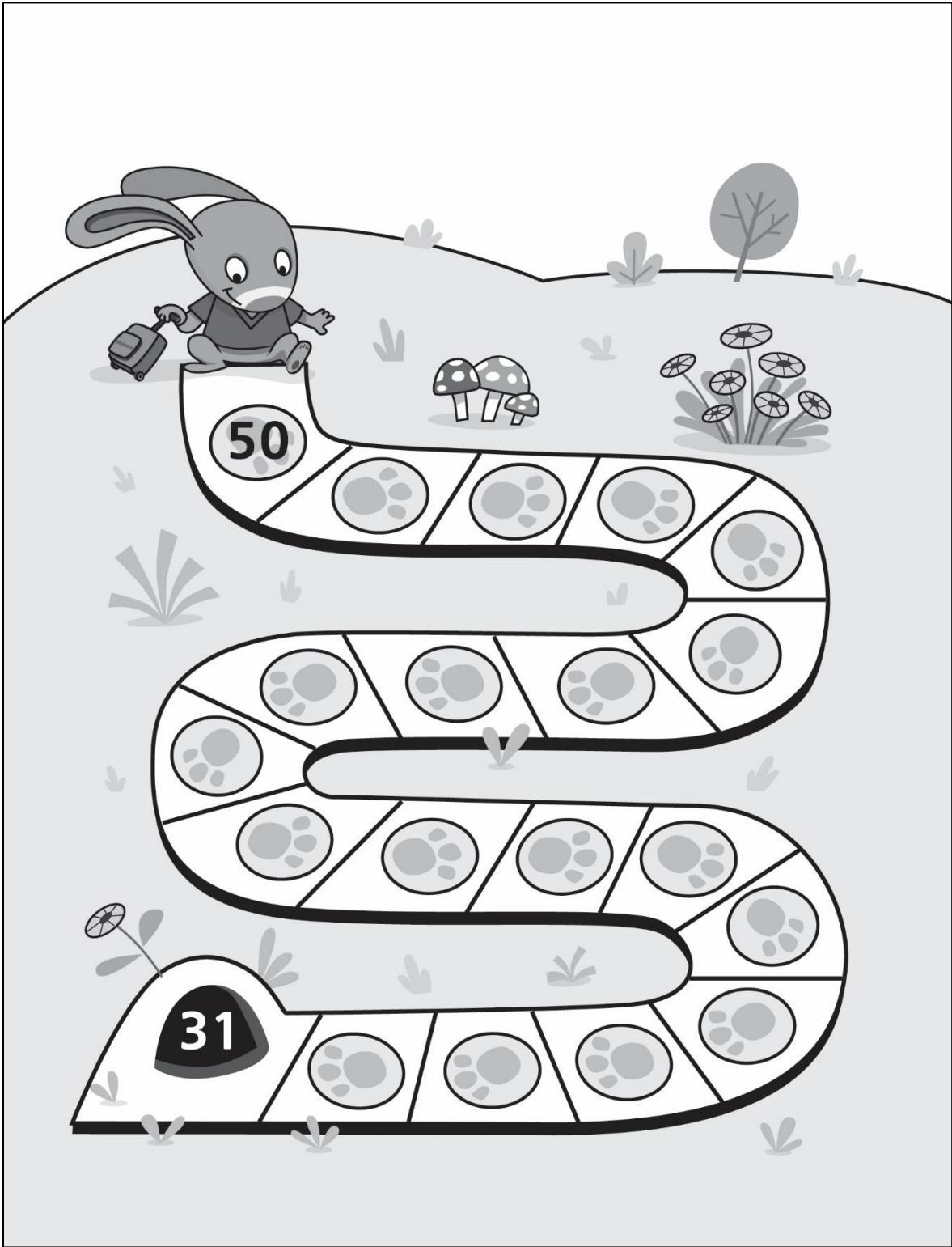
# *Hopping Back* Game Boards
# (for Extension)
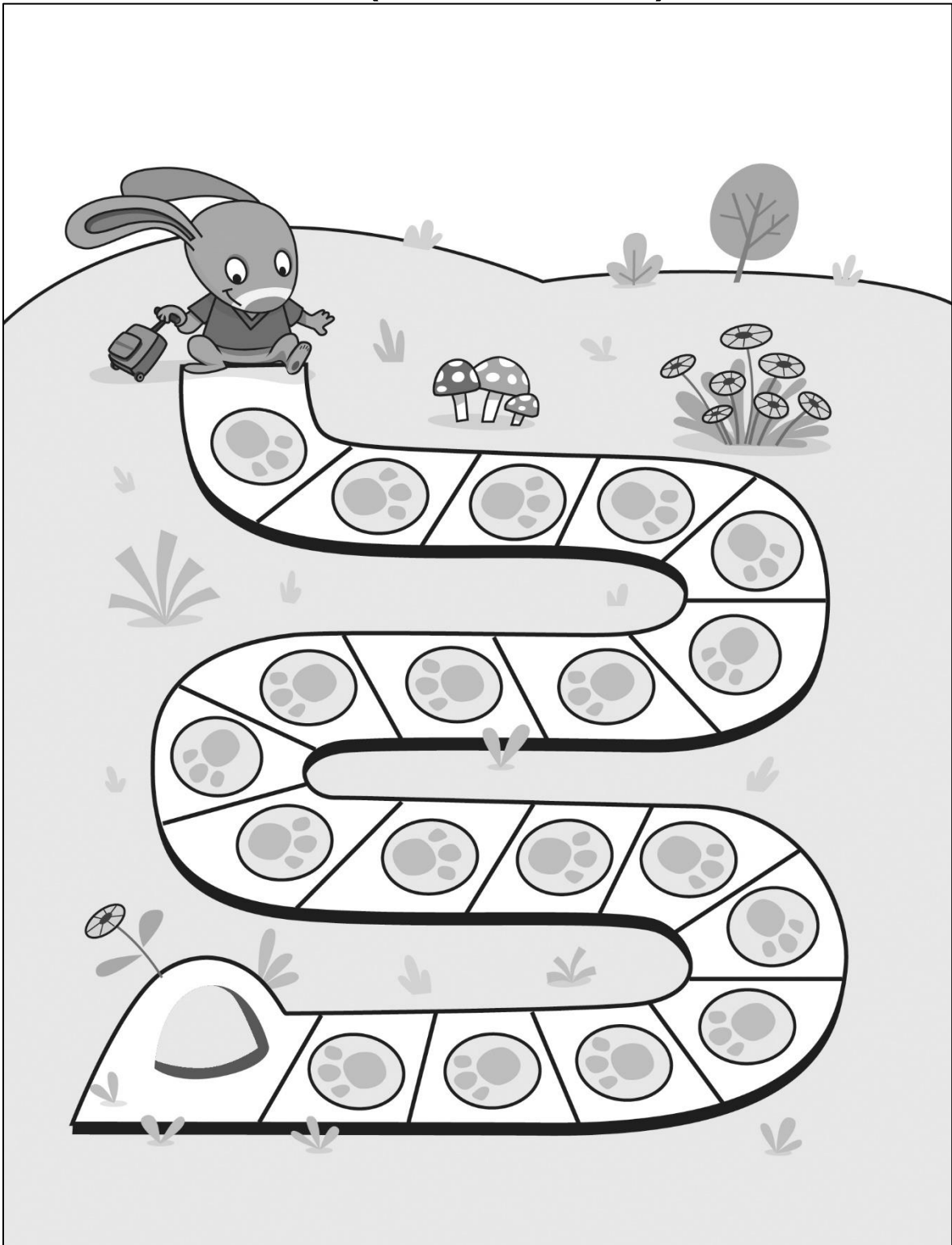
# Master 10: Activity 3 Assessment
## Counting On and Back

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

**Master 11**  # Hundred Chart 1–100

| 1  |    | 3  | 4  |    |    | 7  | 8  |    |    |
|----|----|----|----|----|----|----|----|----|----|
|    | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 |    |    |    | 26 | 27 |    |    |    |
|    |    | 33 | 34 | 35 |    |    |    | 39 | 40 |
| 41 | 42 | 43 | 44 |    | 46 | 47 |    |    |    |
|    |    | 54 |    | 56 | 57 | 58 | 59 |    |    |
| 61 | 62 |    |    |    | 66 | 67 | 68 |    |    |
|    | 72 | 73 |    |    |    | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 |    |    |    | 90 |
|    |    | 94 | 95 |    |    | 98 |    |    |    |

# Hundred Charts (101–200)

| 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 |
| 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 |
| 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 |
| 171 | 172 | 173 | 74 | 175 | 176 | 177 | 178 | 179 | 180 |
| 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 |
| 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |

# Hundred Charts (201–300)

| 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 |
| 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 |
| 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 |
| 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 |
| 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 |
| 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 |
| 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 |
| 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 |
| 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 |

Name_____ Date _____

**Hundred Charts (301–400)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 |
| 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 |
| 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 |
| 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 |
| 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 |
| 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 |
| 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 |
| 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 |
| 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 |
| 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 |

Name_____ Date _____

# Hundred Charts (401–500)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 |
| 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 |
| 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 |
| 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 |
| 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 |
| 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 |
| 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 |
| 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 |
| 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 |
| 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 |

# Master 13: Activity 4 Assessment
**Bridging Tens**

| Counting On and Counting Back Behaviours/Strategies | | |
|---|---|---|
| Student begins with start number, but omits numbers when saying number name sequences forward and backward.<br><br>"11, 12, 14, 16, 17, 18" | Student begins with start number, but mixes up the order when saying number name sequences forward and backward.<br><br>"11, 12, 14, 13, 15, 16" | Student says the number name sequences forward and backward from a given number and relies on the hundred chart or class number line.<br><br>\| 21 \| 22 \| (23) \| 24 \| 25 \| 26 \| 27 \| 28 \| 29 \| 30 \|<br>"24, 25, 26, 27, 28, 29" |
| **Observations/Documentation** | | |
|  |  |  |
| Student says the number name sequences forward and backward from a given number, but struggles to bridge tens.<br><br>"Eight, nine, ten, ten-one, ten-two" | Student says the number name sequences forward and backward from a given number and successfully bridges tens, but does not recognize patterns in the number name sequence.<br><br>"I don't see any patterns." | Student says the number name sequences forward and backward from a given number and uses number patterns to bridge tens. |
| **Observations/Documentation** | | |
|  |  |  |

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# Skip-Counting Forward

# Master 15: Activity 5 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.<br><br>"2, 4, 6, 8, 10, ?" | Student mixes up the numbers in the skip-counting sequence.<br><br>"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** | | |
| | | |

# Master 16: Activity 6 Assessment
## Counting: Consolidation

| **Counting and Skip-Counting Behaviours/Strategies** | | |
|---|---|---|
| Student does not associate the counting or skip-counting number with a quantity. | Student mixes up the number sequence when counting forward.<br><br>"…33, 34, 35, 36, 38, 37…" | Student mixes up the number sequence when counting backward.<br><br>"20, 19, 18, 16, 17, 15…" |
| **Observations/Documentation** | | |
| | | |

| | | |
|---|---|---|
| Student counts forward by 2s to 10, then struggles to know which number comes next.<br><br>"0, 2, 4, 6, 8, 10, ?" | Student says the number name sequences backward and forward from a given number, but struggles to bridge tens.<br><br>"Eight, nine, ten, ten-one, ten-two…" | Student counts on and back by 1s and skip counts by 2s, 5s, and 10s with ease.<br><br>"20, 19, 18, 17, 16, 15…" |
| **Observations/Documentation** | | |
| | | |

**Master 105**

# Hundred Chart (0–99)

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 |
| 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 |
| 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 |
| 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 |
| 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 |

Name_____ Date _____

| | |
|:---:|:---:|
| 0 | 1 |
| 2 | 3 |
| 4 | 5 |
| 6 | 7 |
| 8 | 9 |

Name_____ Date _____

| | |
|:---:|:---:|
| 10 | 11 |
| 12 | 13 |
| 14 | 15 |
| 16 | 17 |
| 18 | 19 |

**Master 106c**    **Number Cards (20)** (Accommodations)
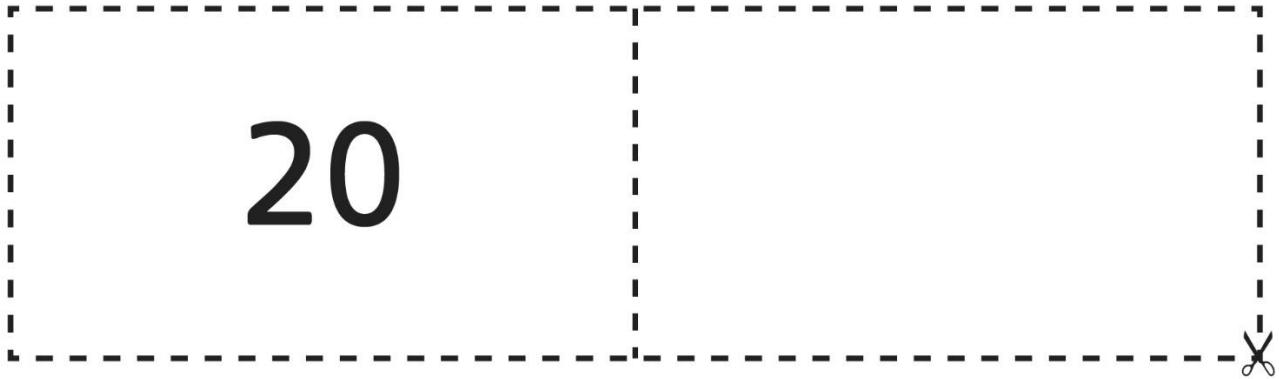
| 20 | |
|---|---|

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |

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## Mathology Grade 1 Correlation – Alberta
## Number Cluster 2: Spatial Reasoning

**Organizing Idea:**

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

| Guiding Question: How can quantity be communicated? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Familiar arrangements of small quantities facilitate subitizing. | A quantity can be perceived as the composition of smaller quantities. | Recognize quantities to 10. | **Number Cluster 2: Spatial Reasoning**<br>7: Subitizing to 10<br>9: Consolidation | |

| Guiding Question: How can addition and subtraction provide perspectives of number? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students examine addition and subtraction within 20. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Quantities can be composed or decomposed to model a change in quantity.<br><br>Addition can be applied in various contexts, including<br>• combining parts to find the whole<br>• increasing an existing quantity<br><br>Subtraction can be applied in various contexts, including<br>• comparing two quantities<br>• taking away one quantity from another<br>• finding a part of a whole<br><br>Addition and subtraction can be modelled using a balance. | Addition and subtraction are processes that describe the composition and decomposition of quantity. | Visualize quantities between 10 and 20 as compositions of 10 and another quantity. | **Number Cluster 2: Spatial Reasoning**<br>7: Subitizing to 10<br>8: Estimating Quantities<br>9: Consolidation | That's 10!<br>Paddling the River<br>Hockey Time! |

**Master 18a**
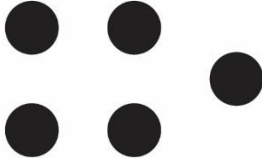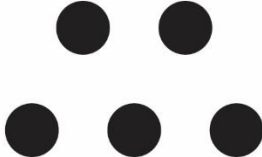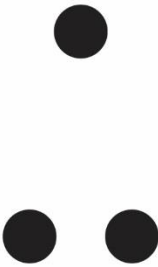
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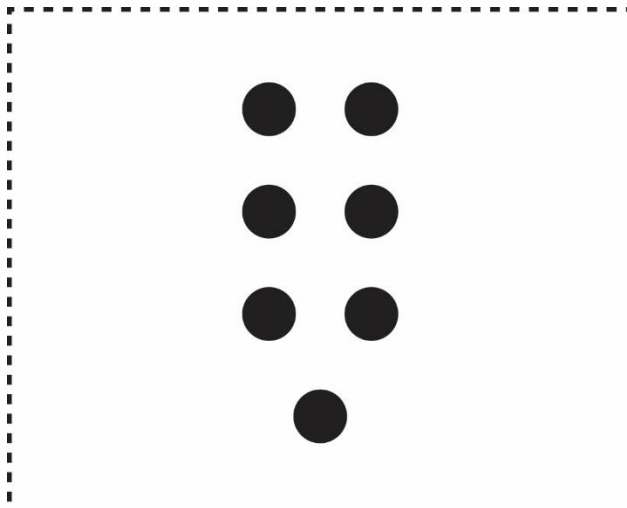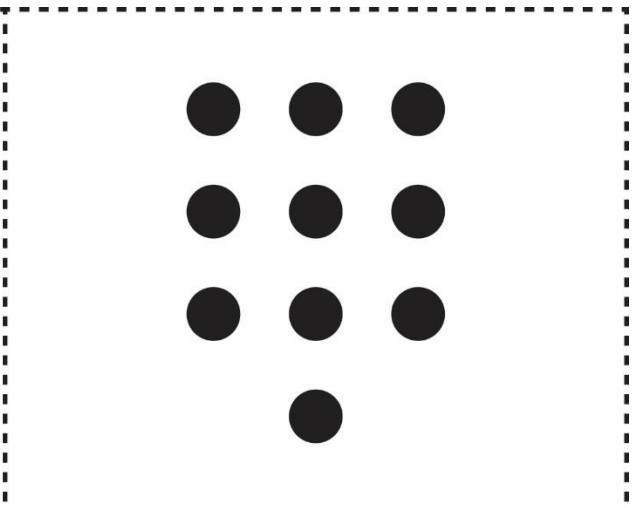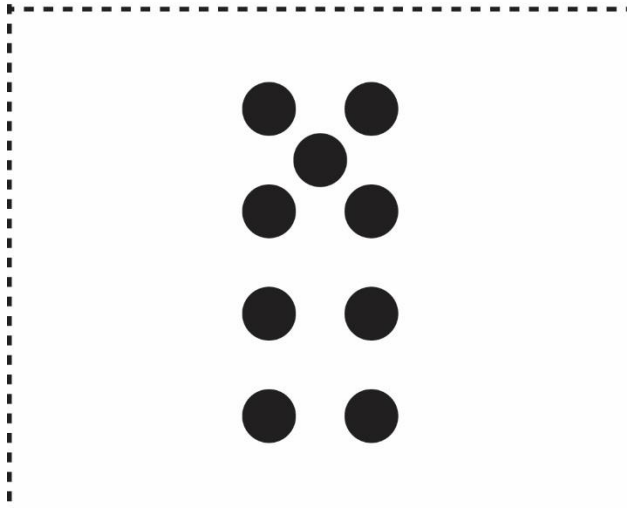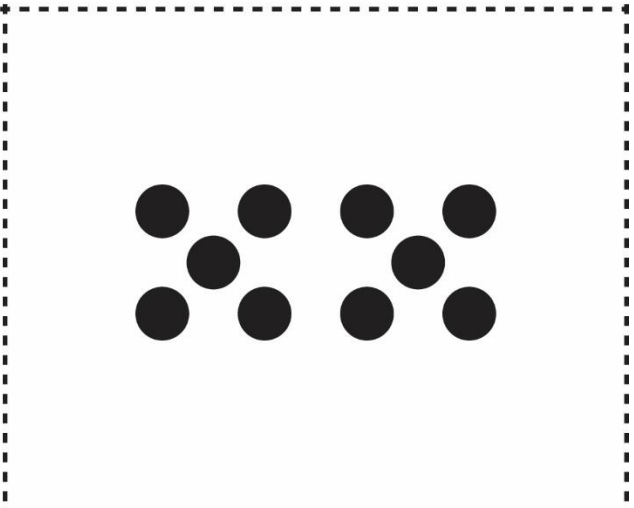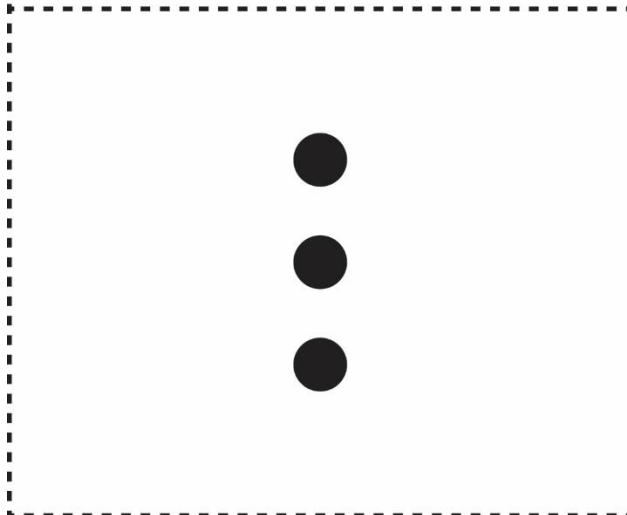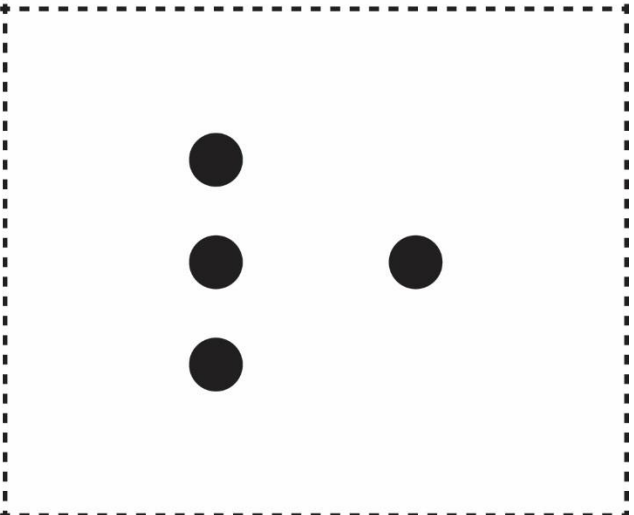
Name_____ Date _____

# Dot Cards

**Master 18c**

# Dot Cards
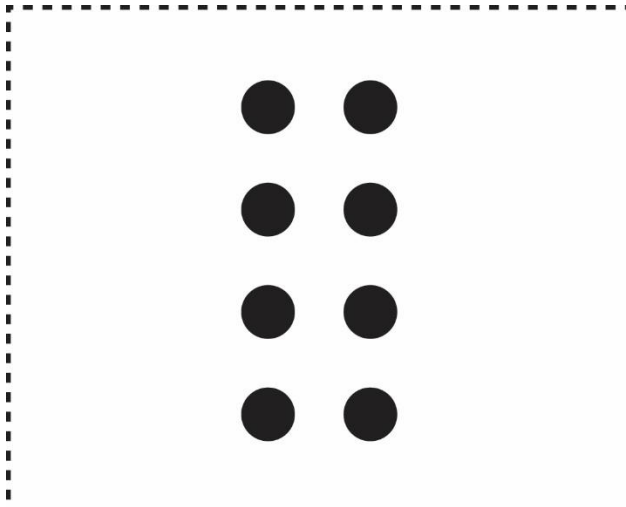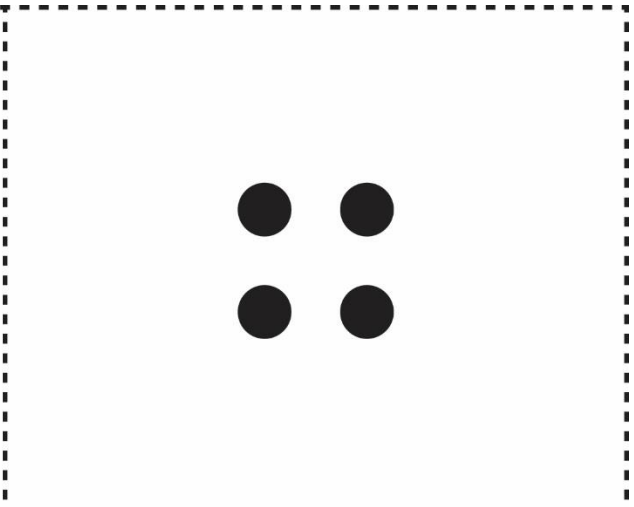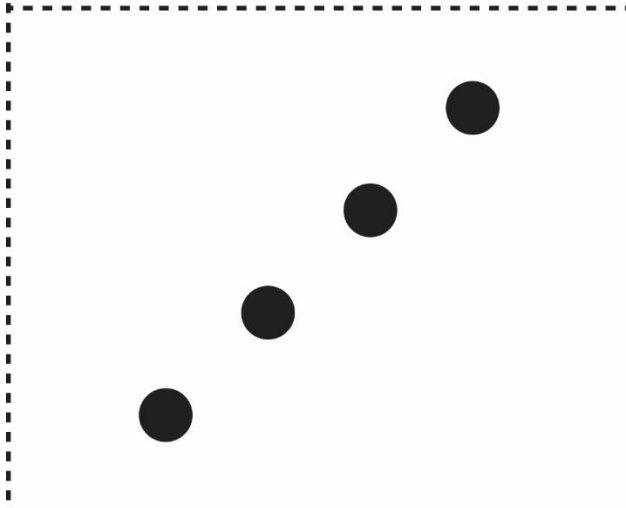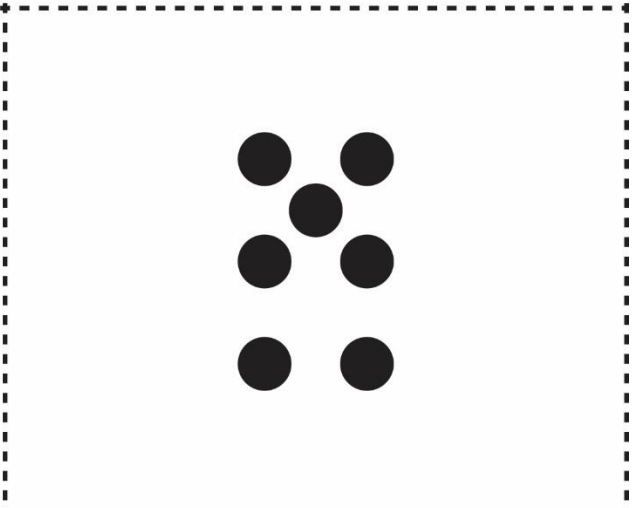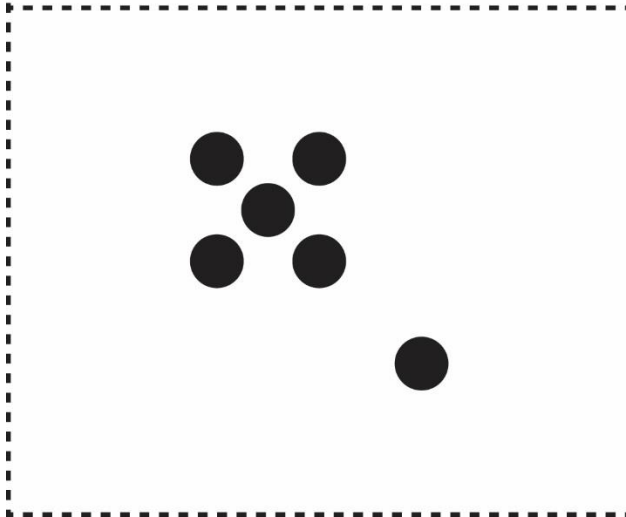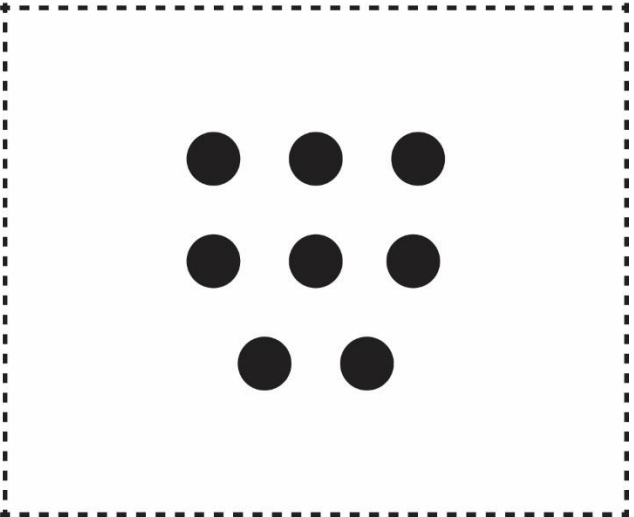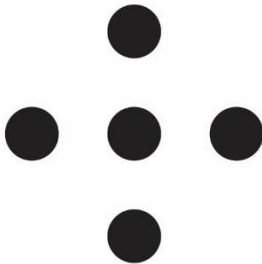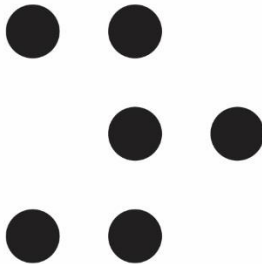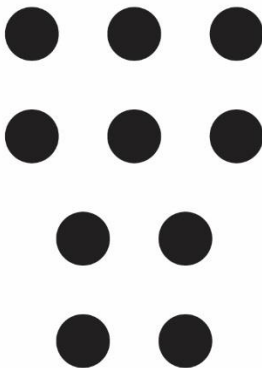
**Master 18d**

# Dot Cards

# Dot Cards

**Master 19**

# How Many Dots?
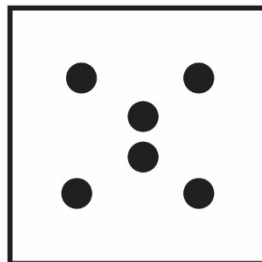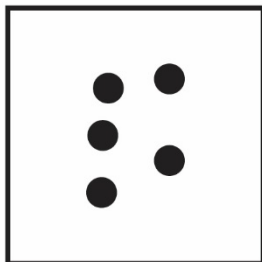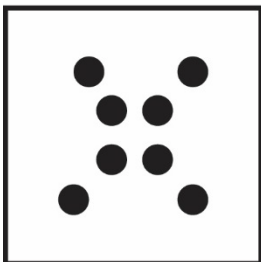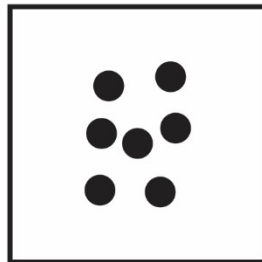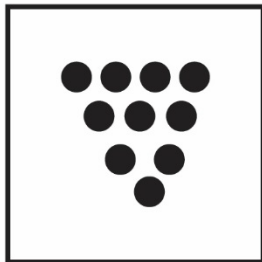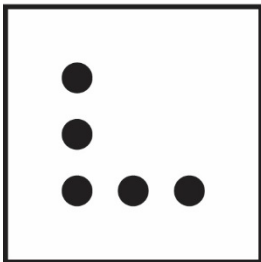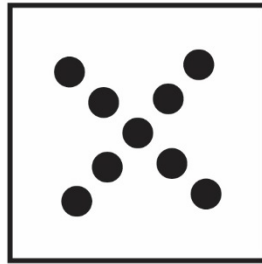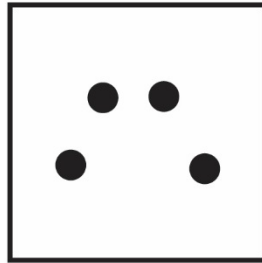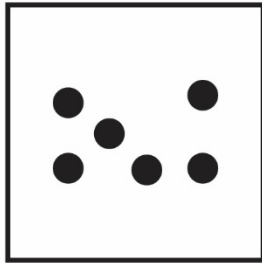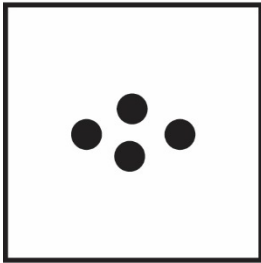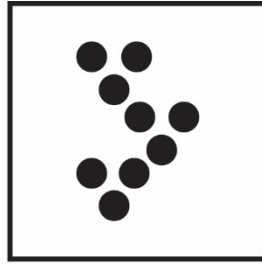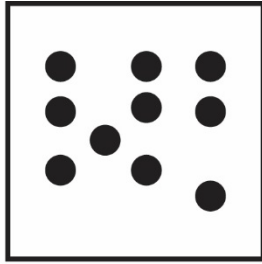
# Master 20: Activity 7 Assessment
## Subitizing to 10

| 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 _____

*Grab 50!* **Recording Sheet**

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

# Master 22: Activity 8 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 _____

*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

# Master 24: Activity 9 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** | | | |
| | | | |

**Pearson mathology**

**Mathology Grade 1 Correlation – Alberta**
**Number Cluster 3: Comparing and Ordering**

**Organizing Idea:**
Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

| Guiding Question: How can quantity be communicated? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Comparisons of quantity can be described by using word such as<br>• equal<br>• not equal<br>• less<br>• more<br><br>Equality can be modelled using a balance.<br><br>The equal sign, =, is used to show equality between two quantities.<br><br>The unequal sign, ≠, is used to show that two quantities are not equal. | Two quantities are equal when there is the same number of objects in both sets.<br><br>Equality is a balance between two quantities. | Represent a quantity relative to another, including symbolically. | **Number Cluster 3: Comparing and Ordering**<br>10.Comparing Sets Concretely<br>11: Comparing Sets Pictorially<br>12: Comparing Numbers to 100<br>13: Consolidation | Paddling the River (Numbers to 20.)<br><br>Cats and Kittens (Numbers to 20.)<br><br>Nutty and Wolfy (Numbers to 20.) |

**Master 26**
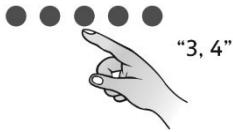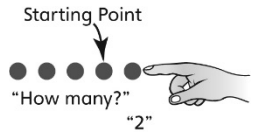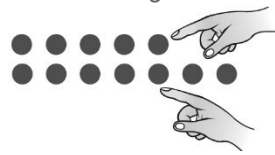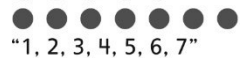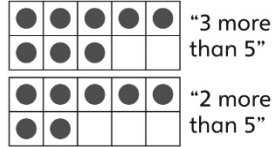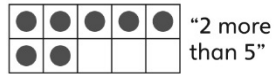
# More/Fewer Cards

| **More** | **Fewer** |
|---|---|
| **More** | **Fewer** |
| **More** | **Fewer** |
| **More** | **Fewer** |

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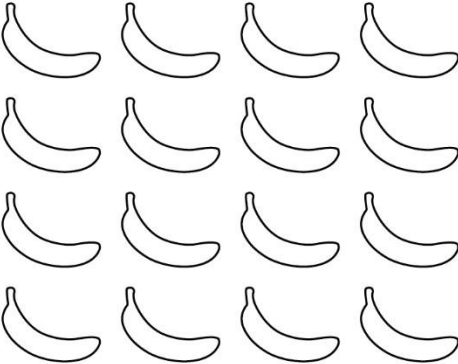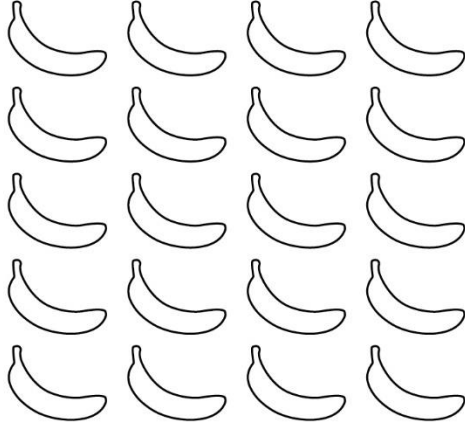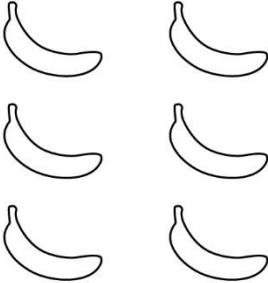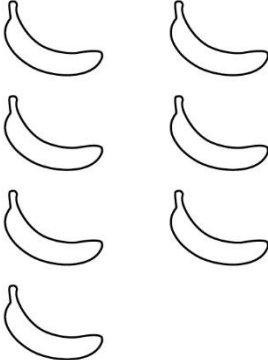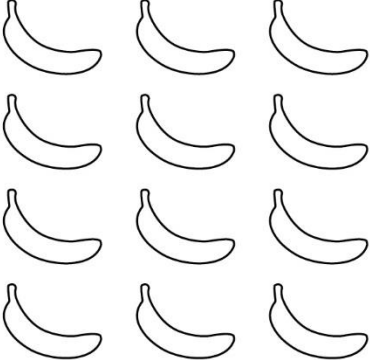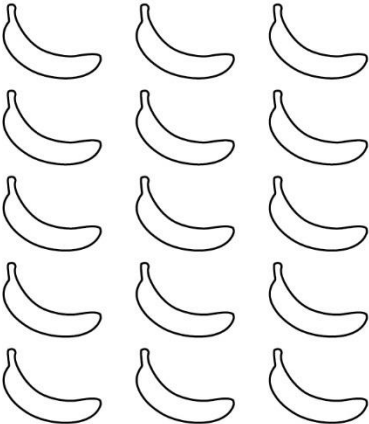
# Master 27: Activity 10 Assessment
## Comparing Sets Concretely

## Counting Sets Behaviours/Strategies

| Student mixes up the number sequence when counting counters. | 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. |
|---|---|---|---|
| "1, 2, 3, 5, 7, 8, 10" | | "3, 4" | Starting Point<br>"How many?" "2" |

## Observations/Documentation

| | | | |
|---|---|---|---|
| | | | |

## Comparing Sets Behaviours/Strategies

| Student compares the sets using one-to-one matching. | Student compares the sets using counting. | Student uses number relationships to compare sets. | Students uses mental strategies to compare sets (e.g., visualizing ten-frames). |
|---|---|---|---|
| | "1, 2, 3, 4, 5"<br>"1, 2, 3, 4, 5, 6, 7" | "3 more than 5"<br>"2 more than 5" | |

## Observations/Documentation

| | | | |
|---|---|---|---|
| | | | |

**Master 28a**

# Banana Cards

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**Master 28b**

# Banana Cards

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**Master 28c**

# Banana Cards

**Master 29a**   **Number Cards (1–10)**

| 1 | 2 |
|---|---|
| 3 | 4 |
| 5 | 6 |
| 7 | 8 |
| q | 10 |

**Master 29b**    **Number Cards (11–20)**

| | |
|:---:|:---:|
| **11** | **12** |
| **13** | **14** |
| **15** | **16** |
| **17** | **18** |
| **19** | **20** |

Name_____ Date _____

**Number Cards (21–30)**

| | |
|:---:|:---:|
| 21 | 22 |
| 23 | 24 |
| 25 | 26 |
| 27 | 28 |
| 29 | 30 |

Name_____ Date _____

**Number Cards (31–40)**

| | |
|:---:|:---:|
| **31** | **32** |
| **33** | **34** |
| **35** | **36** |
| **37** | **38** |
| **39** | **40** |

Name_____   Date _____

| | |
|:---:|:---:|
| **41** | **42** |
| **43** | **44** |
| **45** | **46** |
| **47** | **48** |
| **49** | **50** |

**Master 29f**    **Number Cards (51–60)**

| | |
|:---:|:---:|
| **51** | **52** |
| **53** | **54** |
| **55** | **56** |
| **57** | **58** |
| **59** | **60** |

**Master 29g**    # Number Cards (61–70)

| 61 | 62 |
|----|----|
| 63 | 64 |
| 65 | 66 |
| 67 | 68 |
| 69 | 70 |

Name_____ Date _____

**Number Cards (71–80)**

| 71 | 72 |
| 73 | 74 |
| 75 | 76 |
| 77 | 78 |
| 79 | 80 |

**Master 29i** **Number Cards (81–90)**

| | |
|---|---|
| **81** | **82** |
| **83** | **84** |
| **85** | **86** |
| **87** | **88** |
| **89** | **90** |
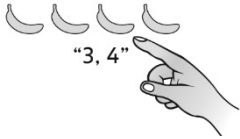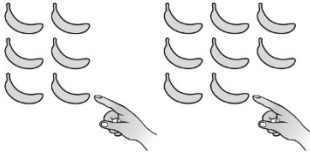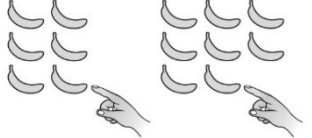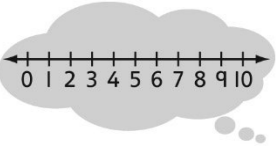
**Master 29j** **Number Cards (91–100)**

| 91 | 92 |
|----|----|
| 93 | 94 |
| 95 | 96 |
| 97 | 98 |
| 99 | 100 |
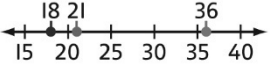
# Master 30: Activity 11 Assessment
## Comparing Sets Pictorially

| Counting and Comparing Sets Behaviours/Strategies | | | |
|---|---|---|---|
| Student does not say the number sequence correctly when counting bananas.<br><br>"1, 2, 3, 5, 7, 8, 10" | Student loses track of the count, misses bananas in the count, or counts bananas more than once.<br><br>"3, 4" | Student compares the sets using one-to-one matching. | Student compares the sets using counting.<br>"I, 2, … , 5, 6"<br><br>"I, 2, … , 6, 7, 8" |

**Observations/Documentation**

| | | | |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| Student uses number relationships to compare sets.<br>"I more than 5"<br><br>"3 more than 5" | Student uses mental strategies to compare sets (e.g., 8 comes after 6 on a number line).<br><br>0 I 2 3 4 5 6 7 8 9 I0 | 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**

| | | | |
|---|---|---|---|
| | | | |

# Master 31: Activity 12 Assessment
## Comparing Numbers to 100

| 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.<br><br>"27, 6, 19" | Student focuses on the last digit of the numbers.<br><br>"22, 43, 19"<br>"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.<br><br>"26, 19, 6" | Students uses mental strategies to compare sets (36 comes after 21 and 21 comes after 18 on a number line).<br><br>18 21    36<br>15  20  25  30  35  40 |

| Observations/Documentation | | | |
|---|---|---|---|
| | | | |

# Fish Outlines

Addie

**Fish Outlines**

Bart

**Master 32c**

# Fish Outlines

Cam
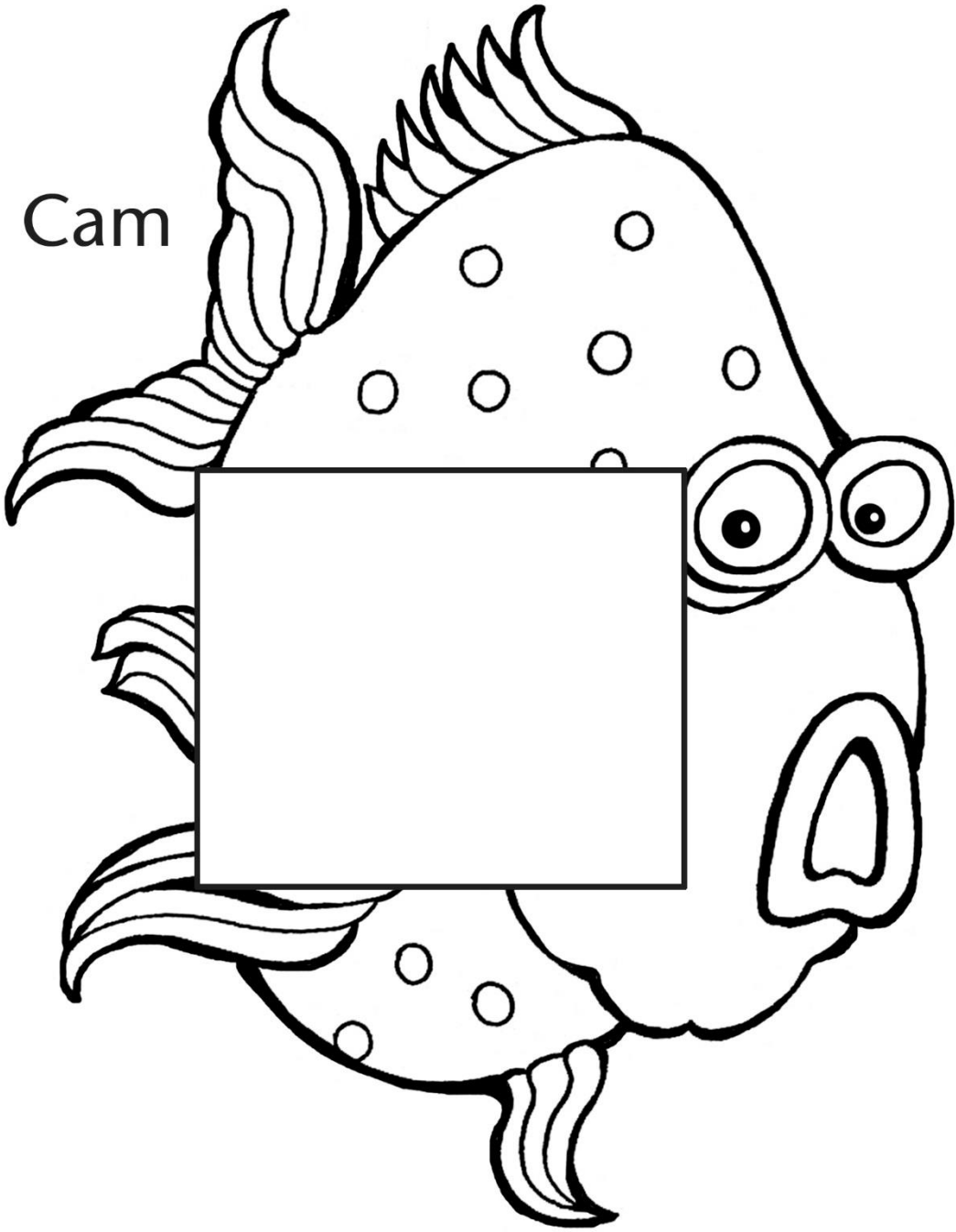
**Master 32d**

# Fish Outlines

Doris

# Fish Outlines

Elmo

| 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.<br><br>"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 | | | |
|---|---|---|---|
| | | | |

**Pearson mathology**

**Mathology Grade 1 Correlation – Alberta**
**Number Cluster 4: Composing and Decomposing**

**Organizing Idea:**
Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

| Guiding Question: How can quantity be communicated? |||||
|---|---|---|---|---|
| **Learning Outcome:** Students interpret and explain quantity to 100. |||||
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Sharing involves partitioning a quantity into a certain number of groups.<br><br>Grouping involves partitioning a quantity into groups of a certain size. | Quantity can be partitioned by sharing or grouping. | Partition a set of objects by sharing and grouping. | **Number Cluster 4: Composing and Decomposing**<br>17: Equal Groups<br>18: Equal Parts | |
| | | Demonstrate conservation of number when sharing or grouping. | **Number Cluster 4: Composing and Decomposing**<br>17: Equal Groups<br>18: Equal Parts | |

| Guiding Question: How can addition and subtraction provide perspectives of number? | | | | |
|---|---|---|---|---|
| Learning Outcome: Students examine addition and subtraction within 20. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Quantities can be composed or decomposed to model a change in quantity.<br><br>Addition can be applied in various contexts, including<br>• combining parts to find the whole<br>• increasing an existing quantity<br><br>Subtraction can be applied in various contexts, including<br>• comparing two quantities<br>• taking away one quantity from another<br>• finding a part of a whole<br><br>Addition and subtraction can be modelled using a balance. | Addition and subtraction are processes that describe the composition and decomposition of quantity. | Relate addition and subtraction to various contexts involving composition or decomposition of quantity. | **Number Cluster 4: Composing and Decomposing**<br>14: Decomposing 10<br>15: Numbers to 10<br>16: Numbers to 20<br>20: Consolidation | |

| Strategies are meaningful steps taken to solve problems.<br><br>Addition and subtraction strategies include<br><br>• counting on<br>• counting back<br>• decomposition<br>• compensation<br>• making tens<br><br>Sums and differences can be expressed symbolically using the addition sign, +, the subtraction sign, -, and the equal sign, =.<br><br>The order in which two quantities are added does not affect the sum (commutative property).<br><br>The order in which two quantities are subtracted affects the difference.<br><br>Addition of 0 to any number, or subtraction of 0 from any number, results in the same number (zero property).<br><br>A missing quantity in a sum or difference can be represented in different ways, including<br><br>• $a + b = \square$<br>• $a + \square = c$<br>• $\square + b = c$<br>• $e - f = \square$<br>• $e - \square = g$<br>• $\square - f = g$ | Addition and subtraction are opposite (inverse) mathematical operations. | Investigate addition and subtraction strategies. | **Number Cluster 4: Composing and Decomposing**<br>16: Numbers to 20 | That's 10!<br>Hockey Time!<br>Canada's Oldest Sport |
| | | Add and subtract within 20. | **Number Cluster 4: Composing and Decomposing**<br>16: Numbers to 20 | Buy 1—Get 1<br>Hockey Time!<br>Cats and Kittens!<br>Canada's Oldest Sport |

**Master 34d**

| | | | | |
|---|---|---|---|---|
| **Guiding Question:** In what ways can parts and wholes be related? <br> **Learning Outcome:** Students examine one-half as a part-whole relationship. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| One-half can be one of two equal groups or one of two equal pieces. | In a quantity partitioned into two equal groups, each group represents one-half of the whole quantity. <br><br> In a shape or object partitioned into two identical pieces, each piece represents one-half of the whole. | Identify one-half in familiar situations. | **Number Cluster 4: Composing and Decomposing** <br> 19: Exploring Halves | Grade 2 <br> The Best Birthday |
| | | Partition an even set of objects into two equal groups, limited to sets of 10 or less. | **Number Cluster 4: Composing and Decomposing** <br> 19: Exploring Halves | Grade 2 <br> The Best Birthday |
| | | Partition a shape or object into two equal pieces. | **Number Cluster 4: Composing and Decomposing** <br> 19: Exploring Halves | |
| | | Describe one of two equal groups or pieces as one-half. | **Number Cluster 4: Composing and Decomposing** <br> 19: Exploring Halves | |
| | | Verify that the two halves of one whole group, shape, or object are the same size. | **Number Cluster 4: Composing and Decomposing** <br> 19: Exploring Halves | |

Name_____ Date _____

**_Ten in the Pools_ Recording Sheet**

| Pool A | Pool B |
|--------|--------|
|        |        |

Name_____ Date _____
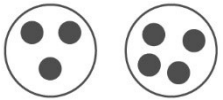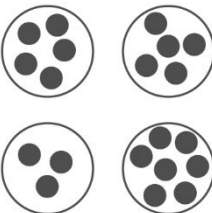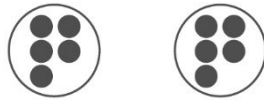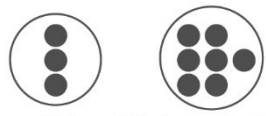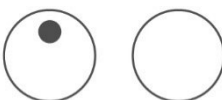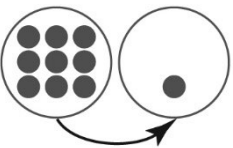
*Ten in the Pools* **Recording Sheet**

| Pool A | Pool B | Pool C |
|--------|--------|--------|
|        |        |        |

## Representing and Counting Behaviours/Strategies

| Student does not place all 10 counters in the pools. | Student selects numbers randomly, 5 and 5, then 3 and 7. | Student counts three times to confirm how many. | Student counts on to confirm how many. |
|---|---|---|---|
| "1, 2, 3"  "1, 2, 3, 4" | | "1, 2, 3, 4, 5"  "1, 2, 3, 4, 5"  "1, 2, 3, 4, …, 8, 9, 10" | "3"  "4, 5, …, 8, 9, 10" |

### Observations/Documentation

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

| Student removes all counters and starts again to find a new way. | 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. |
|---|---|---|---|
| "1, …" | | | $0 + 10 = 10$  $6 + 4 = 10$<br>$1 + 9 = 10$  $7 + 3 = 10$<br>$2 + 8 = 10$  $8 + 2 = 10$<br>$3 + 7 = 10$  $9 + 1 = 10$<br>$4 + 6 = 10$  $10 + 0 = 10$<br>$5 + 5 = 10$ |

### Observations/Documentation

|  |  |  |
|---|---|---|
|  |  |  |

Name_____ Date _____

# Tower Recording Sheet

**Note:** Use one recording sheet per number.

| Number Card | Number of _____ Cubes | Number of _____ Cubes |
| --- | --- | --- |
|  |  |  |

# Master 38: Activity 15 Assessment
**Numbers to 10**

| Representing and Counting Behaviours/Strategies | | |
|---|---|---|
| Student selects cubes randomly.<br><br>"4 and 4, then I and 7" | Student counts three times to confirm how many.<br><br>"I, 2, 3, 4"<br><br>"I, 2, 3, 4"<br><br>"I, 2, 3, 4, 5, 6, 7, 8" | Student counts on to confirm how many.<br><br>"3, 4, 5, 6, 7, 8"<br><br>"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.<br><br>0 + 8 = 8    5 + 3 = 8<br>I + 7 = 8    6 + 2 = 8<br>2 + 6 = 8    7 + I = 8<br>3 + 5 = 8    8 + 0 = 8<br>4 + 4 = 8 |

| Observations/Documentation | | |
|---|---|---|
| | | |

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# Ten-Frame Recording Sheet

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

# Master 40: Activity 16 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. "1, 2, 3, 4, 5, 6, 7" "1, 2, 3, 4, 5, 6" "1, 2, 3, 4, …, 11, 12, 13" | Student counts on from the number of counters in the first ten-frame. "7" "8, 9, 10, 11, 12, 13" |
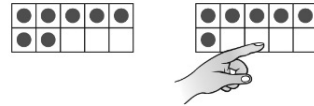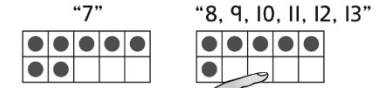
### Observations/Documentation

| | | |
|---|---|---|
| | | |

## 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." |
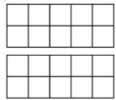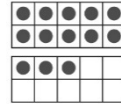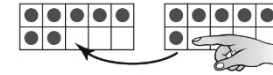
### Observations/Documentation

| | | |
|---|---|---|
| | | |

Name_____ Date _____

**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 | | | |
| | | | |
| | | | |

# Master 42: Activity 17 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. "I can't make towers of 5 because I have cubes left over." | 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. "1, 2, 3, 4, 5" | Student continues to skip-count to count the leftover cubes. "5, 10, 15, 20, 25, 30" | 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, 16, 17, 18" |

| Observations/Documentation | | |
|---|---|---|
| | | |
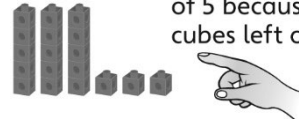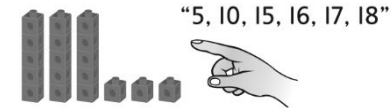
# Master 43: Activity 18 Assessment
## Equal Parts

| Partitioning and Describing Parts of a Whole Behaviours/Strategies | | |
| --- | --- | --- |
| Student does not recognize and describe one-half.<br><br>"These both show half." | Student partitions a whole into the correct number of parts, but the parts are not all equal.<br><br>"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.<br><br>"There are 3 small halves." | Student partitions a whole into equal parts, but doesn't consider the whole when discussing fractions.<br><br>"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** | | |
| | | |
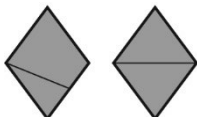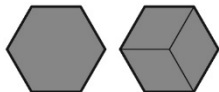
# Master 44: Activity 19 Assessment
## Composing and Decomposing: Where's the Other Half?

| Identifying and Partitioning Parts of a Whole Behaviours/Strategies | | |
|---|---|---|
| Student has difficulty identifying one-half in familiar situations. | Student has difficulty partitioning a shape or object into two equal pieces. | Student identifies one-half of familiar shapes and objects, partitions shapes and objects into equal parts, and verifies that the two halves of the whole are the same size. |
| "I don't know how much is covered." | "I folded it in half." | "The paper is folded in half, because both parts are the same size." |

| Observations/Documentation | | |
|---|---|---|
| | | |
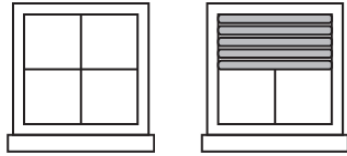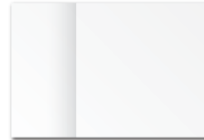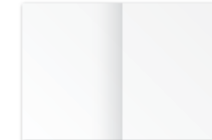
# Master 44: Activity 19 Assessment
## Composing and Decomposing: Where's the Other Half?

| Making and Describing Equal Groups Behaviours/Strategies | | |
|---|---|---|
| Student struggles to partition an even set of up to 10 objects into 2 equal groups.<br><br>"I put the counters in equal groups." | Student struggles to describe 1 of 2 equal groups as one-half.<br><br>"5 counters." | Student partitions even sets of up to 10 objects into 2 equal groups, describes each of the groups as one-half, and verifies that the 2 groups have the same number of objects.<br><br>"Each group is one-half of the whole group." |
| **Observations/Documentation** | | |
| | | |

Name_____ Date _____

# Shape Cutouts

Name_____ Date _____

# Shape Cutouts

Name_____ Date _____

# Shape Cutouts

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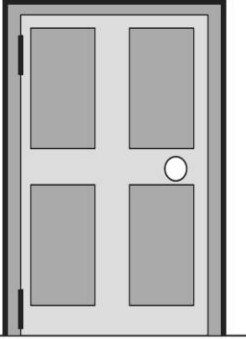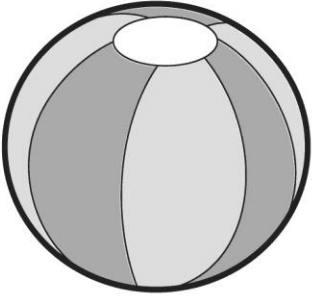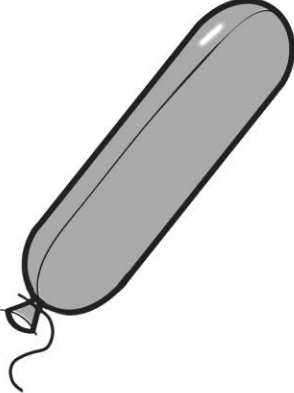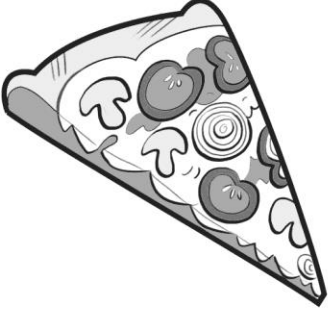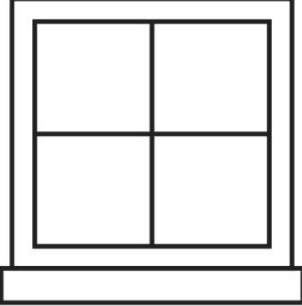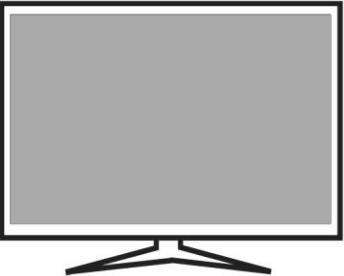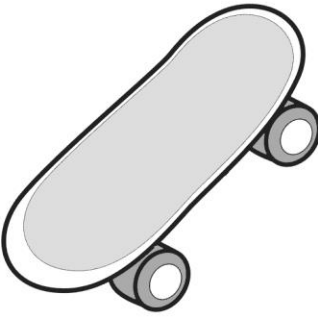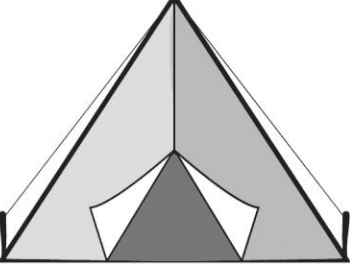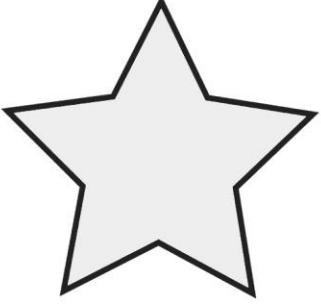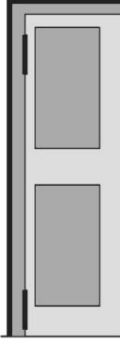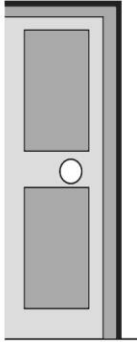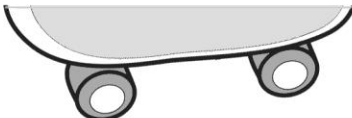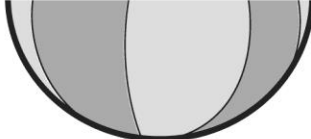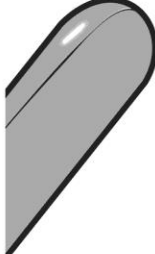
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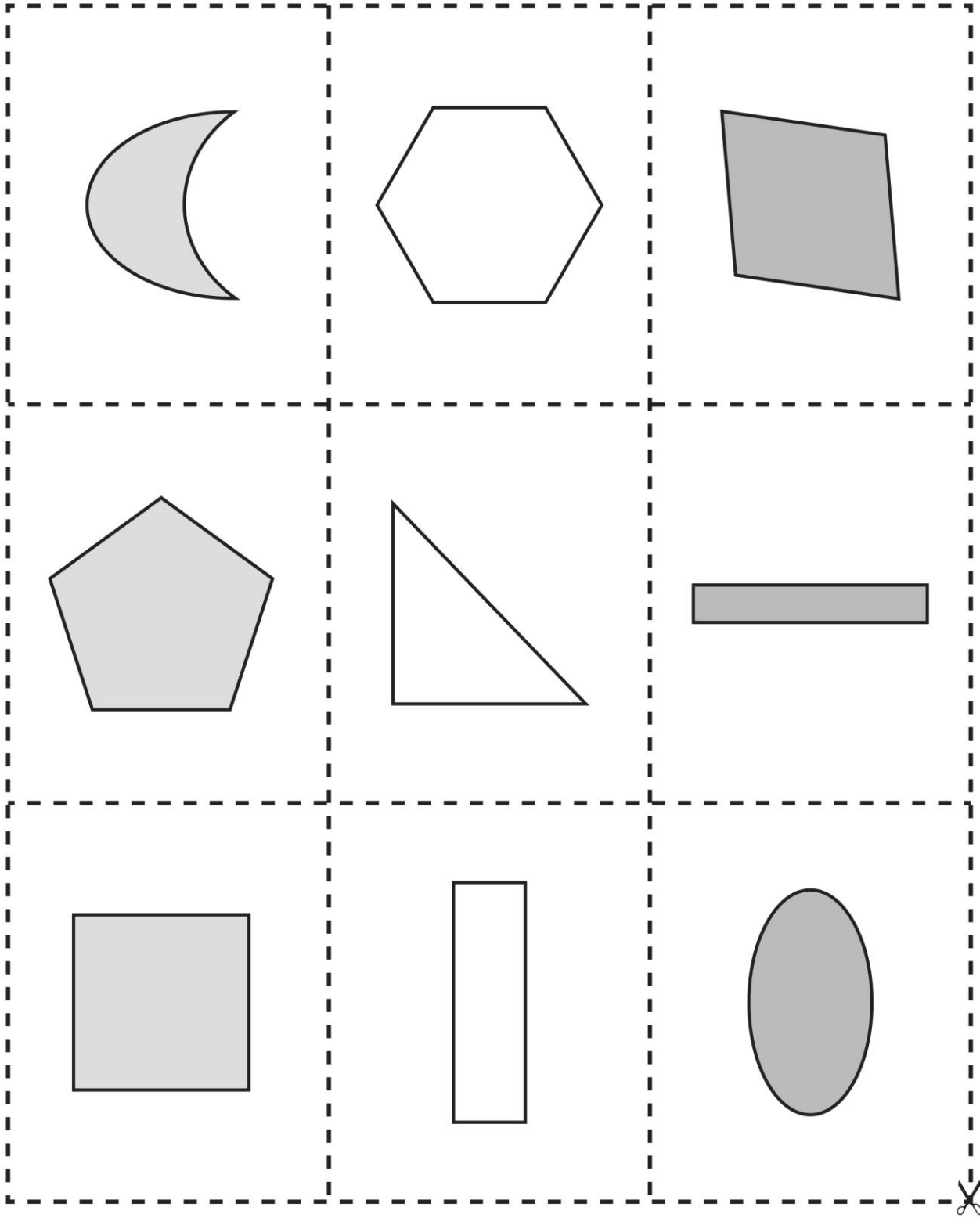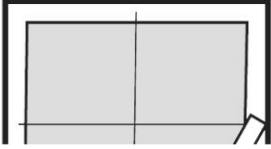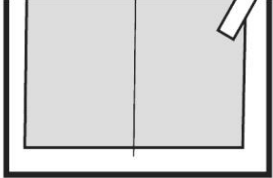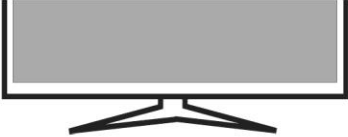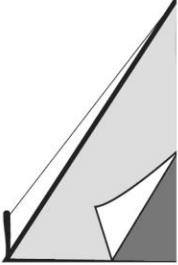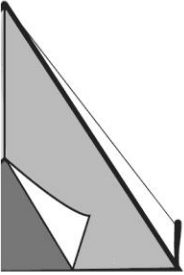
**Where's the Other Half? Cards**

**Master 108b** ## Where's the Other Half? Cards
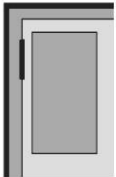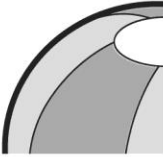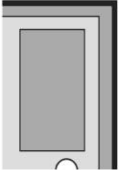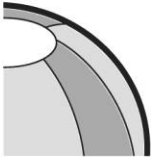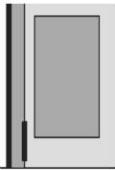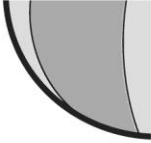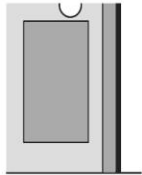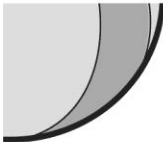
# Where's the Other Half? Cards

**Master 108d**  **Where's the Other Half? Cards**
(Combined Grade Extensions)

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# Master 45: Activity 20 Assessment
## Composing and Decomposing: Consolidation

| Counting Behaviours/Strategies | | |
|---|---|---|
| Student does not trust that the number of items remains the same when partitioned in different ways and repeatedly counts to confirm the total. | Student counts all the items by 1s. | Student uses efficient counting strategies to find how many (e.g., counting on, skip-counting). |

| Observations/Documentation | | |
|---|---|---|
| | | |

| Composing and Decomposing Behaviours/Strategies | | |
|---|---|---|
| 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 | | |
|---|---|---|
| | | |

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## Mathology Grade 1 Correlation – Alberta
## Number Cluster 5: Early Place Value

**Organizing Idea:**
Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

| Guiding Question: How can quantity be communicated? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| A numeral is a symbol or group of symbols used to represent a number.<br><br>The absence of quantity is represented by 0. | Quantity is expressed in words and numerals based on patterns.<br><br>Quantity in the world is represented in multiple ways. | Represent quantities using words, numerals, objects, or pictures. | **Number Cluster 5: Early Place Value**<br>21: Tens and Ones<br>22: Building and Naming Numbers<br>23: Different Representations<br>24: Consolidation | A Family Cookout (Numbers to 50)<br><br>Grade 2<br>Ways to Count (Numbers to 100) |

Name_____ Date _____

# Place-Value Recording Sheet

| Number | Number of Tens | Number of Ones |
|--------|----------------|----------------|
|        |                |                |
|        |                |                |
|        |                |                |
|        |                |                |
|        |                |                |
|        |                |                |

Name_____ Date _____

# Place-Value Recording Sheet

| Number | Number of Hundreds | Number of Tens | Number of Ones |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
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Name_____ Date _____

**Place-Value Mat (to Hundreds)**

| Hundreds | Tens | Ones |
|---|---|---|
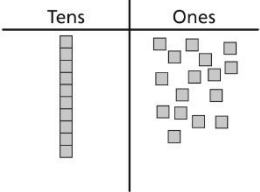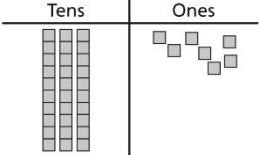
My Number

# Master 49: Activity 21 Assessment
## Tens and Ones

| Building Two-Digit Numbers Behaviours/Strategies | | |
|---|---|---|
| Student has difficulty recognizing and saying two-digit numbers.<br><br>"I don't know that number." | Student makes 1 train of ten and has more than 10 cubes in the Ones column.<br><br>Tens    Ones | Student builds the number correctly using tens and ones but confuses the number of tens with the number of cubes.<br><br>Tens    Ones<br>"I have 30 tens" |

| 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 | | |
|---|---|---|
|  |  |  |
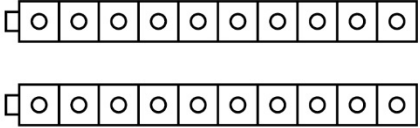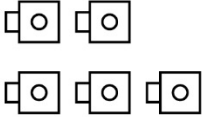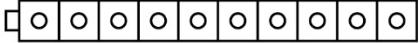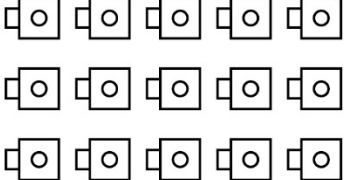
# Master 50: Activity 22 Assessment
## Building and Naming Numbers

| Building, Naming, and Comparing Numbers Behaviours/Strategies | | | |
|---|---|---|---|
| Student has more than 10 cubes but doesn't use them to make a train.<br><br>Tens \| Ones | 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.<br><br>Tens \| Ones<br><br>"I have 30 tens" | Student counts ones with ease to 9 but cannot bridge past 9 ones.<br><br>"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 | | | |
|---|---|---|---|
|  |  |  |  |
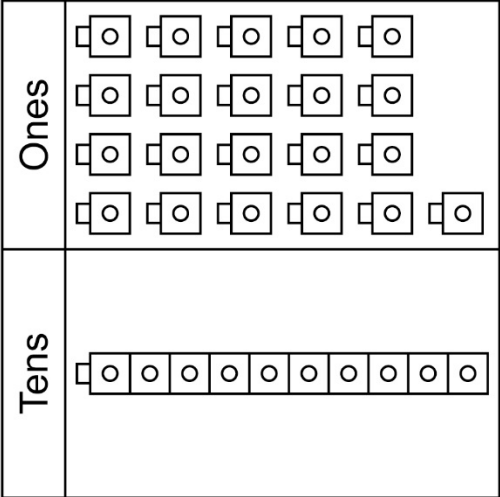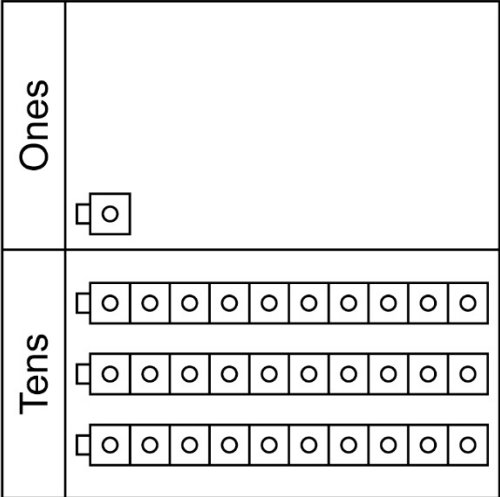
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# Matching Cards

**2 tens   5 ones**



**25**
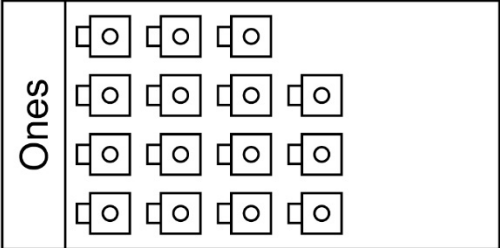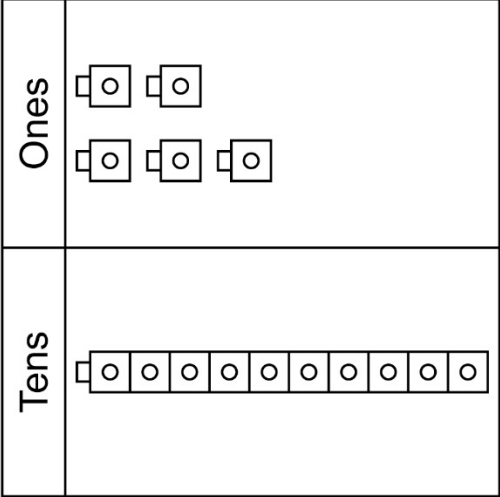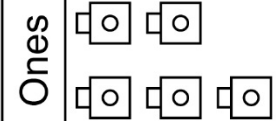
**Master 51b**  **Matching Cards**

2 tens  11 ones



31
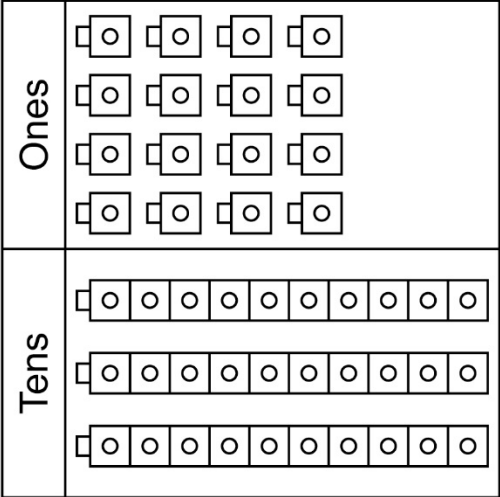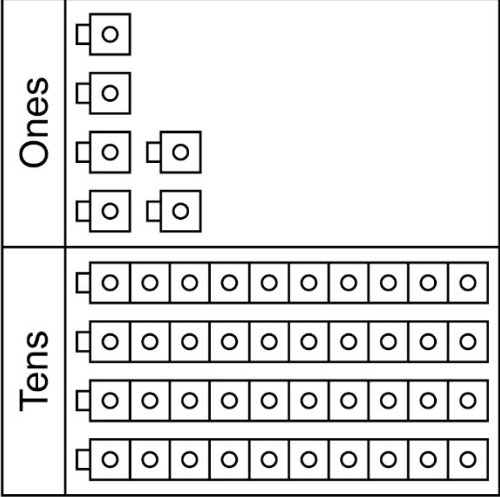
**Master 51c**    **Matching Cards**

15 ones

| Tens | Ones |
|---|---|

15

| Tens | Ones |
|---|---|

# Matching Cards

**2 tens   26 ones**



**46**

# Matching Cards

# Master 52: Activity 23 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."<br><br>"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** | | |
| | | |
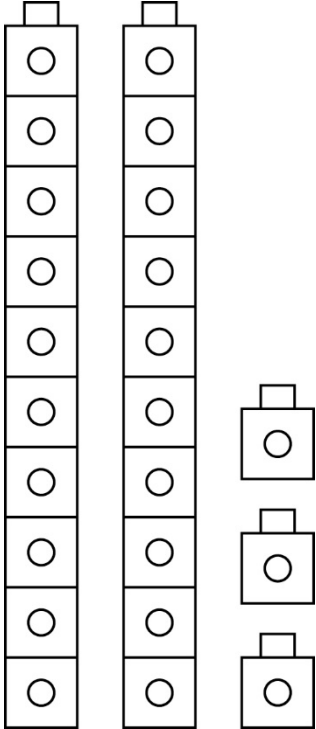
**Master 53**  **Tens and Ones Cutouts**

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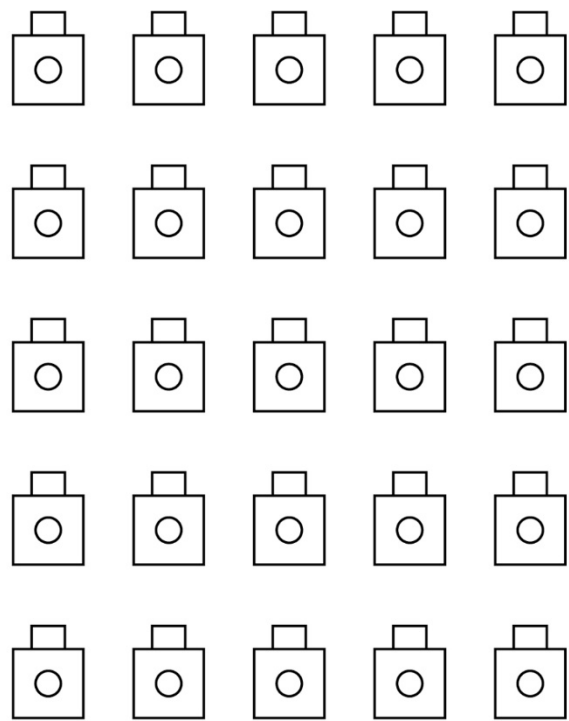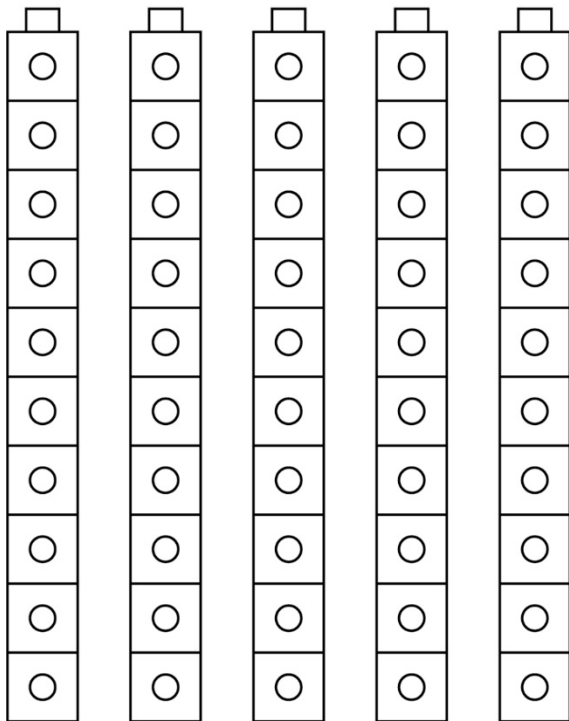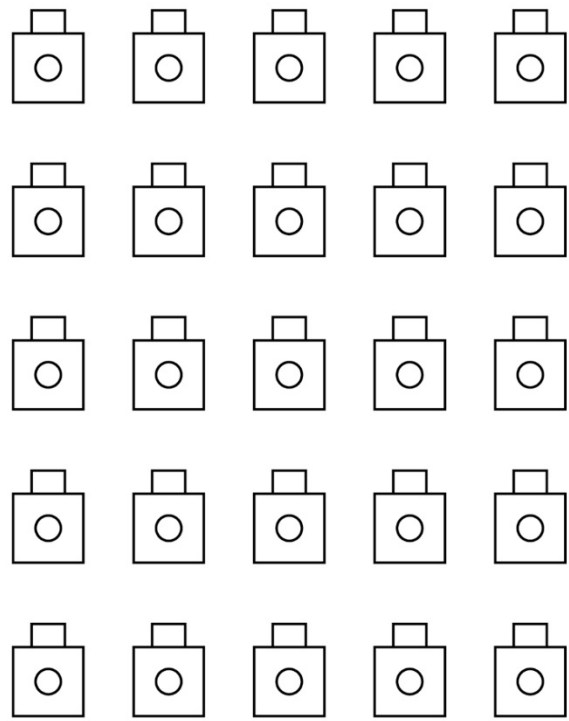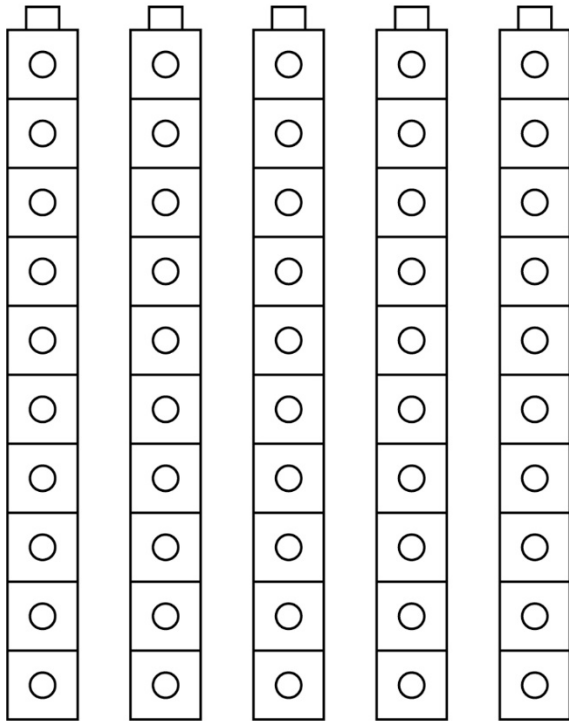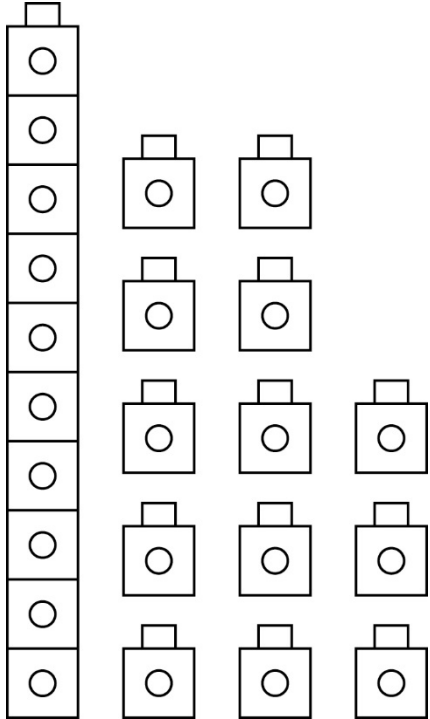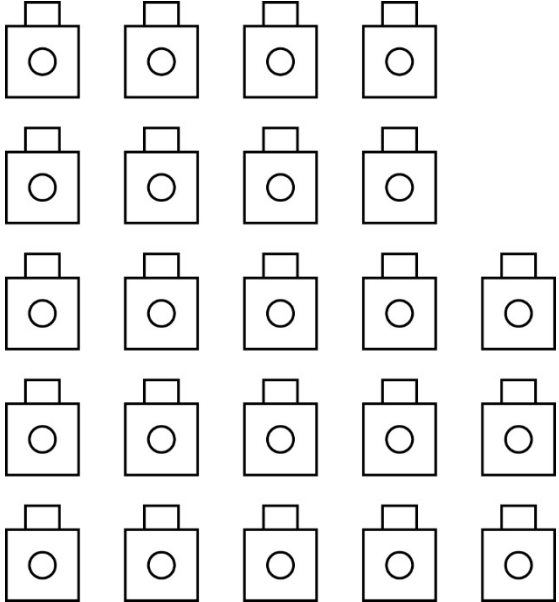
**Master 54**

# Sample Number Poster

**23**

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# Master 55: Activity 24 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.<br><br>"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).<br><br>"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** | | | |
| | | | |

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## Mathology Grade 1 Correlation – Alberta
## Number Cluster 6: Operational Fluency

**Organizing Idea:**

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

| Guiding Question: How can quantity be communicated? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Familiar arrangements of small quantities facilitate subitizing. | A quantity can be perceived as the composition of smaller quantities. | Recognize quantities to 10. | **Number Cluster 6: Operational Fluency** <br><br> 26: Complements of 10 | |
| Comparisons of quantity can be described by using word such as <br> • equal <br> • not equal <br> • less <br> • more <br><br> Equality can be modelled using a balance. <br><br> The equal sign, =, is used to show equality between two quantities. <br><br> The unequal sign, ≠, is used to show that two quantities are not equal. | Two quantities are equal when there is the same number of objects in both sets. <br><br> Equality is a balance between two quantities. | Identify numbers that are one more, two more, one less, and two less than a given number. | **Number Cluster 6: Operational Fluency** <br> 25: More or Less | |
| | | Represent a quantity relative to another, including symbolically. | **Number Cluster 6: Operational Fluency** <br> 25: More or Less | |

**P Pearson**

**Master 56b**

| Guiding Question: How can addition and subtraction provide perspectives of number? | | | | |
|---|---|---|---|---|
| Learning Outcome: Students examine addition and subtraction within 20. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Quantities can be composed or decomposed to model a change in quantity.<br><br>Addition can be applied in various contexts, including<br>• combining parts to find the whole<br>• increasing an existing quantity<br><br>Subtraction can be applied in various contexts, including<br>• comparing two quantities<br>• taking away one quantity from another<br>• finding a part of a whole<br><br>Addition and subtraction can be modelled using a balance. | Addition and subtraction are processes that describe the composition and decomposition of quantity. | Model addition and subtraction within 20 in various ways, including with a balance. | **Number Cluster 6: Operational Fluency**<br>27: Adding to 20<br>28: Subtracting 20<br>30: The Number Line<br>32: Part-Part-Whole<br>33: Patterns in Addition and Subtraction | |

Pearson

| Strategies are meaningful steps taken to solve problems.<br><br>Addition and subtraction strategies include<br>&bull; counting on<br>&bull; counting back<br>&bull; decomposition<br>&bull; compensation<br>&bull; making tens<br><br>Sums and differences can be expressed symbolically using the addition sign, +, the subtraction sign, -, and the equal sign, =.<br><br>The order in which two quantities are added does not affect the sum (commutative property).<br><br>The order in which two quantities are subtracted affects the difference.<br><br>Addition of 0 to any number, or subtraction of 0 from any number, results in the same number (zero property).<br><br>A missing quantity in a sum or difference can be represented in different ways, including<br>&bull; $a + b = \square$<br>&bull; $a + \square = c$<br>&bull; $\square + b = c$<br>&bull; $e - f = \square$<br>&bull; $e - \square = g$<br>&bull; $\square - f = g$ | Addition and subtraction are opposite (inverse) mathematical operations. | Investigate addition and subtraction strategies. | **Number Cluster 6: Operational Fluency**<br>31: Doubles | That's 10!<br>Hockey Time!<br>Canada's Oldest Sport |
| | | Add and subtract within 20. | **Number Cluster 6: Operational Fluency**<br>27: Adding to 20<br>28: Subtracting 20<br>29: Fluency with 20<br>30: The Number Line<br>32: Part-Part-Whole<br>35: Consolidation | Buy 1—Get 1<br>Hockey Time!<br>Cats and Kittens!<br>Canada's Oldest Sport |
| | | Check differences and sums using inverse operations. | **Number Cluster 6: Operational Fluency**<br>27: Adding to 20<br>28: Subtracting 20<br>30: The Number Line<br>31: Doubles<br>32: Part-Part-Whole<br>34: Solving Story Problems<br>35: Consolidation | Buy 1—Get 1<br>Canada's Oldest Sport<br>Cats and Kittens!<br>Hockey Time! |
| | | Determine a missing quantity in a sum or difference, within 20, in a variety of ways. | **Number Cluster 6: Operational Fluency**<br>32: Part-Part-Whole<br>34: Solving Story Problems<br>35: Consolidation | |
| | | Express addition and subtraction symbolically. | **Number Cluster 6: Operational Fluency**<br>30: The Number Line<br>32: Part-Part-Whole<br>34: Solving Story Problems<br>35: Consolidation | |
| | | Solve problems using addition and subtraction. | **Number Cluster 6: Operational Fluency**<br>34: Solving Story Problems<br>35: Consolidation | |

| Addition and subtraction number facts represent part-part-whole relationships.<br><br>Fact families are groups of related addition and subtraction number facts. | Addition number facts have related subtraction number facts. | Identify patterns in addition and subtraction, including patterns in addition tables. | **Number Cluster 6: Operational Fluency**<br>33: Patterns in Addition and Subtraction | Paddling the River |
|---|---|---|---|---|
| | | Recognize families of related addition and subtraction number facts. | **Number Cluster 6: Operational Fluency**<br>32: Part-Part-Whole<br>34: Solving Story Problems | |
| | | Recall addition number facts, with addends to 10, and related subtraction number facts. | **Number Cluster 6: Operational Fluency**<br>26: Complements of 10 | That's 10! |

Name_____ Date _____

# Bingo Cards

Name_____ Date _____

# Bingo Cards

|  |  |  |
|---|---|---|
|  |  |  |
|  |  |  |
|  |  |  |

Name_____ Date _____

# 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 _____

# 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 | | |

# Master 59: Activity 25 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.<br><br>"15, 14, ?" | Student counts on to find one or two less.<br><br>"2 less than 8, that's 8, 9, 10." | Student counts back but loses track of the number counted back.<br><br>"9, 8, 7, 6.<br>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.<br><br>"2 more than 4 is 6." |
| **Observations/Documentation** | | | |
| | | | |
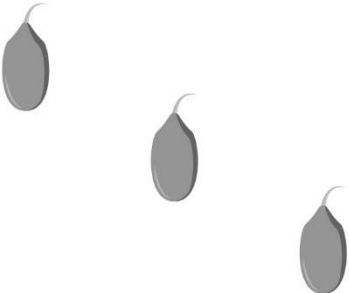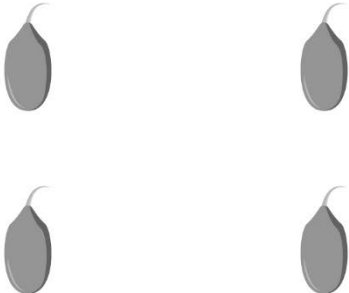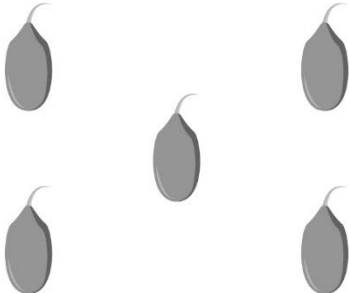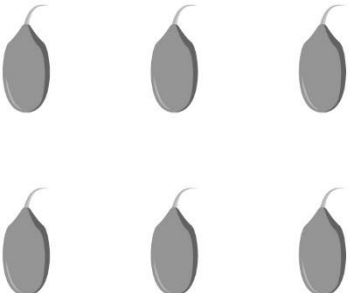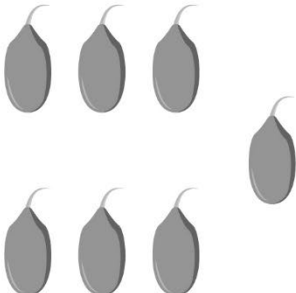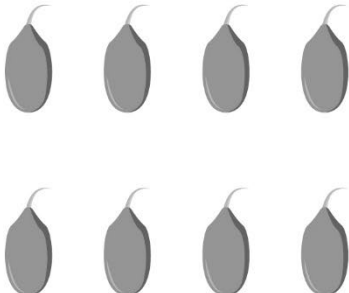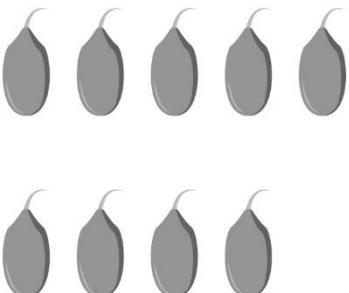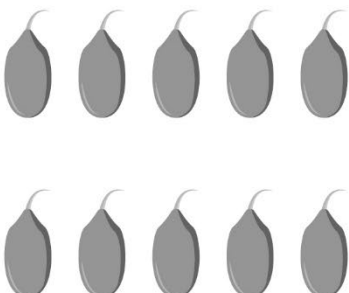
Name_____ Date _____

# Planting Seeds

**Seed**
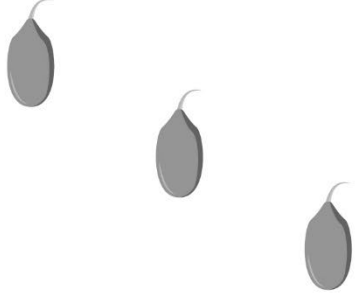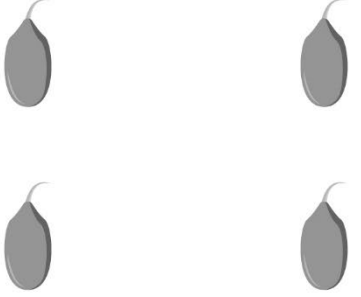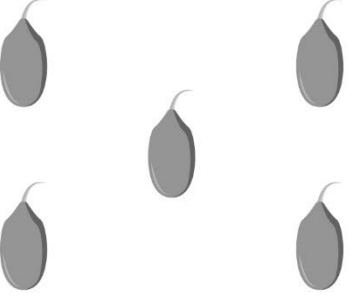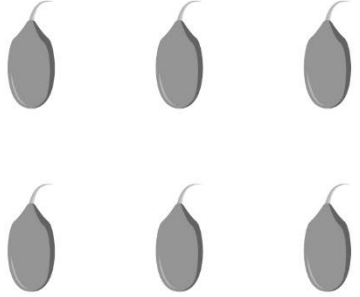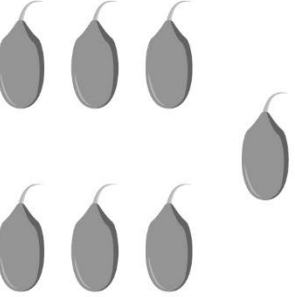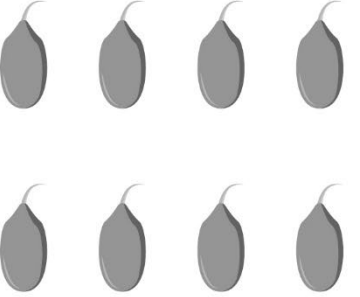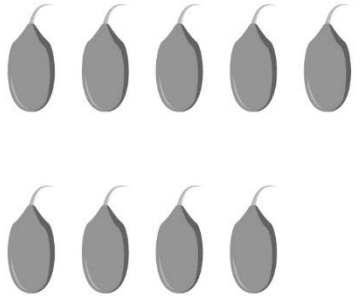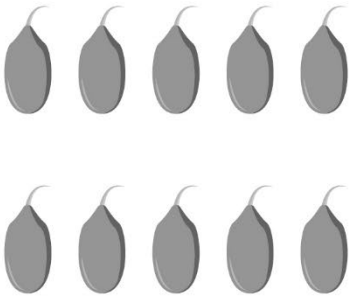
Name_____ Date _____

**Seed Cards (0–10)**

No seeds

**Master 62a**  **Seed Cards (0–20)**

| No seeds | 🌰 | 🌰🌰 |

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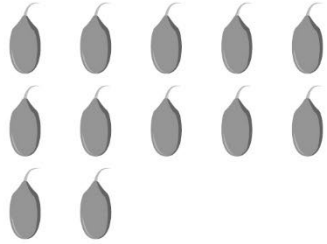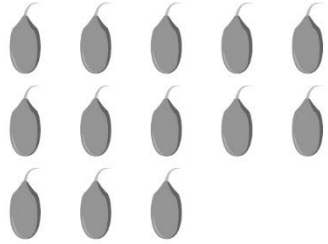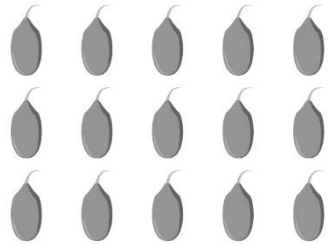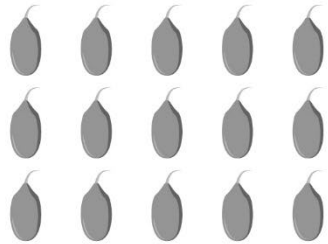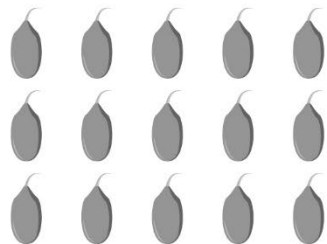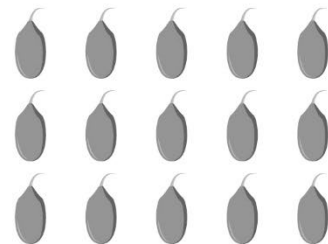
**Master 62b**

# Seed Cards (0–20)

Name_____ Date _____

# My 20 Garden

**Recalling Complements of 10 Behaviours/Strategies**

| Student says numbers randomly and cannot find complements of 10.<br><br>"4 seeds and 4 seeds" | Student finds complements of 10 by counting on with fingers.<br><br>"4"  "6" | Student finds complements of 10 by visualizing a ten-frame. |
|---|---|---|
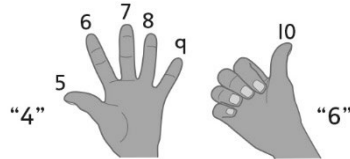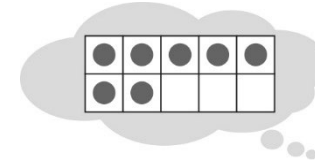
**Observations/Documentation**

|  |  |  |
|---|---|---|
|  |  |  |

| Student recalls many complements of 10, but struggles with 0.<br><br>"I have 0 seeds. I don't know how many more are needed." | 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). | Student fluently recalls complements of 10. |
|---|---|---|

**Observations/Documentation**

|  |  |  |
|---|---|---|
|  |  |  |

Name_____ Date _____

*Traditional 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.
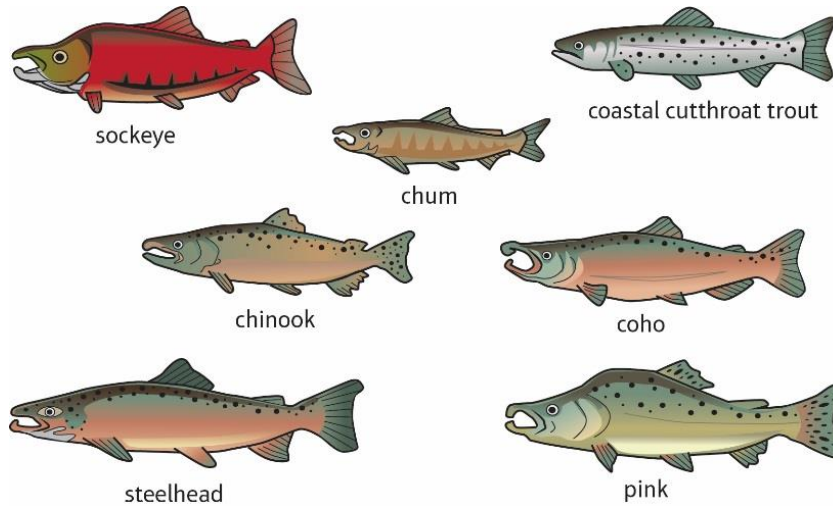


It is very important to protect the salmon populations. We must take care of the environment so the salmon survive, as many people in the world eat salmon.

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).

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Name_____ Date _____

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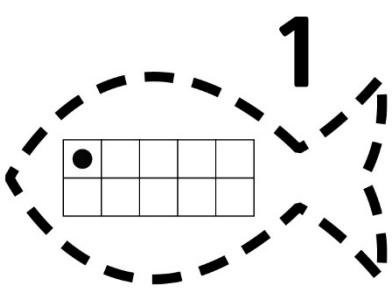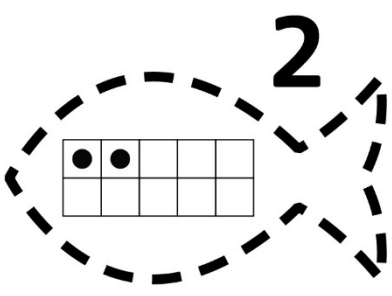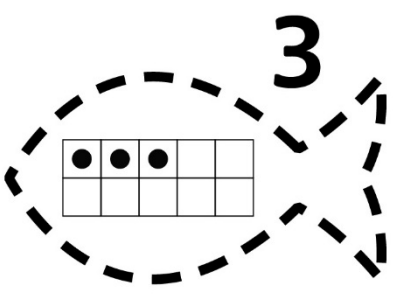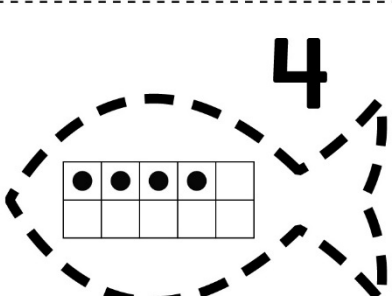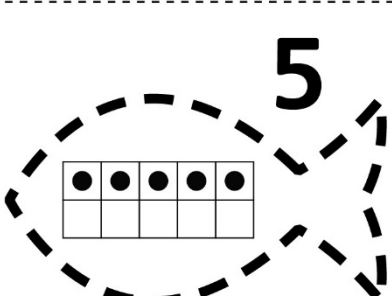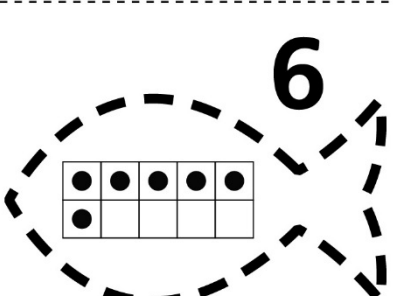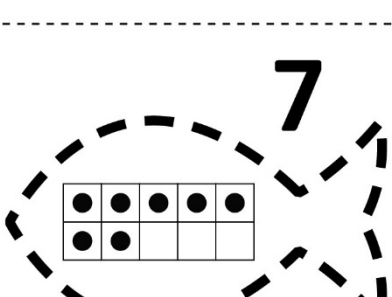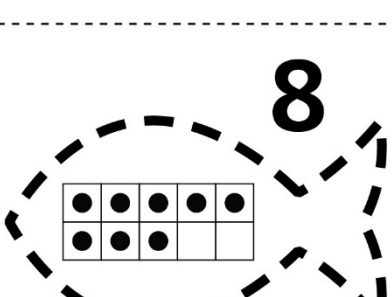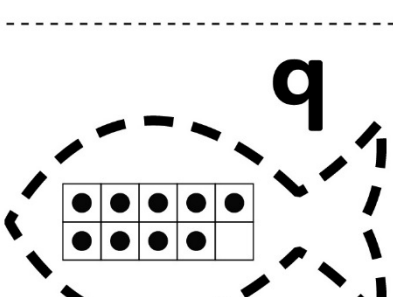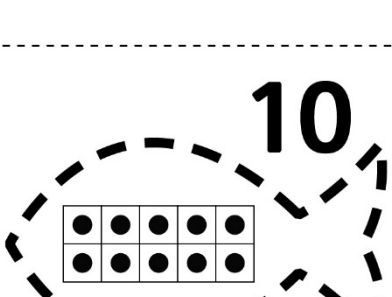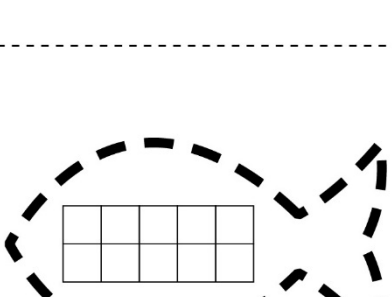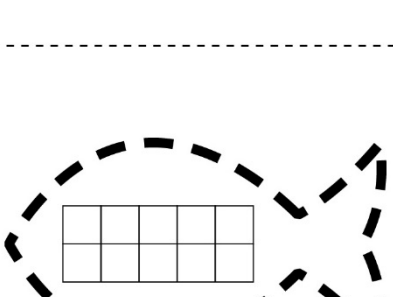


After cleaning, the women would put the fish on poles and prepare them for the smokehouse.

**Master 66**
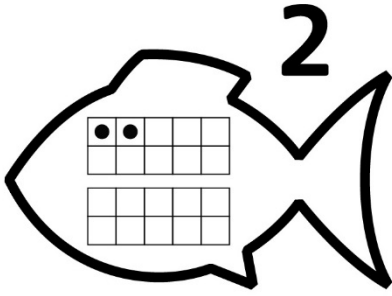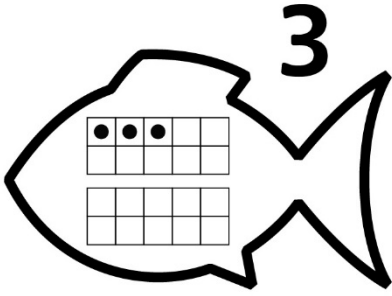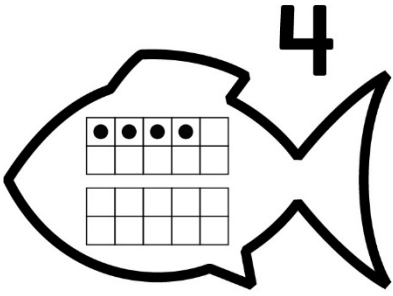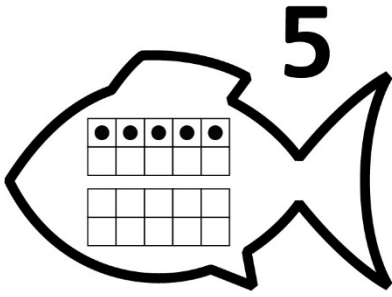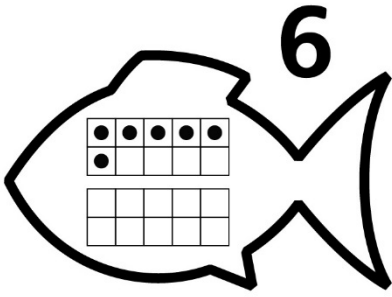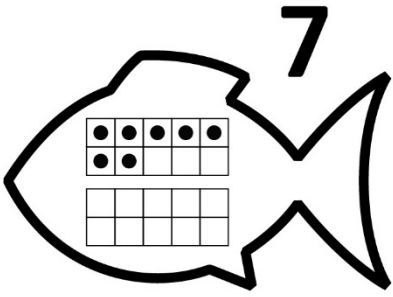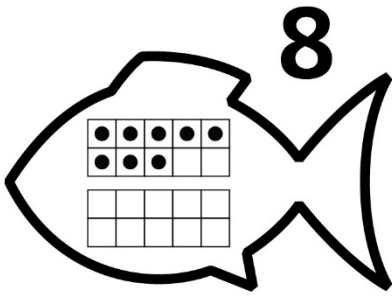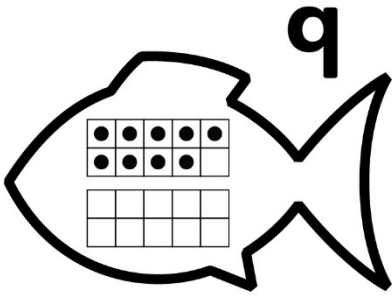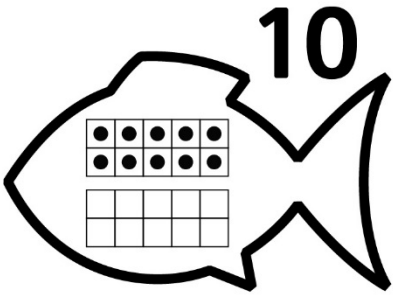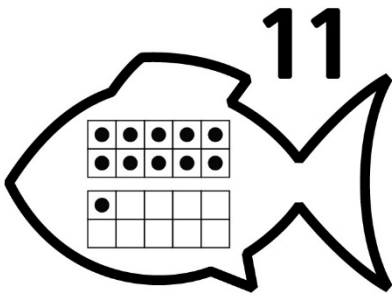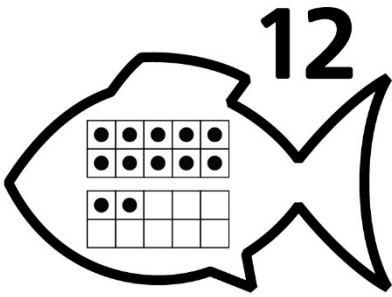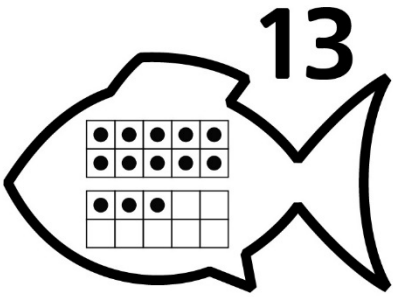
# Salmon Cards

1

2

3

4

5

6

7

8

9

10

**Master 67a**
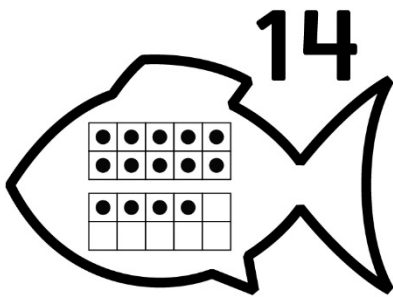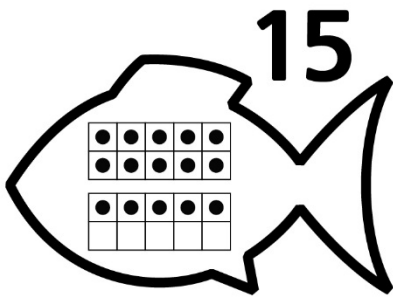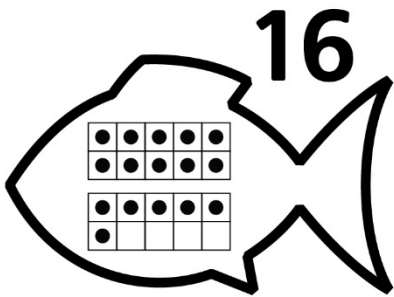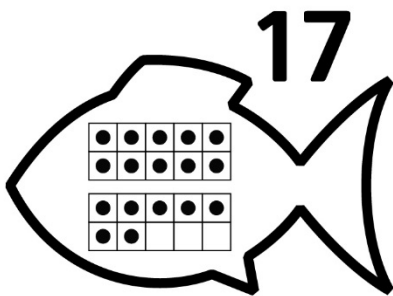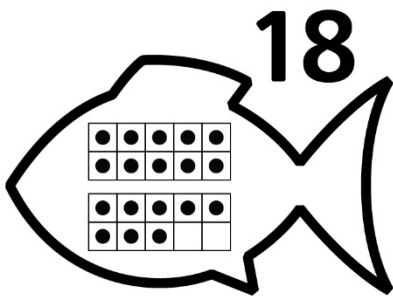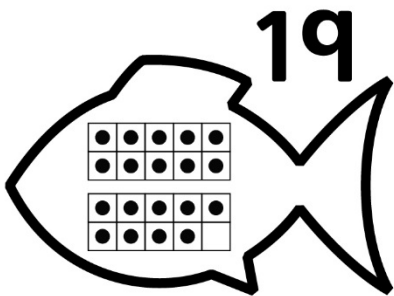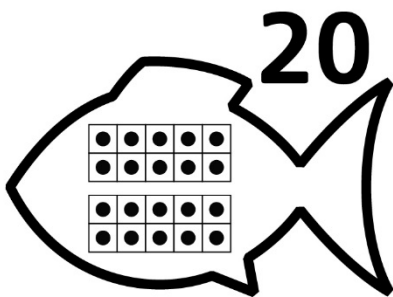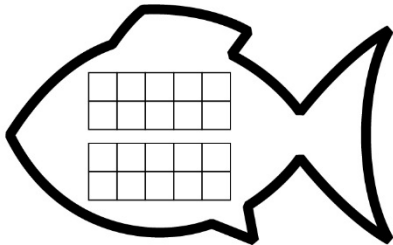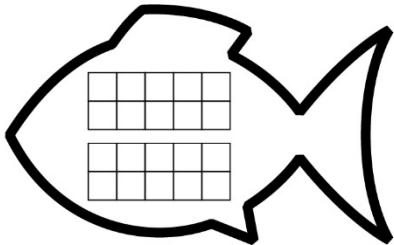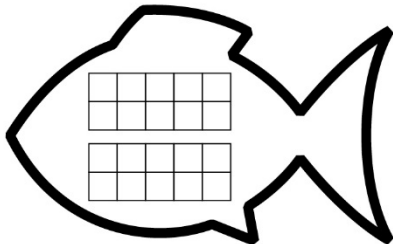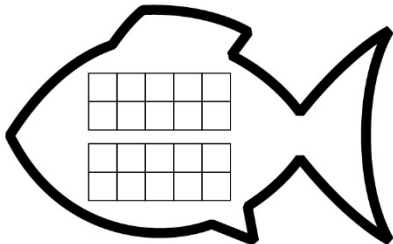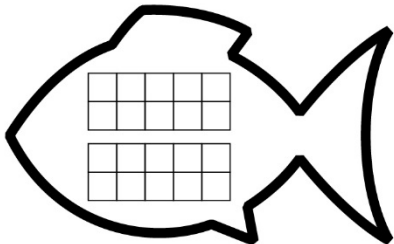
# Answer Cards
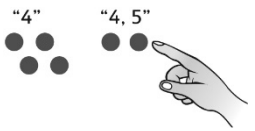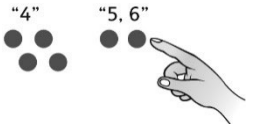
**Master 67b**

# Answer Cards



14

15

16

17

18

19

20

# Master 68: Activity 27 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.<br><br>"8, 9, 11" | Student counts on but loses track of the number counted on.<br><br>"6, 7, 8, 9. Did I count on 2?" | Student always counts on from the first set.<br><br>2 + 8<br>"3, 4, 5, 6, 7, 8, 9, 10"<br><br>8 + 2<br>"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.<br>"4"   "4, 5" | Student uses counters to count on correctly.<br>"4"   "5, 6" | 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 _____
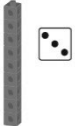
**Subtracting to 20 Recording Sheet**

| Number | Number of Cubes Removed | Number of Cubes Left |
|---|---|---|
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Master 70: Activity 28 Assessment
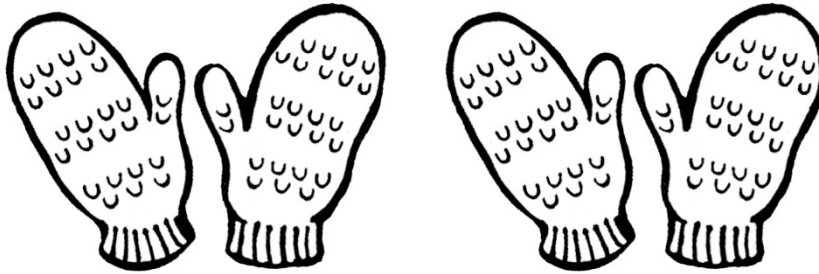## Subtracting to 20

---

**Conceptual Understanding of Subtraction Behaviours/Strategies**

| Student has difficulty keeping track of the number of cubes removed.<br><br>"1, 2, 3, 4.<br>Did I remove 3?" | Student mixes up the number sequence when counting back.<br><br>"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**

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

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# Common Doubles



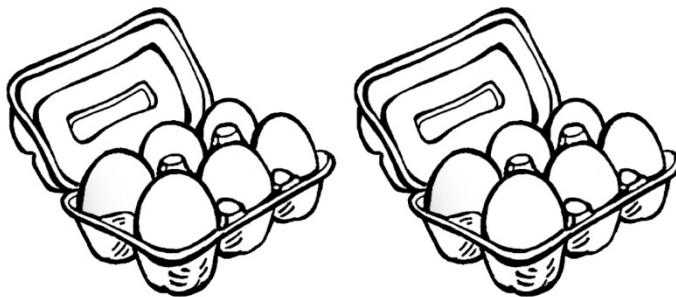## 1 + 1 = 2



## 2 + 2 = 4
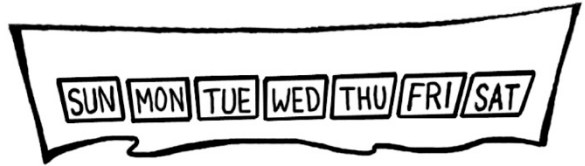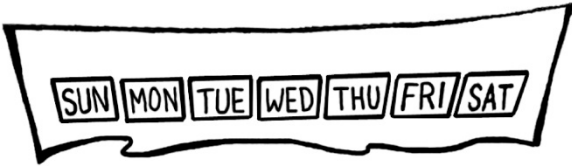


## 3 + 3 = 6

**Master 71b**

# Common Doubles



$$4 + 4 = 8$$
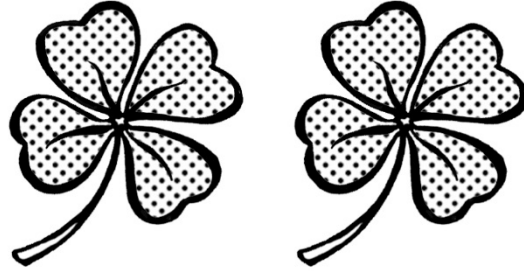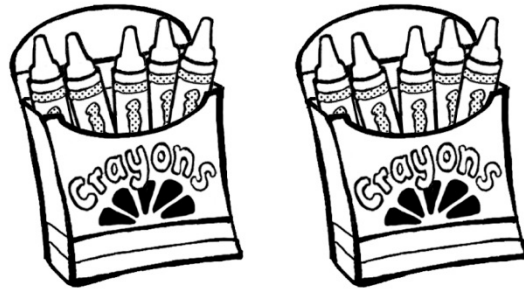


$$5 + 5 = 10$$



$$6 + 6 = 12$$
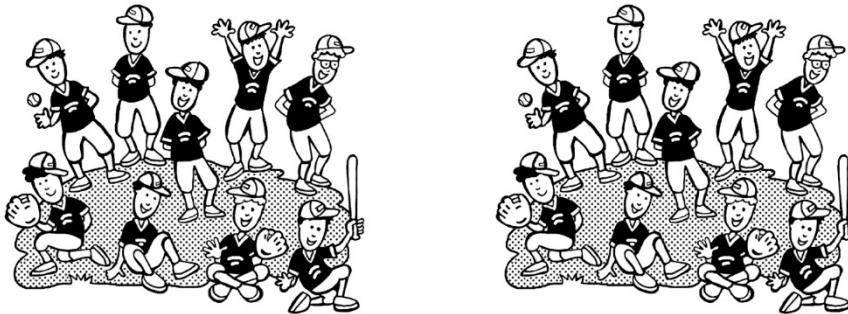
# Common Doubles

$$7 + 7 = 14$$

$$8 + 8 = 16$$

$$9 + 9 = 18$$

**Master 72a**

# Four in a Line Cards

| | | |
|---|---|---|
| 9 + 5 | 8 + 6 | 7 + 7 |
| 8 + 7 | 6 + 9 | 4 + 11 |
| 7 + 9 | 8 + 8 | 4 + 12 |
| 5 + 8 | 6 + 7 | 9 + 4 |
| 13 – 8 | 14 – 9 | 12 – 7 |
| 12 – 6 | 11 – 5 | 13 – 7 |
| 13 – 6 | 16 – 9 | 15 – 8 |

# Four in a Line Cards
## (for Combined Grades Extension)

| | | |
|:---:|:---:|:---:|
| **17 + 23** | **18 + 22** | **19 + 21** |
| **21 + 16** | **29 + 8** | **25 + 12** |
| **25 + 23** | **29 + 19** | **32 + 16** |
| **15 + 16** | **19 + 12** | **22 + 9** |
| **38 – 19** | **40 – 21** | **31 – 12** |
| **22 – 11** | **43 – 32** | **31 – 20** |
| **20 + 21** | **22 + 19** | **12 + 29** |

Name_____    Date _____

# Three in a Line Cards
# (for Accommodations)

| | | |
|---|---|---|
| 2 + 8 | 3 + 7 | 6 + 4 |
| 2 + 3 | 1 + 4 | 10 – 5 |
| 1 + 3 | 2 + 2 | 10 – 6 |
| 3 + 3 | 4 + 2 | 8 – 2 |
| 6 + 1 | 3 + 4 | 9 – 2 |
| 4 + 4 | 9 – 1 | 5 + 3 |

Name_____    Date _____
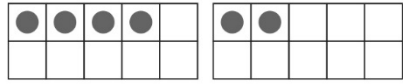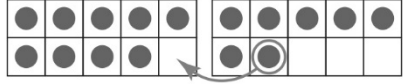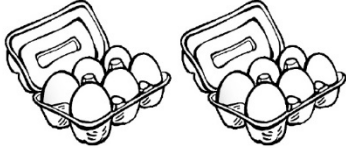
# Four in a Line Game Board
# (for Combined Grades Extension)

| | | | | |
|---|---|---|---|---|
| 40 | 37 | 48 | 19 | 31 |
| 41 | 19 | 11 | 41 | 37 |
| 11 | 37 | 31 | 48 | 19 |
| 31 | 41 | 40 | 11 | 48 |
| 40 | 19 | 11 | 37 | 31 |
| 37 | 31 | 48 | 19 | 40 |
| 48 | 41 | 40 | 31 | 41 |
| 40 | 19 | 37 | 48 | 11 |

# Master 75: Activity 29 Assessment
## Fluency with 20

## Adding and Subtracting Numbers to 20 Behaviours/Strategies

| | | | |
|---|---|---|---|
| Student uses ten-frames and counters to add and subtract with quantities to 20.<br><br>"1, 2, 3, 4, 5, 6" | Student counts on or back to add and subtract with quantities to 20.<br><br>7 + 9<br>"7"   "8, 9, 10, …, 14, 15, 16" | Student uses ten-frames and counters to make 10 when adding and subtracting with quantities to 20. | Student refers to doubles pictures when extending known sums to add and subtract with quantities to 20.<br><br>"6 + 7 = ?"<br><br>6 + 6 = 12 |

### Observations/Documentation

| | | | |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| Student uses the same strategy in every situation when adding and subtracting with quantities to 20.<br><br>"I like to count on!" | Student fluently adds with quantities to 20, but counts back by 1s to subtract.<br><br>11 – 5 = ?<br>"10, 9, 8, 7, 6" | Student adds and subtracts with quantities to 20 and extends known sums and differences to solve other equations, but struggles to explain thinking. | Student fluently adds and subtracts with quantities to 20, extends known sums and differences to solve other equations, and explains thinking. |

### Observations/Documentation

| | | | |
|---|---|---|---|
| | | | |

**Master 76a**

# Math Problem Cards

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

# Math Problem Cards

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

**Master 76c**          # Math Problem Cards

| | |
|---|---|
| $7 - 1$ | $8 - 3$ |
| $q - 6$ | $6 - 5$ |
| | |
| | |
| | |

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# Master 77: Activity 30 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.<br><br>"9 plus 4 is 5."<br>"10 take away 3 is 13." | Student counts on and back but loses track of the number counted on or back.<br><br>"9, 8, 7, 6.<br>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** | | |
|  |  |  |

# Even-Number Cards

| 2 | 4 |
|---|---|
| 6 | 8 |
| 10 | 12 |
| 14 | 16 |
| 18 | 20 |

**Master 79**  # Doubles with Ten-Frames Cards

# Doubles Cards

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

Name_____ Date_____

# Odd-Number Cards

| | |
|:---:|:---:|
| 1 | 3 |
| 5 | 7 |
| q | 11 |
| 13 | 15 |
| 17 | 1q |

✂

Name_____ Date _____
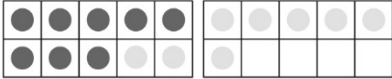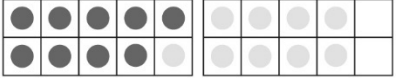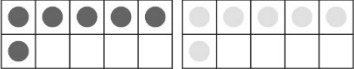
# Near-Doubles Cards

| | |
|---|---|
| **1 + 2** | **2 + 3** |
| **3 + 4** | **4 + 5** |
| **5 + 6** | **6 + 7** |
| **7 + 8** | **8 + 9** |
| **9 + 10** | |

# Master 83: Activity 31 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.<br><br>"1, 2, 3, 4, 5, 6, 7, 8" | Student uses 2 ten-frames, fills one to "make 10," then counts from 1.<br><br>"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.<br><br>"1, 2, 3, 4"  "1, 2, 3, 4"<br>"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.<br><br>"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 | | | |
|---|---|---|---|
| | | | |

# Master 84: Activity 32 Assessment
## Part-Part-Whole

| Conceptual Understanding/Computational Behaviours/Strategies | | |
|---|---|---|
| Student guesses, then counts on to check.<br><br>$11 - ? = 6$<br><br>Guess 6: 7, 8, 9, 10, 11, 12<br>Too many.<br><br>Guess 5: 7, 8, 9, 10, 11<br>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.<br><br>"There are 8 altogether and 5 in the cup.<br>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. |
| **Observations/Documentation** | | |
| | | |

# Master 85: Activity 33 Assessment
## Operational Fluency: Patterns in Addition and Subtraction

| Identifying Addition and Subtraction Behaviours/Strategies | | |
|---|---|---|
| Student does not recognize number patterns in addition and subtraction. | Student recognizes number patterns in addition but not subtraction. | Student identifies number patterns in addition and subtraction, including patterns in addition tables. |
| **Observations/Documentation** | | |
| | | |

**Master 109a**

# Our Tables

Write the number rolled in the shaded boxes. Complete the number sentences.

## Addition

| | + | 1 | = | |
|---|---|---|---|---|
| | + | 2 | = | |
| | + | 3 | = | |
| | + | 4 | = | |
| | + | 5 | = | |
| | + | 6 | = | |
| | + | 7 | = | |
| | + | 8 | = | |
| | + | 9 | = | |
| | + | 10 | = | |

## Subtraction

| 20 | – | 1 | = | |
|---|---|---|---|---|
| 20 | – | 2 | = | |
| 20 | – | 3 | = | |
| 20 | – | 4 | = | |
| 20 | – | 5 | = | |
| 20 | – | 6 | = | |
| 20 | – | 7 | = | |
| 20 | – | 8 | = | |
| 20 | – | 9 | = | |
| 20 | – | 10 | = | |

Name_____ Date _____

# Our Tables (Accommodations)

Write the number rolled in the shaded boxes. Complete the number sentences.

## Addition

| | | | | |
|---|---|---|---|---|
| | + | 1 | = | |
| | + | 2 | = | |
| | + | 3 | = | |
| | + | 4 | = | |
| | + | 5 | = | |
| | + | 6 | = | |
| | + | 7 | = | |
| | + | 8 | = | |
| | + | 9 | = | |
| | + | 10 | = | |

## Subtraction

| | | | | |
|---|---|---|---|---|
| 10 | – | 1 | = | |
| 10 | – | 2 | = | |
| 10 | – | 3 | = | |
| 10 | – | 4 | = | |
| 10 | – | 5 | = | |
| 10 | – | 6 | = | |
| 10 | – | 7 | = | |
| 10 | – | 8 | = | |
| 10 | – | 9 | = | |
| 10 | – | 10 | = | |

Name_____ Date _____

*Math in Pictures* **Recording Sheet**

| Whole | Addition Sentence: |
| --- | --- |
|  | _____ |
| **Part** **Part** | Subtraction Sentence: |
|  | _____ |

| Whole | Addition Sentence: |
| --- | --- |
|  | _____ |
| **Part** **Part** | Subtraction Sentence: |
|  | _____ |

# Math in Pictures

**Master 87b**

# Math in Pictures

**Math in Pictures**

**Master 87d**

# Math in Pictures



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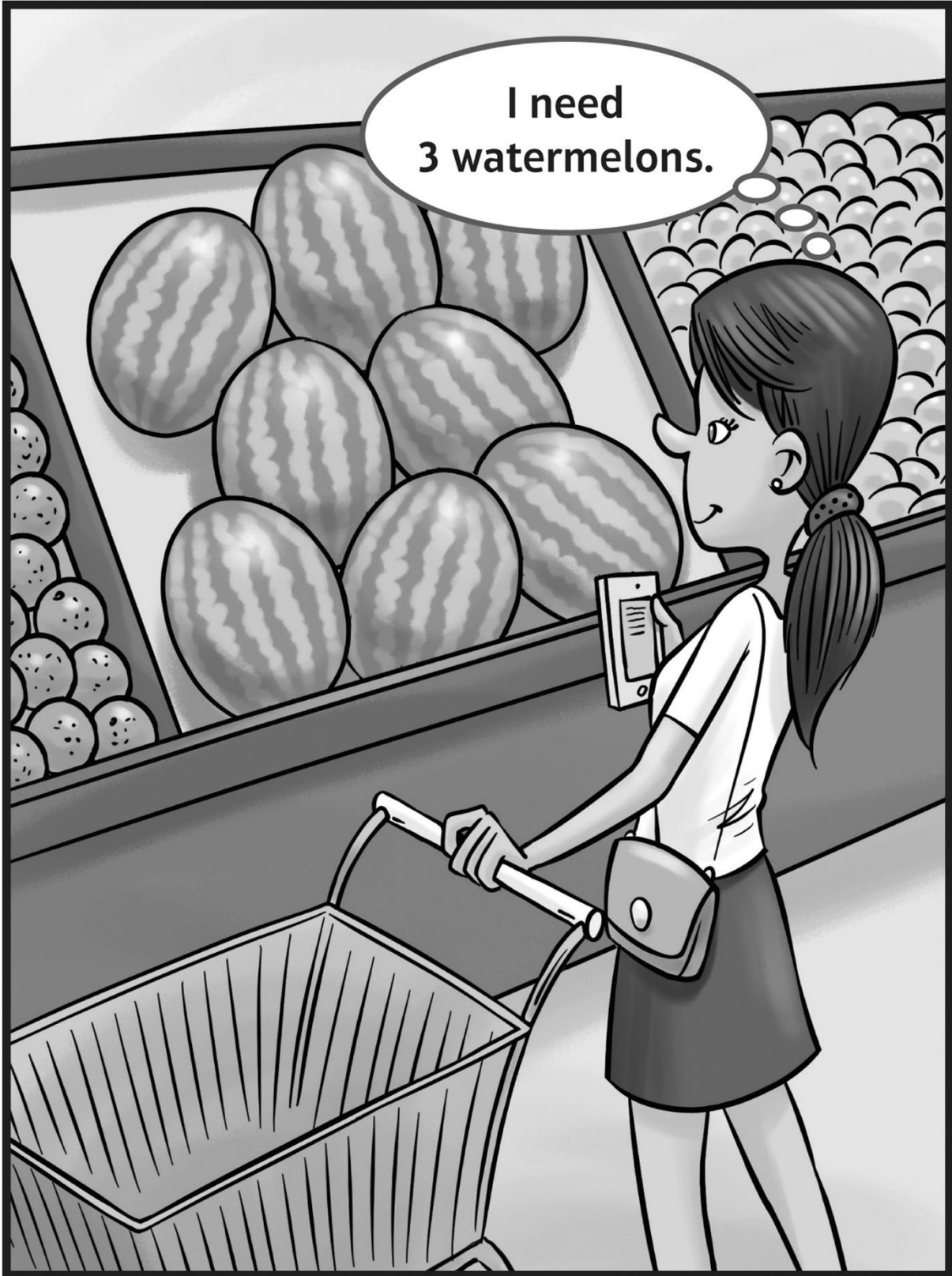
# Master 88: Activity 34 Assessment
## Solving Story Problems

| 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**

| | | | |
|---|---|---|---|
| | | | |

# Number Talks

| | |
|---|---|
| 4 + 1<br>4 + 2<br>4 − 1<br>4 − 2 | 5 + 5<br>5 + 6<br>6 + 6<br>6 + 7 |
| 5 + 5<br>5 + 4<br>6 + 6<br>6 + 5 | 1 + 2<br>2 + 1<br>2 + 3<br>3 + 2<br>4 + 1<br>1 + 4 |
| 4 − 1<br>4 − 2<br>5 − 2<br>5 − 3<br>3 − 1<br>3 − 2 | 12 − 2<br>12 − 4<br>14 − 4<br>14 − 6 |

**Master 90**  # Number Sentences

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

# Master 91: Activity 35 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** | | | |
| | | | |

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**Pearson mathology**

## Mathology Grade 1 Correlation – Alberta
## Number Cluster 7: Financial Literacy

**Organizing Idea:**

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

| Guiding Question: How can quantity be communicated? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Counting can begin at any number.<br><br>Counting more than one object at a time is called skip counting. | Each number counted includes all previous numbers (counting principle: hierarchical inclusion).<br><br>A quantity can be determined by counting more than one object in a set at a time. | Count within 100, forward by 1s, starting at any number, according to the counting principles. | **Number Cluster 7: Financial Literacy**<br>36: Value of Coins<br>38: Counting Collections | Grade 2<br>Family Fun Day<br>Back to Batoche |
| | | Skip count to 100, forward by 5s and 10s, starting at 0. | **Number Cluster 7: Financial Literacy**<br>36: Value of Coins<br>38: Counting Collections | Grade 2<br>Family Fun Day |

**P Pearson**

## Master 92b

**Organizing Idea:**

Financial Literacy: Informed financial decision making contributes to the well-being of individuals, groups, and communities.

| **Guiding Question:** In what ways can money be used? |||||
| --- | --- | --- | --- | --- |
| **Learning Outcome:** Students explore money and how it is used for everyday living. |||||
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Canadian money comes in many forms, such as<br>• coins<br>• bills<br>• debit cards<br>• credit cards<br><br>Canadian coins and bills come in different denominations, such as<br>• nickels<br>• dimes<br>• quarters<br>• loonies<br>• toonies<br>• $5<br>• $10<br>• $20<br>• $50<br>• $100<br><br>Images on Canadian coins and bills include<br>• wildlife<br>• sports<br>• boats<br>• emblems<br>• historic figures | Money can be used to exchange for goods and services.<br><br>Money has value and purpose in everyday living.<br><br>Money has unique features to represent its value. | Explore the value of Canadian coins and bills. | **Number Cluster 7: Financial Literacy**<br>36: Value of Coins<br>37: Value of Bills<br>38: Counting Collections<br>39: Money Amounts | Buy 1-Get 1 |
| | | Sort Canadian coins and bills. | **Number Cluster 7: Financial Literacy**<br>36: Value of Coins<br>37: Value of Bills<br>38: Counting Collections<br>39: Money Amounts | |
| | | Identify goods and services that can be exchanged for money. | **Number Cluster 7: Financial Literacy**<br>40: Fair Trades<br>41: Wants and Needs<br>42: Goods and Services<br>43: Consolidation | |

Pearson

| Money can be<br>• shared<br>• earned<br>• saved<br>• spent<br>• borrowed<br><br>Goods are things that are made and produced and can be touched, such as<br>• toys<br>• cars<br>• clothing<br>• electronics<br>• books<br><br>Services are things individuals do for others, such as<br>• health services<br>• personal services<br>• entertainment<br>• restaurants<br>• recreational activities | | | | |
|---|---|---|---|---|

# Master 93: Activity 36 Assessment
## Value of Coins

| Identifying the Values of Coins Behaviours/Strategies | | |
|---|---|---|
| Student identifies coins by their size or physical attributes.<br><br>"caribou, caribou, caribou" | 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** | | |
| | | |

# Money Attribute Cards

$1

Gold

$2
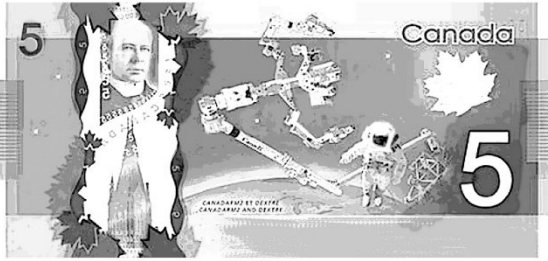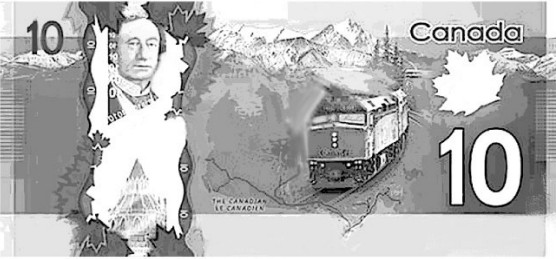
Gold and Silver

# Money Attribute Cards





## $5

## Blue





## $10

## Purple

# Money Attribute Cards



$20

Green



$50

Pink

## Skip-Counting Backward Behaviours/Strategies

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

## Observations/Documentation

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

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# Master 96: Activity 38 Assessment
## Counting Collections

| Determining the Value of a Collection Behaviours/Strategies | | |
|---|---|---|
| Student cannot sort the coins. | Student knows the names of coins but is unable to 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 | | |
|---|---|---|
| | | |

**Master 97a**                    **Coin Cards**

**Master 97b**

# Coin Cards

**Master 97c**

# Coin Cards

(for Extension)

# Master 98: Activity 39 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."  "1, 2, 3, 4, 5" | Student continues to skip-count by 5s when the next coin is a cent.  "5, 10, 15" | Student randomly counts a collection of coins.  "1, 6, 16, 21" |

| Observations/Documentation | | | |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| Student sorts then counts a collection of coins.  "10, 10 more, and 1 cent. That's 21 cents." | 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.  "I can trade the 2 nickels for 1 dime." |

| Observations/Documentation | | | |
|---|---|---|---|
| | | | |
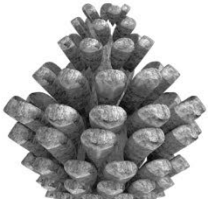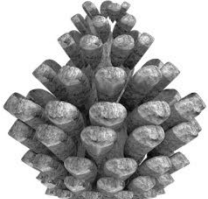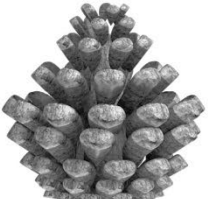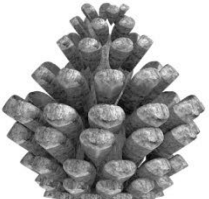
# Object Pictures

| | | |
|:---:|:---:|:---:|
|  |  |  |
| **berries** **20** | **bark** **10** | **bark** **10** |
|  |  |  |
| **shell** **5** | **shell** **5** | **shell** **5** |
|  |  |  |
| **shell** **5** | **feather** **3** | **feather** **3** |
|  |  |  |
| **feather** **3** | **feather** **3** | **feather** **3** |

✂

# 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**

# Master 100: Activity 40 Assessment
## Fair Trades

| Making Fair Trades Behaviours/Strategies | | |
|---|---|---|
| Student is unable 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** | | |
| | | |

# Our Stores



Needs

Wants

**Master 101b**

# Our Stores



Needs

Wants

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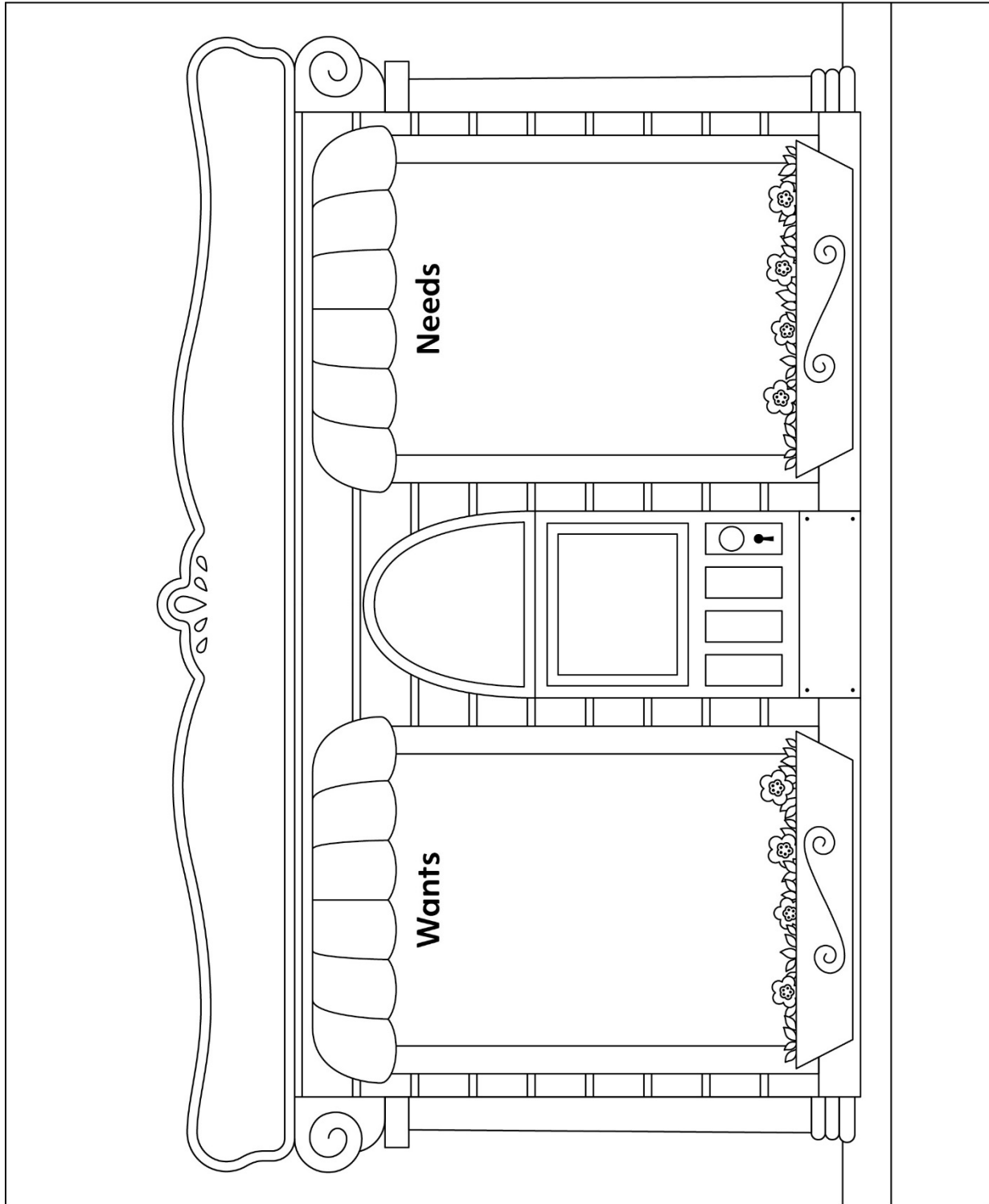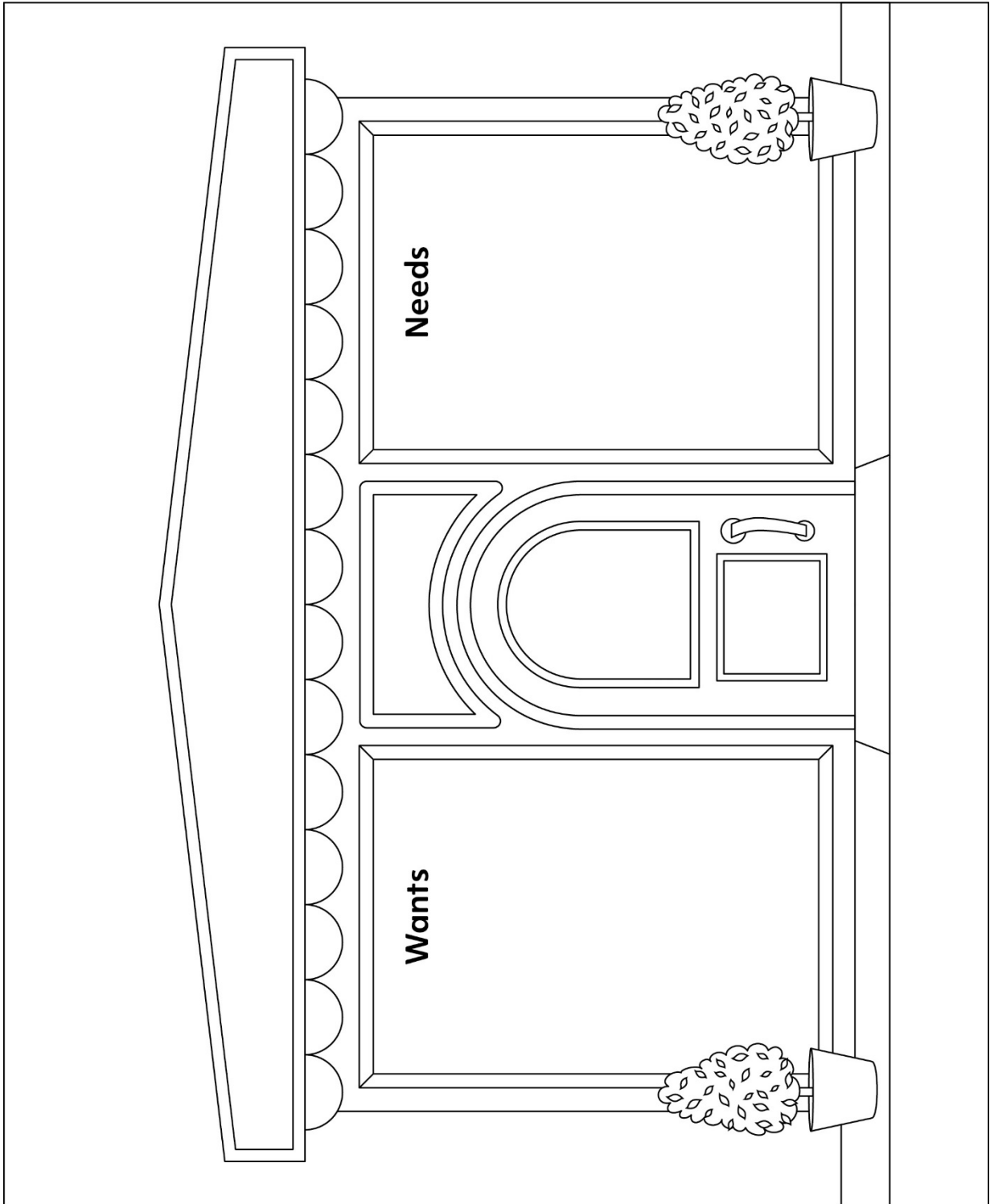
# Master 102: Activity 41 Assessment
## Wants and Needs

### 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

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |

# Master 103: Activity 42 Assessment
## Financial Literacy: Goods and Services

| Identifying Goods and Services Exchanged for Money Behaviours/Strategies | | | |
|---|---|---|---|
| Student has difficulty identifying goods and services. | Student identifies goods and services but is unable to explain why they are goods and services. | Student has difficulty identifying the difference between goods and services, or struggles to understand that a store provides a service by making goods available for purchase. | Student identifies goods and services with ease and explains why they are goods and services. |
| **Observations/Documentation** | | | |
| | | | |

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**Money Cutouts**

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# Money Cutouts

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# Money Cutouts

Name_____ Date _____

CREDIT CARD

4000    1234    5678    9010
C. Arias                    12/24

DEBIT CARD

5510    1212    3456    789
R. Roy                      03/24

CREDIT CARD

4000    1234    5678    9010
C. Arias                    12/24

DEBIT CARD

5510    1212    3456    789
R. Roy                      03/24

CREDIT CARD

4000    1234    5678    9010
C. Arias                    12/24

DEBIT CARD

5510    1212    3456    789
R. Roy                      03/24

CREDIT CARD

4000    1234    5678    9010
C. Arias                    12/24

DEBIT CARD

5510    1212    3456    789
R. Roy                      03/24

Name_____ Date _____

$5

$7

$5

$6

$3

$4

$1

$2

$3

$3

$1

$2

**Master 112b**

# Our Favourite Places: Toy Store



$12

$6

$15

$3

$7

$5

$18

$5

$19

$3

$2

$5

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**Master 112c**   **Our Favourite Places: Sport Events**



$12   $8   $11

$10   $9   $12

$11   $9   $12
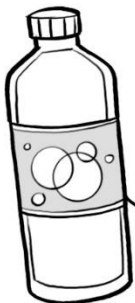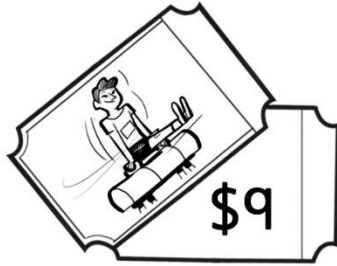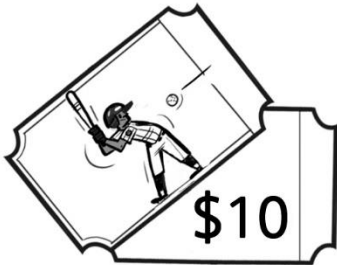
$2   $4   $3   $3
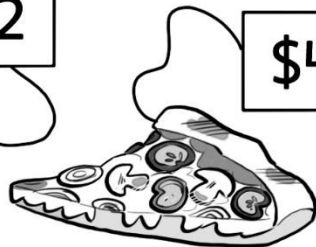
Name_____ Date _____

**Our Favourite Places: Movie Theatre**
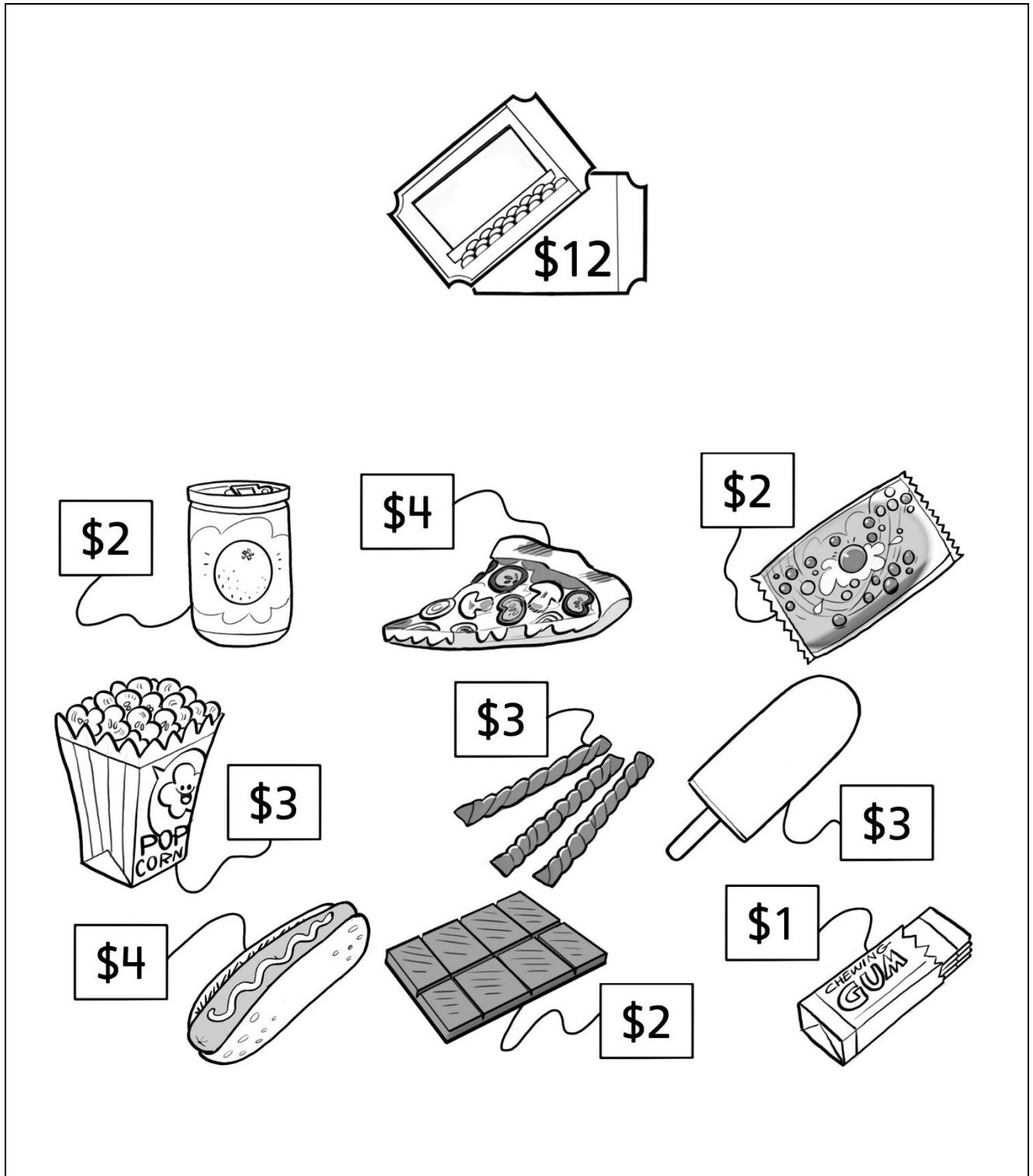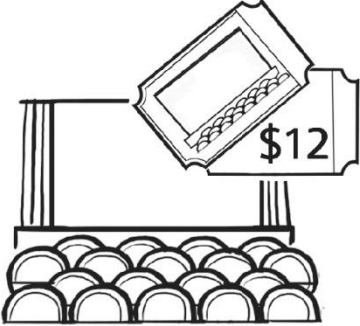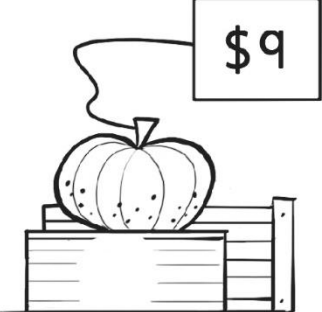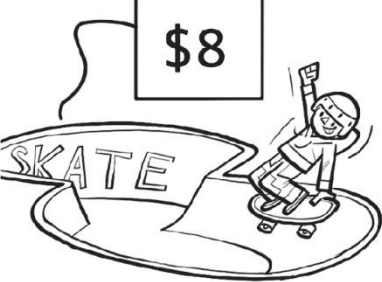
# Master 104: Activity 43 Assessment
## Financial Literacy: Consolidation

| Exchanging Money for Goods and Services Behaviours/Strategies | | | |
|---|---|---|---|
| Student has difficulty identifying the difference between goods and services. | Student can identify goods and services but is unable to explain why they are goods and services. | Student has difficulty sorting coins and bills, or recognizing the attributes that show their value.  | Student identifies goods and services with ease, sorts bills and coins accurately, and uses bills and coins to pay for goods and services. |
| **Observations/Documentation** | | | |
|  |  |  |  |
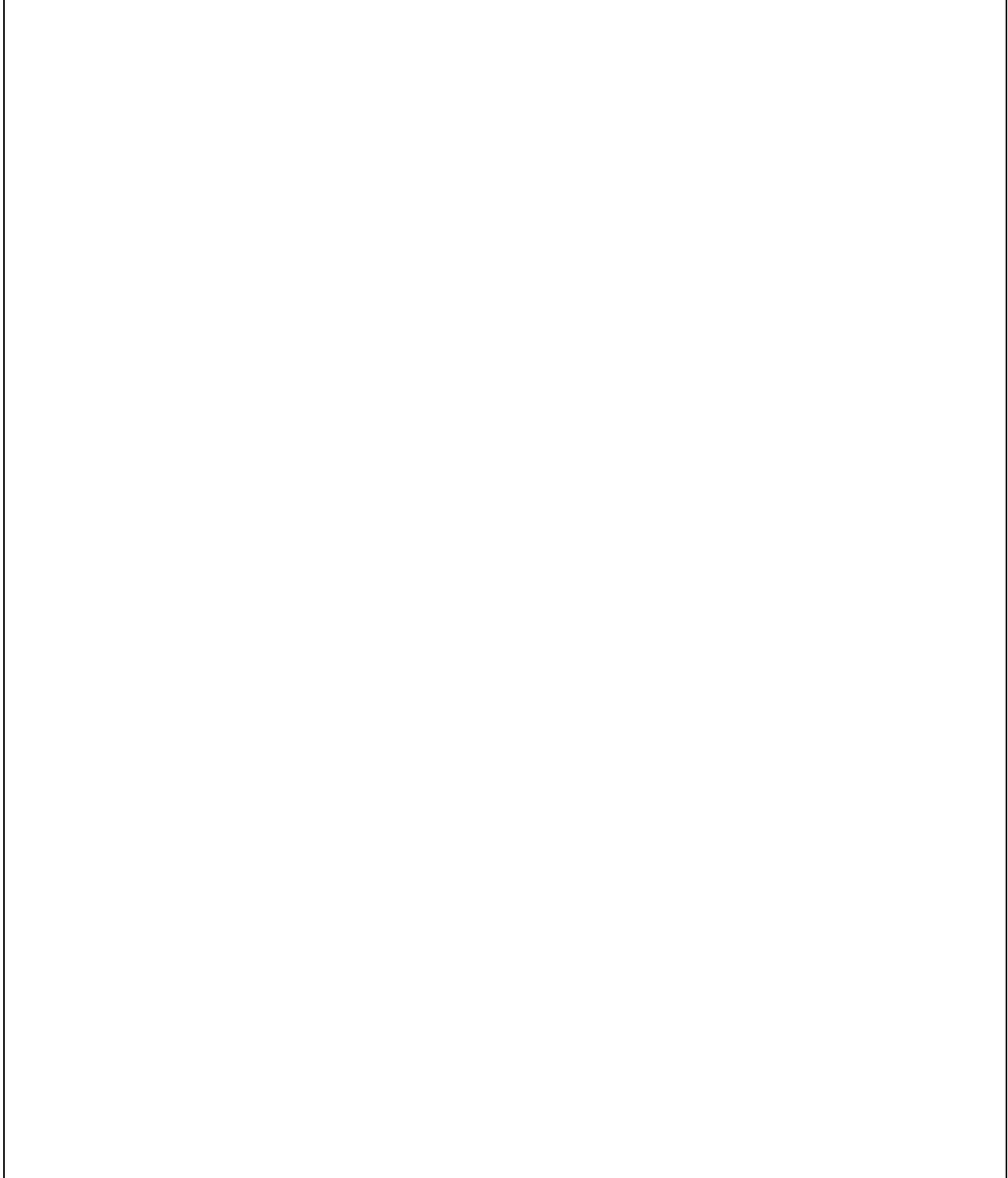
Name_____ Date _____

**Neighbourhood Goods and Services**

Name_____ Date _____

**Neighbourhood Goods and Services**

Draw a good and a service in the box.

# Mathology Grade 1 Correlation – Alberta
## Patterning Cluster 1: Investigating Repeating Patterns

**Organizing Idea:**

Patterns: Awareness of patterns supports problem solving in various situations.

| **Guiding Question:** What can patterns communicate? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students examine pattern in cycles. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| A cycle can express repetition of events or experiences.<br><br>Cycles include<br><br>• seasons<br>• day/night<br>• life cycles<br>• calendars<br><br>The same pattern can be represented with different elements.<br><br>A pattern core is a sequence of one or more elements that repeats as a unit. | A pattern that appears to repeat may not repeat in the same way forever.<br><br>A cycle is a repeating pattern that repeats in the same way forever. | Identify the pattern core, up to four elements, in a cycle. | **Patterning Cluster 1: Investigating Repeating Patterns**<br>1: Repeating the Core | Midnight and Snowfall |
| | | Create different representations of the same repeating pattern or cycle, limited to a pattern core of up to four elements. | **Patterning Cluster 1: Investigating Repeating Patterns**<br>2: Representing Patterns<br>3: Predicting Elements<br>4: Consolidation | Midnight and Snowfall |
| | | Extend a sequence of elements in various ways to create repeating patterns. | **Patterning Cluster 1: Investigating Repeating Patterns**<br>3: Predicting Elements | Midnight and Snowfall |

# Master 2: Activity 1 Assessment
## Repeating the Core

## Describing and Extending Repeating Patterns Behaviours/Strategies

| Student randomly selects Attribute Blocks to extend the pattern. | Student repeats only the last block in the pattern. | Student uses the correct blocks but places them in the wrong order. |
|---|---|---|
| Pattern Core | Pattern Core | Pattern Core |
| Student's Pattern | Student's Pattern | Student's Pattern |

### Observations/Documentation

| | | |
|---|---|---|
| | | |

| Student accurately extends the pattern by pointing to each element or by identifying the pattern core. | Student accurately extends the pattern but has difficulty describing the pattern. | Student accurately extends and describes the pattern. |
|---|---|---|
| Pattern Core | | |
| Student's Pattern | | |

### Observations/Documentation

| | | |
|---|---|---|
| | | |

( Master 3a )

# Pattern Cards

Pattern cards (numbers rotated 90°, read as six vertical strips):

- 2 2 4 2 4 2 2 4
- 2 4 2 4 2 4 4
- 2 4 2 4 2 4 2
- 2 4 3 3 2 3 4 3
- 2 3 2 4 3 2 4
- 2 3 3 4 2 3 3 3

**Master 3b**

# Pattern Cards

2 2 4 2 2 4 2 4 2 2 4

2 4 4 2 4 4 2 4 2 4 2

2 4 2 4 2 4 2 4 2 4

2 2 4 4 2 2 4 4 2 2 4 4

Name_____ Date _____

**Core Cards**

A A B

A B B

A B

A B C C

A B C

# Core Cards

2 2 4

2 4 4

2 4

2 2 4 4

# 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** | | |
| | | |

# 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. | 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. |
| **Observations/Documentation** | | |
| | | |
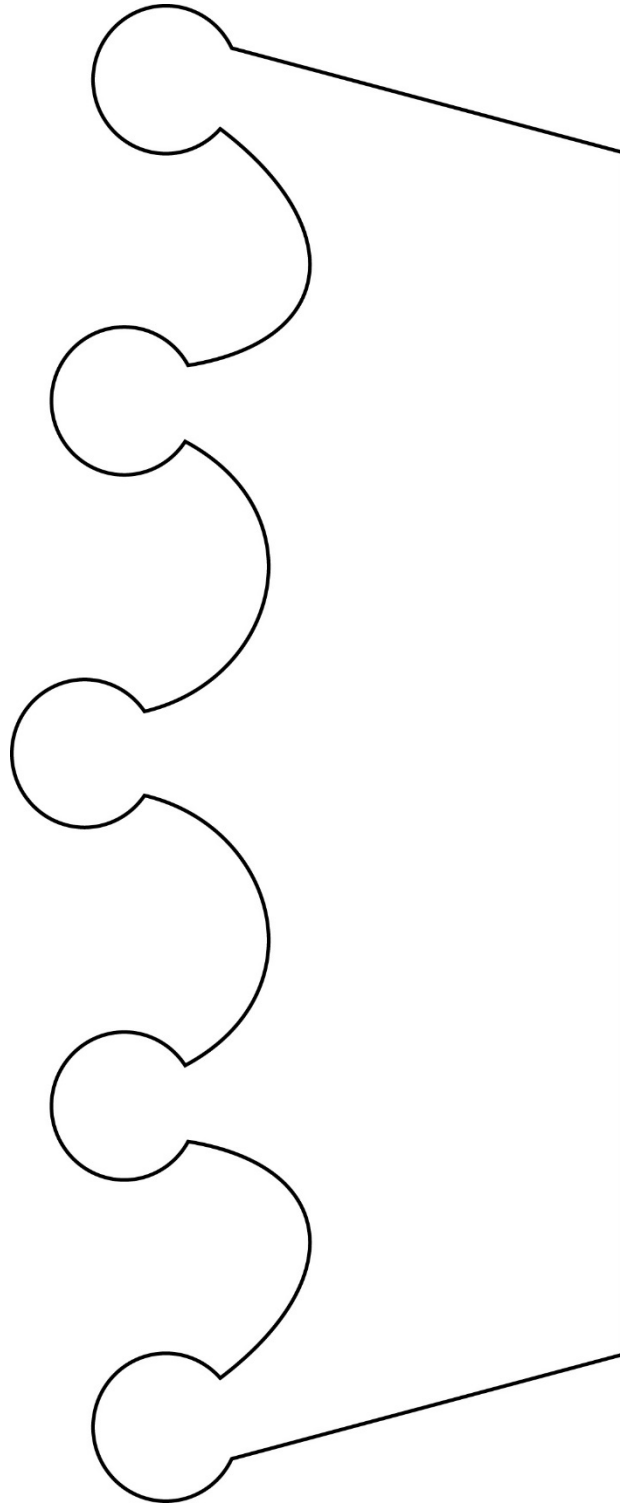
Name_____ Date _____

# Crown Cut-Out

## Extending and Describing Behaviours/Strategies

| | | |
|---|---|---|
| Student randomly draws circles to extend the pattern.<br><br>Pattern Core<br><br>Student's Pattern | Student repeats only the last jewel in the core.<br><br>Pattern Core<br><br>Student's Pattern | Student draws the jewels with the correct colours but places them in the wrong order.<br><br>Pattern Core<br><br>Student's Pattern |

### Observations/Documentation

| | | |
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| | | |
|---|---|---|
| Student accurately extends the pattern but has difficulty describing the pattern.<br><br>Pattern Core<br><br>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

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## Mathology Grade 1 Correlation – Alberta
## Patterning Cluster 2: Creating Patterns

**Organizing Idea:**

Patterns: Awareness of patterns supports problem solving in various situations.

| Guiding Question: What can patterns communicate? | | | | |
|---|---|---|---|---|
| **Learning Outcome:** Students examine pattern in cycles. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| A cycle can express repetition of events or experiences.<br><br>Cycles include<br><br>• seasons<br>• day/night<br>• life cycles<br>• calendars<br><br><br>The same pattern can be represented with different elements.<br><br>A pattern core is a sequence of one or more elements that repeats as a unit. | A pattern that appears to repeat may not repeat in the same way forever.<br><br>A cycle is a repeating pattern that repeats in the same way forever. | Identify a missing element in a repeating pattern or cycle. | **Patterning Cluster 2: Creating Patterns**<br>7: Errors and Missing Elements | Midnight and Snowfall |
| | | Create different representations of the same repeating pattern or cycle, limited to a pattern core of up to four elements. | **Patterning Cluster 2: Creating Patterns**<br>5: Extending Patterns | Midnight and Snowfall |
| | | Extend a sequence of elements in various ways to create repeating patterns. | **Patterning Cluster 2: Creating Patterns**<br>5: Extending Patterns<br>6: Translating Patterns<br>8: Consolidation | Midnight and Snowfall |

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# Master 10: Activity 5 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** | | |
| | | |

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*The Number Four (Newo)* **Story**

By Teri Foureyes-Awasis

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!"

# Master 12: Activity 6 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.<br><br>Pattern Core: **ABB**<br>Student's Pattern: **ABBABBABB** |
| **Observations/Documentation** | | |
|  |  |  |

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

Name_____  Date _____

# *Fancy Dance* Story

By Teri Foureyes-Awasis

Sage invited her school friend Elizabeth to go to the local powwow with her. Elizabeth was excited because she had never gone to a powwow 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!

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# Master 14: Activity 7 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** | | |
|---|---|---|
| | | |

# Master 15: Activity 8 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** | | |
| | | |

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## Mathology Grade 1 Correlation – Alberta
## Patterning Cluster 3: Patterns in Cycles

**Organizing Idea:**

Patterns: Awareness of patterns supports problem solving in various situations.

| Guiding Question: What can patterns communicate? | | | | |
|---|---|---|---|---|
| Learning Outcome: Students examine pattern in cycles. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| A cycle can express repetition of events or experiences.<br><br>Cycles include<br><br>• seasons<br>• day/night<br>• life cycles<br>• calendars | A pattern that appears to repeat may not repeat in the same way forever.<br><br>A cycle is a repeating pattern that repeats in the same way forever. | Recognize cycles encountered in daily routines and nature. | **Patterning Cluster 3: Patterns in Cycles**<br>9: Investigating Cycles | |
| | | Investigate cycles found in nature that inform First Nations, Métis, or Inuit practices. | **Patterning Cluster 3: Patterns in Cycles**<br>9: Investigating Cycles | |
| | | Identify the pattern core, up to four elements, in a cycle. | **Patterning Cluster 3: Patterns in Cycles**<br>10: Identifying and Describing Patterns in Cycles | |
| The same pattern can be represented with different elements.<br><br>A pattern core is a sequence of one or more elements that repeats as a unit. | | Identify a missing element in a repeating pattern or cycle. | **Patterning Cluster 3: Patterns in Cycles**<br>10: Identifying and Describing Patterns in Cycles | |

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| | | Describe change and constancy in repeating patterns and cycles. | **Patterning Cluster 3: Patterns in Cycles**<br><br>10: Identifying and Describing Patterns in Cycles | |
| | | Create different representations of the same repeating pattern or cycle, limited to a pattern core of up to four elements. | **Patterning Cluster 3: Patterns in Cycles**<br><br>11: Creating and Extending Patterns in Cycles | |
| | | Extend a sequence of elements in various ways to create repeating patterns. | **Patterning Cluster 3: Patterns in Cycles**<br><br>11: Creating and Extending Patterns in Cycles<br>12: Consolidation | |

# Master 17: Activity 9 Assessment
## Patterns in Cycles: Investigating Cycles

| Investigating Cycles Behaviours/Strategies | | | |
|---|---|---|---|
| Student does not understand what a cycle is. | Student has difficulty recognizing cycles. | Student has difficulty relating cycles in nature to First Nations, Métis, or Inuit practices. | Student investigates cycles found in nature that inform First Nations, Métis, or Inuit practices with ease. |

| Observations/Documentation | | | |
|---|---|---|---|
| | | | |

# Cree Calendar Cards

| | |
|---|---|
| kisê-pîsim<br><br>Great Moon<br><br>January | mikisowipîsim<br><br>Eagle Moon<br><br>February |
| niskipîsim<br><br>Goose Moon<br><br>March | ayîkiwipîsim<br><br>Frog Moon<br><br>April |
| sâkipakâwipîsim<br><br>Leaf Budding Moon<br><br>May | pâskâwihowi-pîsim<br><br>Egg Hatching Moon<br><br>June |

**Master 35b** | **Cree Calendar Cards**

| | |
|---|---|
| paskowi-pîsim<br><br>Feather Moulting Moon<br><br>July | ohpahowi-pîsim<br><br>Flying-Up Moon<br><br>August |
| nôcihito-pîsim<br><br>Rutting Moon<br><br>September | pimihamowi-pîsim<br><br>Migrating Moon<br><br>October |
| iyikopiwipîsim<br><br>Frost Moon<br><br>November | pawâcakinasîsi-pîsim<br><br>Frost Exploding Moon<br><br>December |

# Cree Calendar Cards

| | |
|---|---|
| Bring in wood | Ride a toboggan |
| Clean up the yard | Prepare the garden |
| Go fishing | Go on a picnic |

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Name_____    Date _____

**Cree Calendar Cards**

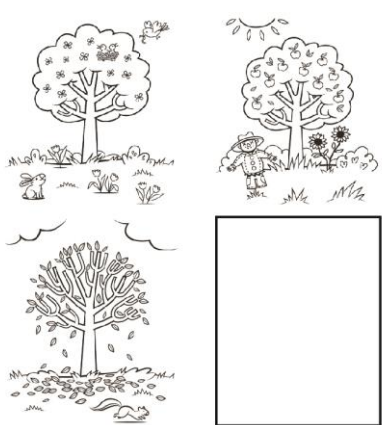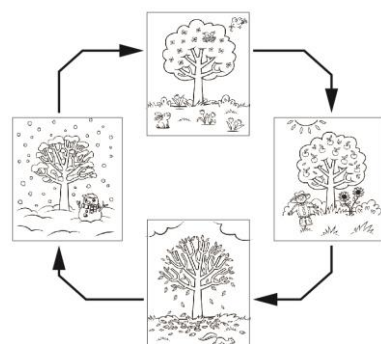| | |
|---|---|
| Smoke fish | Pick blueberries |
| Go hunting | Can cranberries |
| Sort beads | Tell stories |

✂

# Cree Calendar Card Answers

*Note: Cree months are not capitalized.
Listen to a recording of a fluent Cree speaker reading the months.

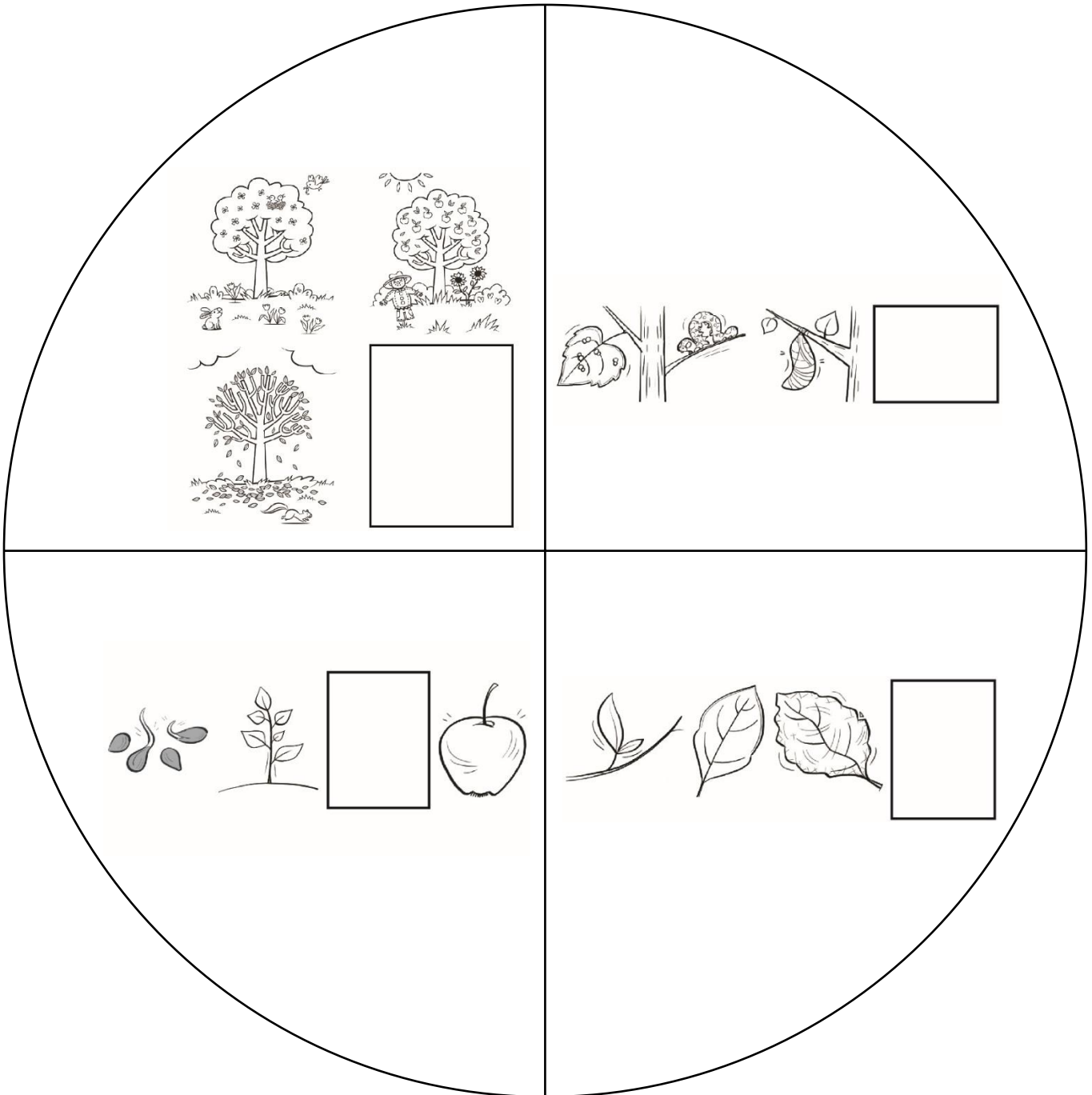| | |
|---|---|
| kisê-pîsim<br>Great Moon<br>January | Bring in wood |
| mikisowipîsim<br>Eagle Moon<br>February | Ride a toboggan |
| niskipîsim<br>Goose Moon<br>March | Clean up the yard |
| ayîkiwipîsim<br>Frog Moon<br>April | Prepare the garden |
| sâkipakâwipîsim<br>Leaf Budding Moon<br>May | Go fishing |
| pâskâwihowi-pîsim<br>Egg Hatching Moon<br>June | Go on a picnic |
| paskowi-pîsim<br>Feather Moulting Moon<br>July | Smoke fish |
| ohpahowi-pîsim<br>Flying-Up Moon<br>August | Pick blueberries |
| nôcihito-pîsim<br>Rutting Moon<br>September | Go hunting |
| pimihamowi-pîsim<br>Migrating Moon<br>October | Can cranberries |
| iyikopiwipîsim<br>Frost Moon<br>November | Sort beads |
| pawâcakinasîsi-pîsim<br>Frost Exploding Moon<br>December | Tell stories |

# Master 18: Activity 10 Assessment
## Patterns in Cycles: Identifying and Describing Patterns in Cycles

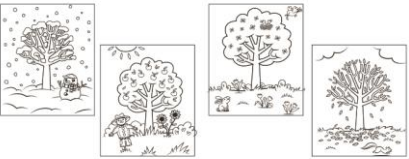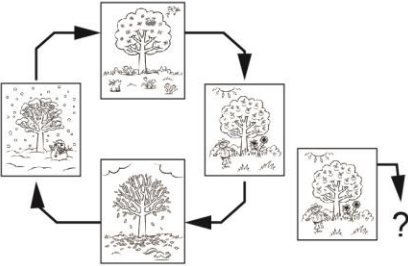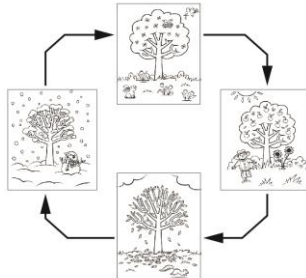| Identifying and Describing Patterns in Cycles Behaviours/Strategies | | | |
|---|---|---|---|
| Student recognizes the elements of the pattern as a cycle but struggles to identify the missing element.<br><br><br><br>**"I know they're the seasons."** | Student struggles to identify the pattern core in a cycle.<br><br><br><br>**"I can't find the core.<br>I don't see parts that repeat."** | Student struggles to understand change and constancy in repeating patterns and cycles.<br><br>**"Dogs don't grow like people."** | Student identifies the pattern core and missing parts of patterns in cycles and describes change and constancy in them with ease. |
| **Observations/Documentation** | | | |
| | | | |

Name_____  Date _____

**Life Cycles Spinner**

Put a paper clip in the middle of the circle.
Hold a pencil tip in the small loop of the paper clip.
Use your finger to flick the paper clip.
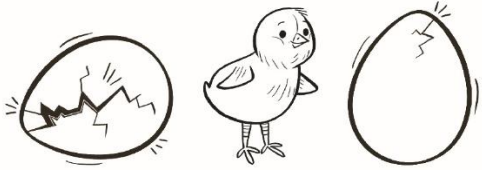Which life cycle does it land on?
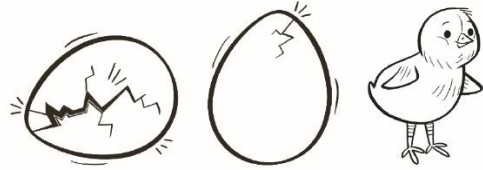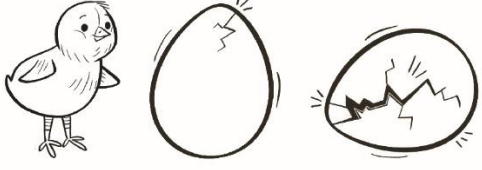
# Master 19: Activity 11 Assessment
## Patterns in Cycles: Creating and Extending Patterns in Cycles

| Creating and Extending Patterns in Cycles Behaviours/Strategies | | | |
|---|---|---|---|
| Student identifies the elements of a cycle but struggles to place them in any sequence. | Student creates a representation of the pattern cycle once, but struggles to demonstrate how it continues from any given point. | Student creates a representation of the pattern cycle once, but struggles to extend it, or demonstrate how it continues repeatedly. | Student creates different representations of patterns in cycles and extends them with ease. |
| **"This picture is winter, this one summer. This one means spring and this one means fall."** | **"When I start with this one, I don't know what comes next."** | **"It's done. I don't know what comes next."** | |
| **Observations/Documentation** | | | |
| | | | |

Name_____ Date _____

**Baby Chick Hatching Cycle**

Which box shows the cycle in the correct order?
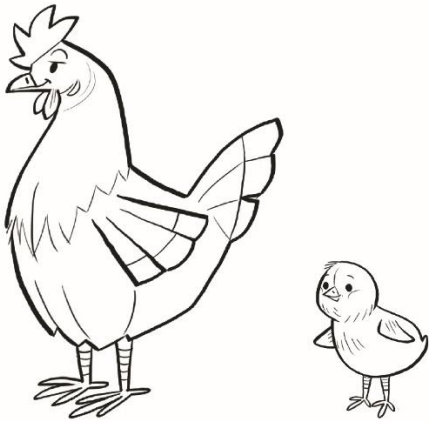
## *Cycle* Cards

## Chicken
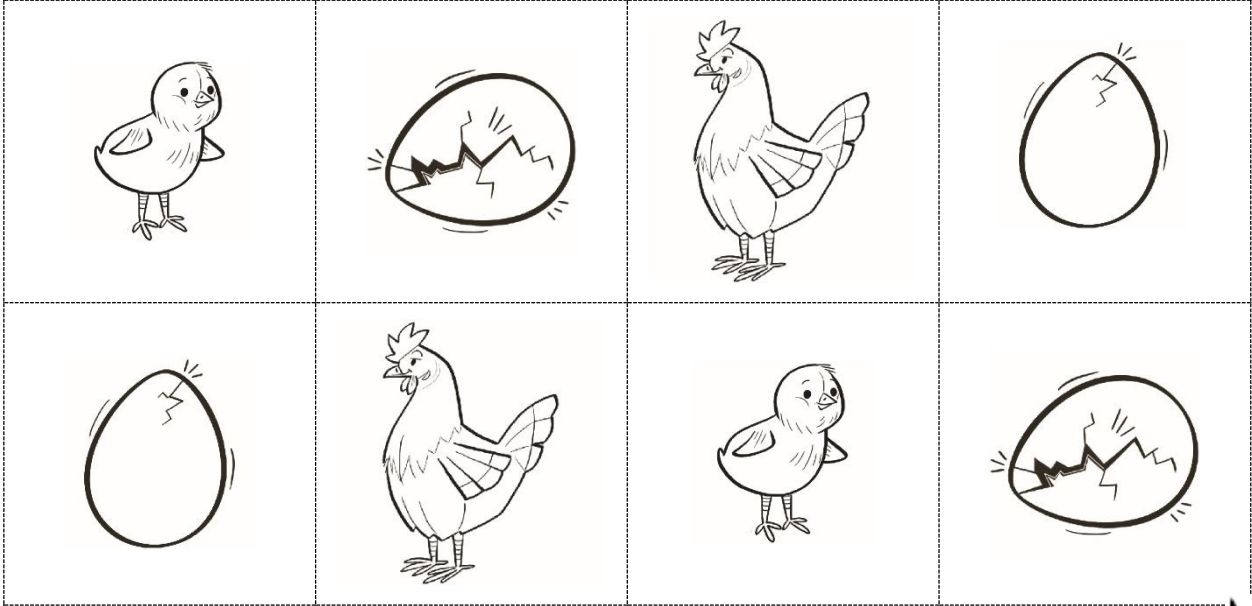


## Tree
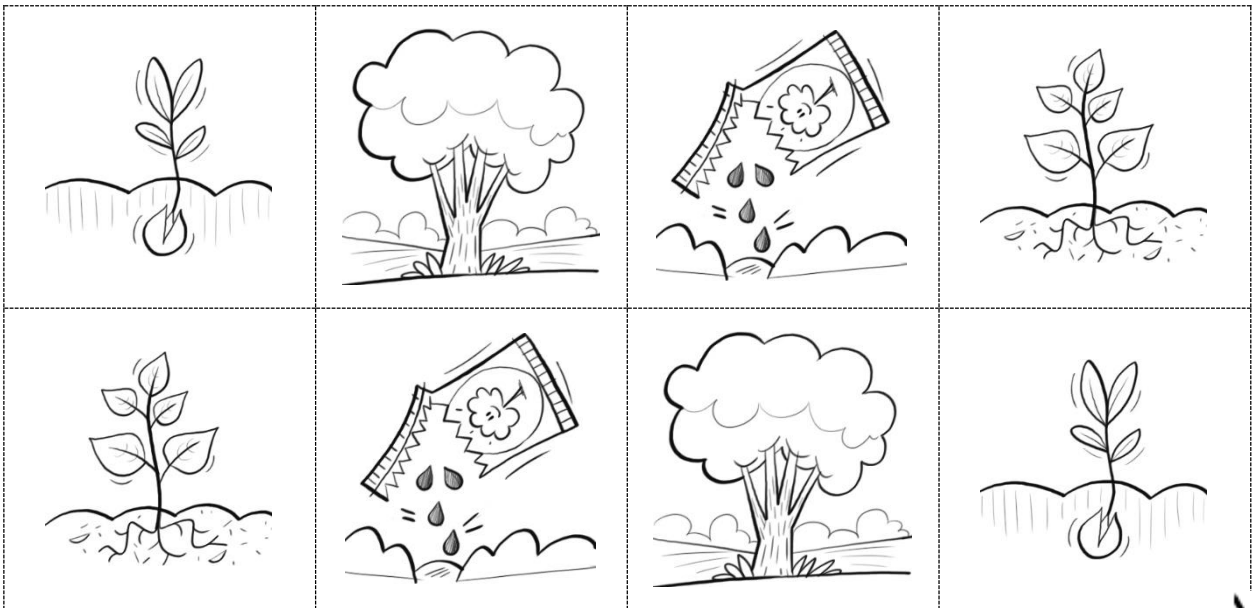
# Cycle Cards

## Seasons
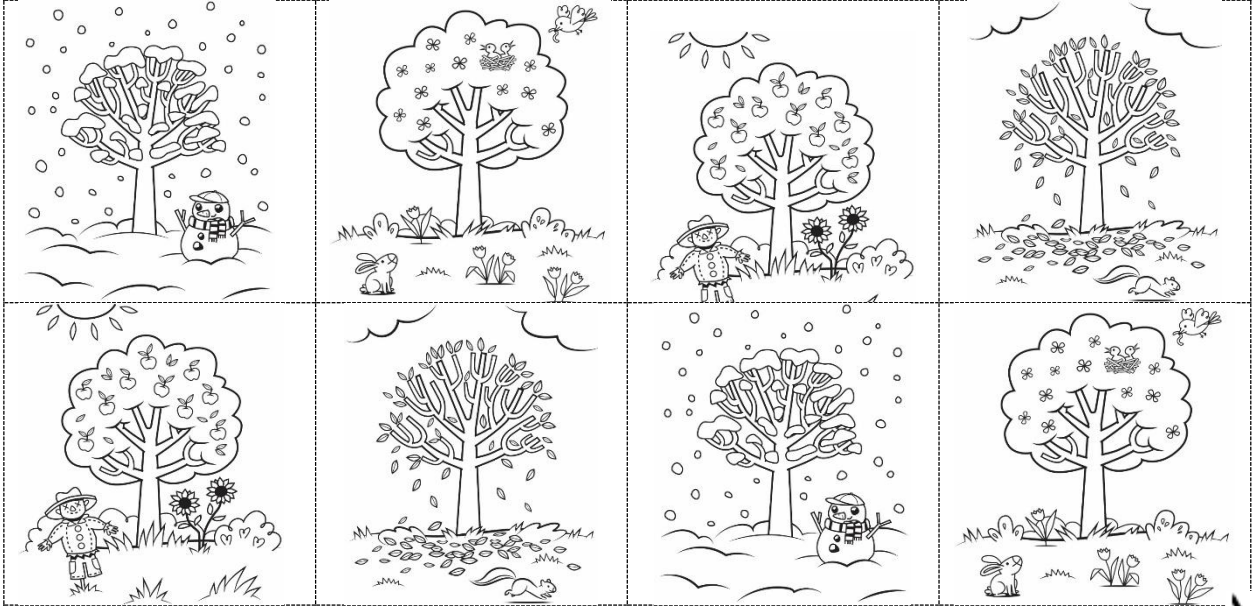


## Butterfly
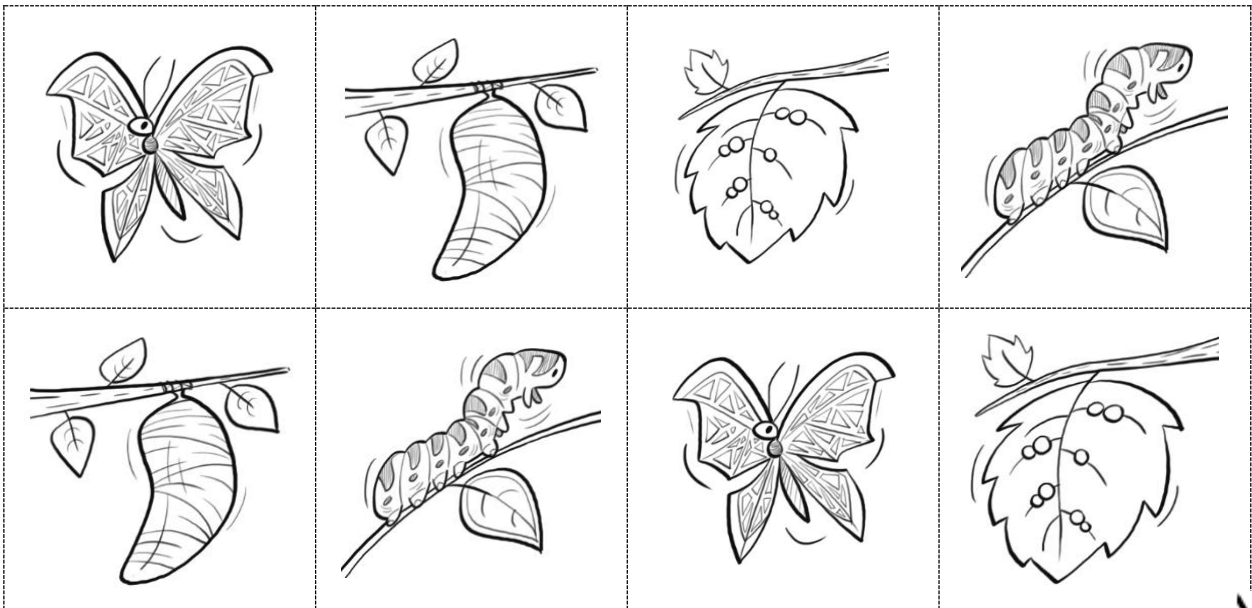
**Master 32a**  **Cycles Go Round and Round**

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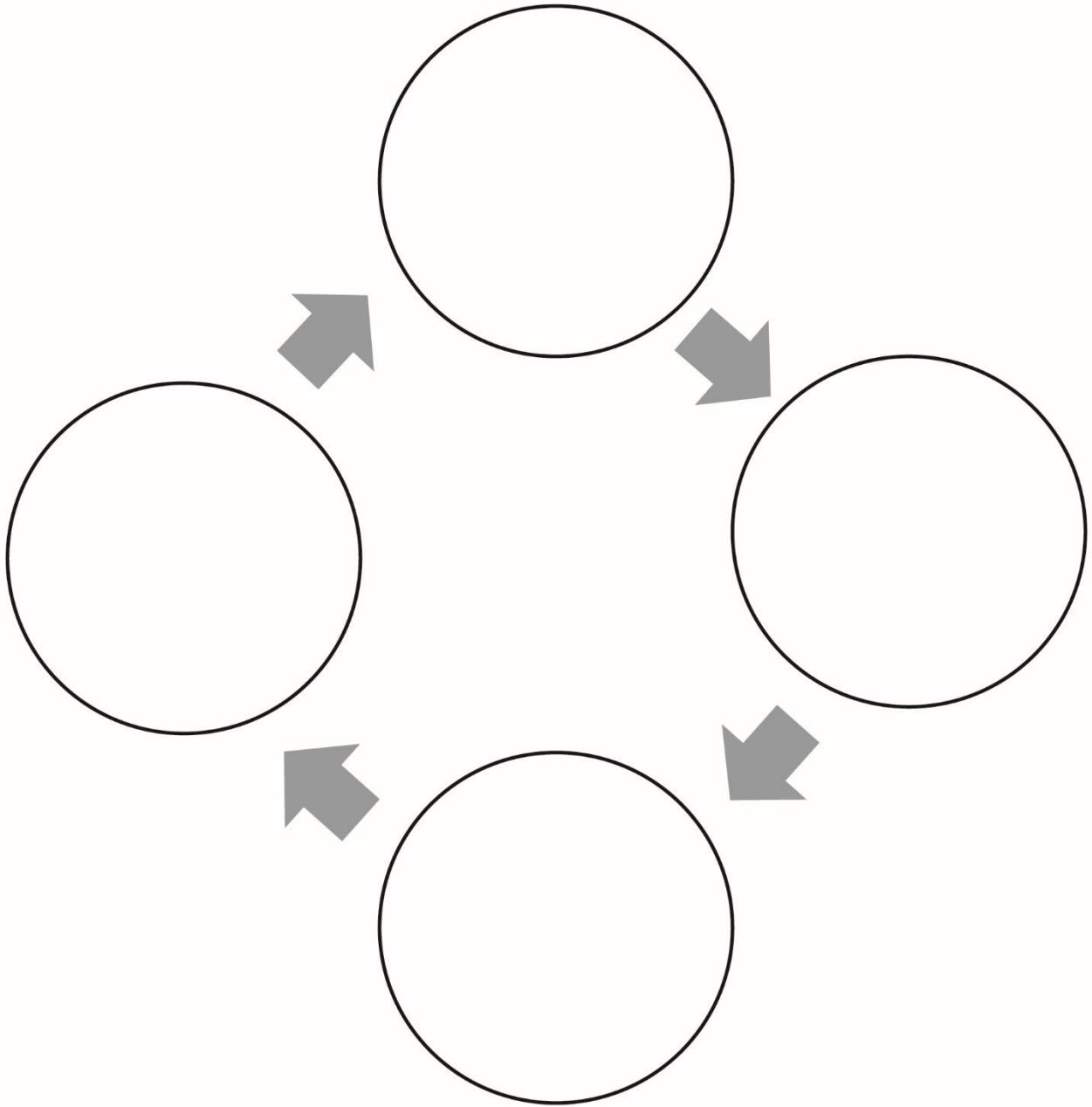
**Cycles Go Round and Round**
(Accommodations)
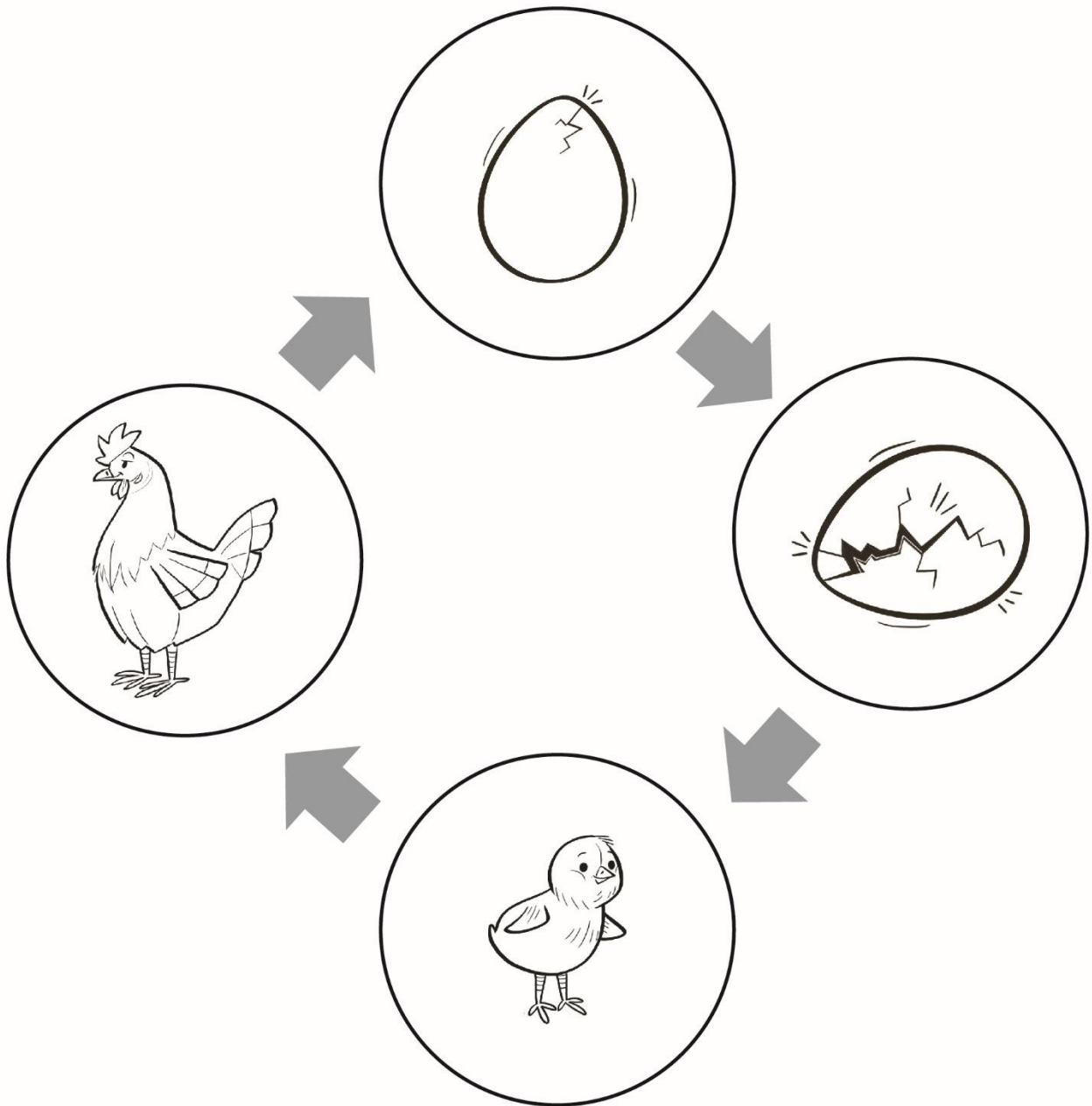
**Master 32c** **Cycles Go Round and Round** (Extension)

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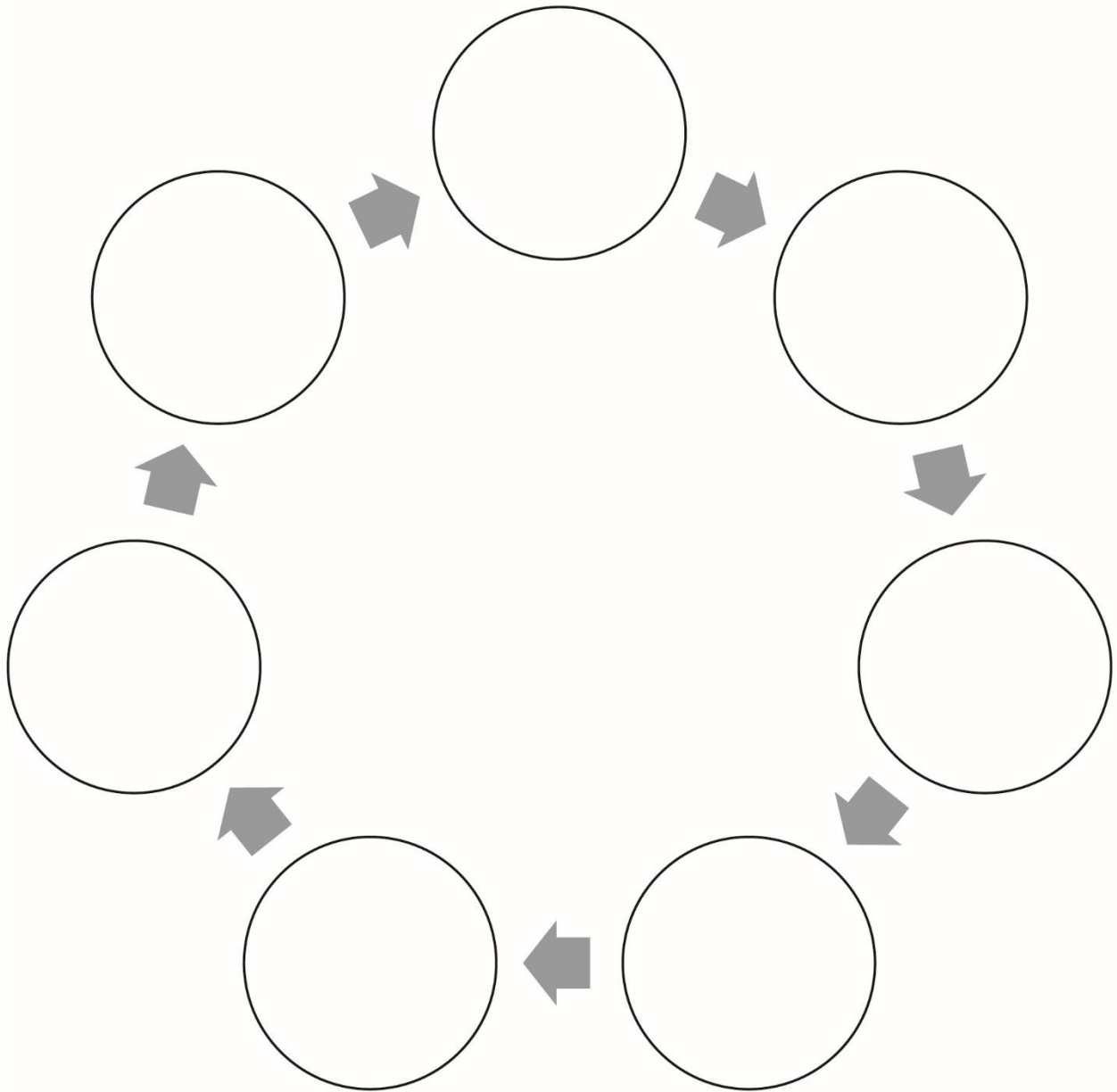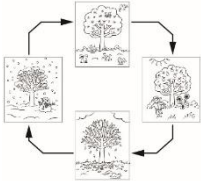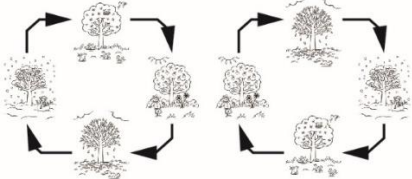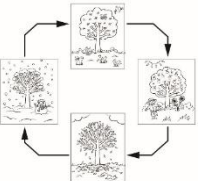
**Master 32d**   **Cycles Go Round and Round** (Extension)

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# Master 20: Activity 12 Assessment
## Patterns in Cycles: Consolidation

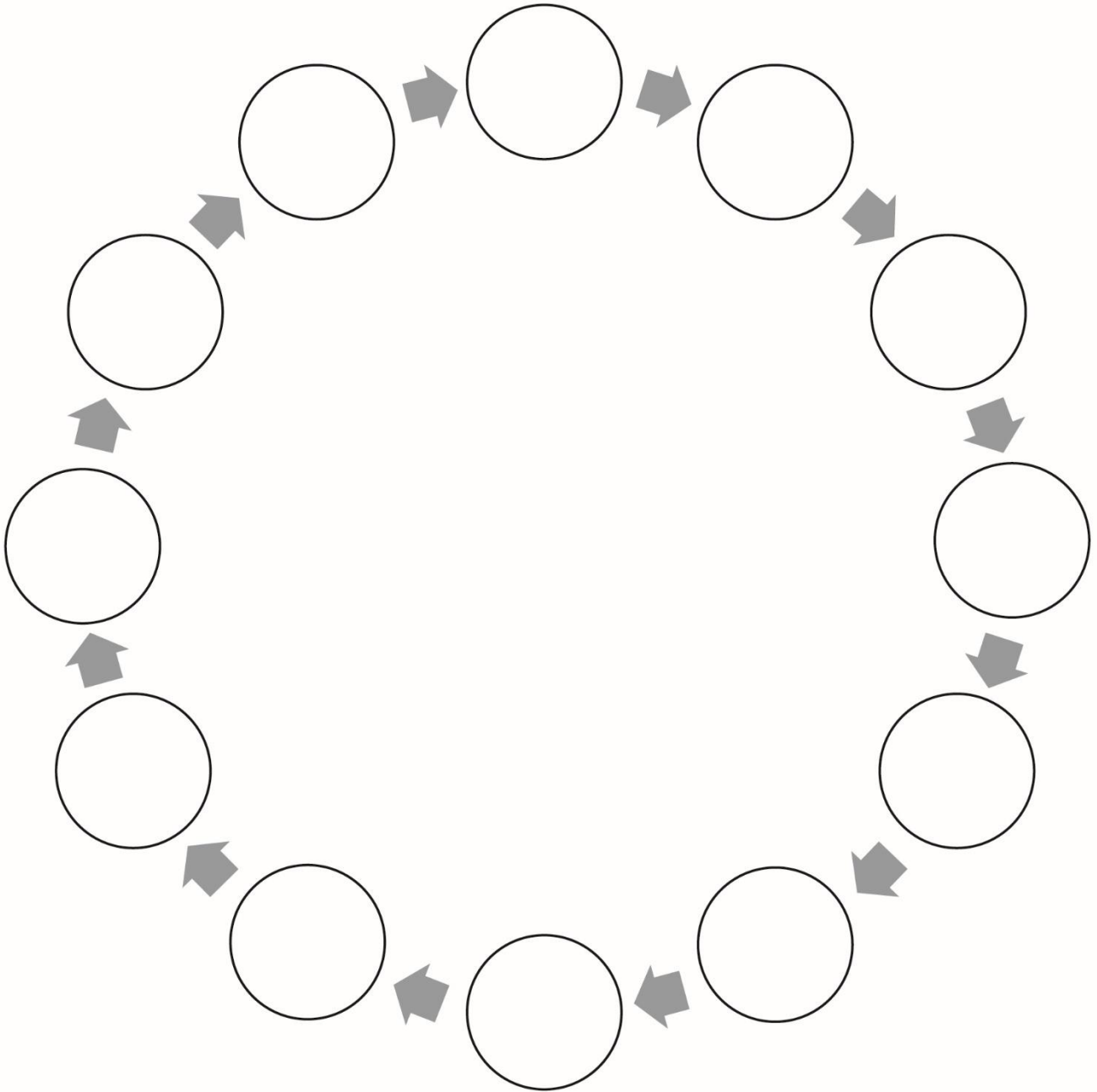| Patterns in Cycles Behaviours/Strategies | | |
|---|---|---|
| Student recognizes the pattern is a cycle but struggles to identify the pattern core.<br><br>**"I can't find the core.**<br>**I don't see parts that repeat."** | Student recognizes the pattern is a cycle but struggles to identify the missing element.<br><br>**"I know they're the seasons."** | Student has difficulty describing change and constancy in cycles. |

| Observations/Documentation | | |
|---|---|---|
| | | |

| | | |
|---|---|---|
| Student creates different representations of the same cycle but does not recognize the cycles are the same. | Student has difficulty extending the pattern in the cycle.<br><br>**"It's done. I don't know what comes next."** | Student recognizes patterns in cycles and identifies the pattern core and missing elements. Student describes change and constancy in the cycles, creates different representations of the same cycles, and extends the patterns. |

| Observations/Documentation | | |
|---|---|---|
| | | |

Name_____   Date _____

*Cycle Starter* Cards
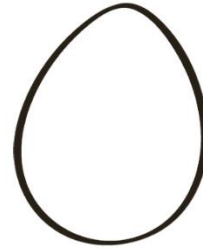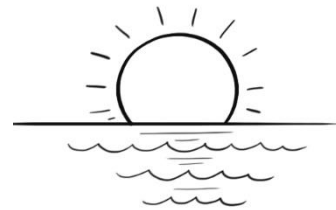
| | |
|---|---|
| **Winter** | **Egg** |
| **Baby** | **Morning** |
| **Night** | **Seeds** |
| **Puppy** | **Spring** |

**Master 33b**   *Cycle Starter* **Cards**
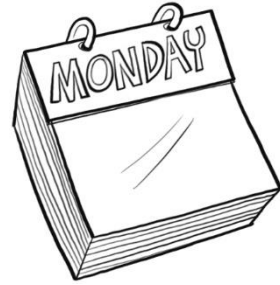
| | |
|---|---|
| **Saturday** | **Monday** |
| **Tree** | **Kitten** |
| **Eggs** | **Seedling** |
| **Chick** | **Butterfly** |
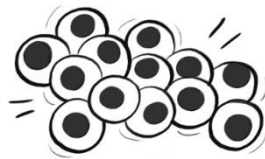
Name_____ Date _____

# Blank Cycle Cards

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## Mathology Grade 1 Correlation – Alberta
## Patterning Cluster 4: Equality and Inequality

**Organizing Idea:**

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

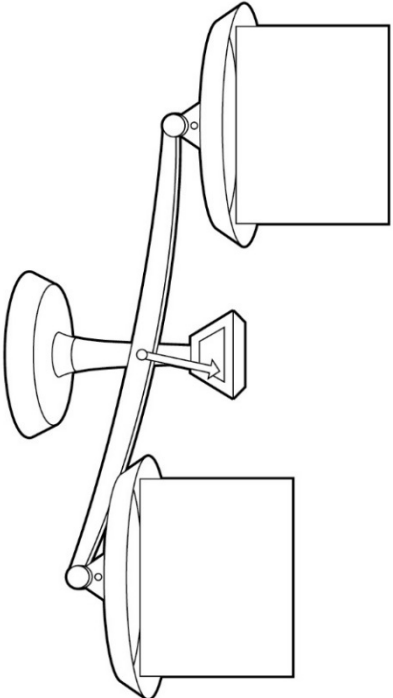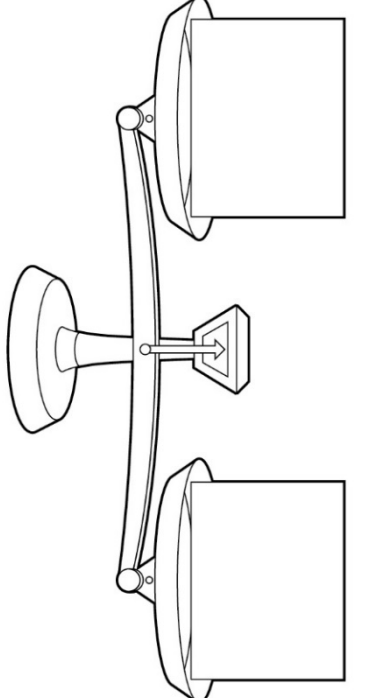| Guiding Question: How can quantity be communicated? | | | | |
|---|---|---|---|---|
| Learning Outcome: Students interpret and explain quantity to 100. | | | | |
| **Knowledge** | **Understanding** | **Skills & Procedures** | **Grade 1 Mathology** | **Mathology Little Books** |
| Comparisons of quantity can be described by using word such as<br>• equal<br>• not equal<br>• less<br>• more<br><br>Equality can be modelled using a balance.<br><br>The equal sign, =, is used to show equality between two quantities.<br><br>The unequal sign, ≠, is used to show that two quantities are not equal. | Two quantities are equal when there is the same number of objects in both sets.<br><br>Equality is a balance between two quantities. | Investigate equal and unequal quantities, including using a balance model. | **Patterning Cluster 4: Equality and Inequality**<br>13: Exploring Sets<br>14: Making Equal Sets<br>15: Using Symbols<br>16: Consolidation | Nutty and Wolfy<br><br>Grade 2<br>Kokum's Bannock |

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**Master 22**

# Am I Balanced? Recording Sheet

# Master 23: Activity 13 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** | | | |
| | | | |

# Master 24: Activity 14 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** | | | |
|  |  |  |  |

# Master 25: Activity 15 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.<br><br>"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.<br><br>$57 \neq 9$ | 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** | | |
| | | |

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# Number Cards (1–10)

| | |
|:---:|:---:|
| 1 | 2 |
| 3 | 4 |
| 5 | 6 |
| 7 | 8 |
| 9 | 10 |

Name_____    Date _____

**Number Cards (11–20)**

| 11 | 12 |
|----|----|
| 13 | 14 |
| 15 | 16 |
| 17 | 18 |
| 19 | 20 |

Name_____ Date _____

**Pan Card Recording Sheet**

▶ □ + □ = □

▶ □ + □ = □

▶ □ + □ = □

▶ □ + □ = □

▶ □ + □ = □

▶ □ + □ = □

Name_____ Date _____
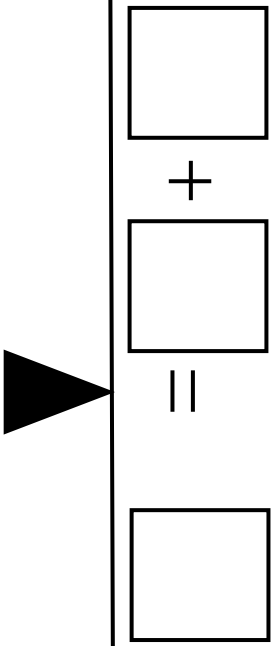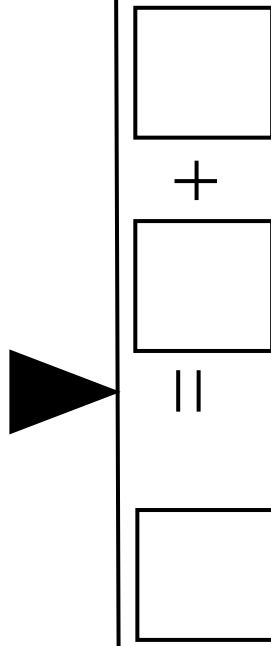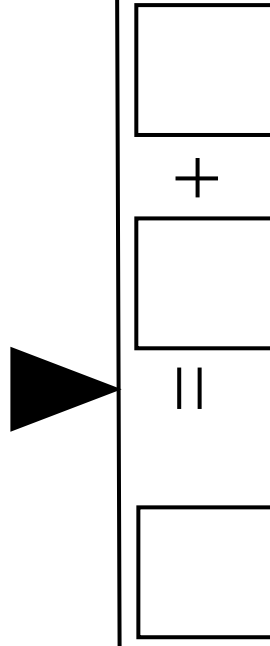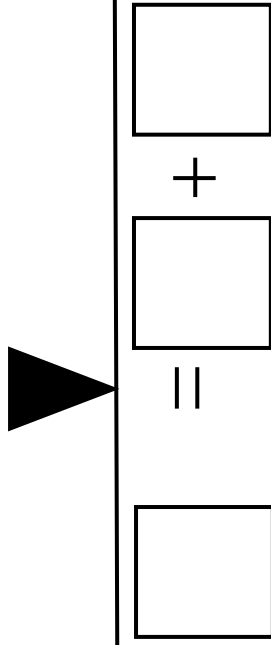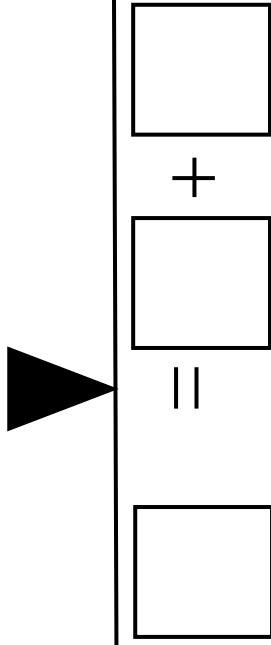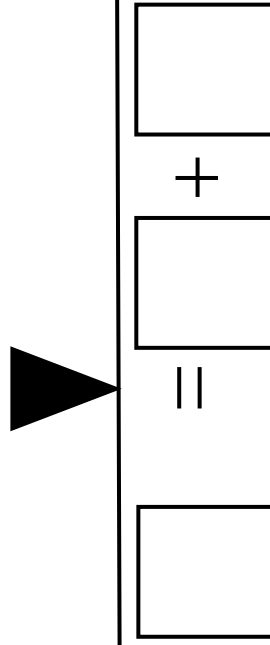
**Pan Card Recording Sheet**

▶ ▯ = ▯ + ▯

▶ ▯ = ▯ + ▯

▶ ▯ = ▯ + ▯

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# Master 28: Activity 16 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.<br><br>"There are 5 cubes in each pan."<br><br>$5 + \square = 5$ | Student mixes up the order of the numbers in the number sentence (does not match the trains in each pan).<br><br>$4 + 9 = 5$ | 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**

| | | | |
|---|---|---|---|
| | | | |