

Curriculum Correlation

Patterning and Algebra Cluster 1: Investigating Repeating Patterns

ON

Kindergarten
<p>18.2 explore and extend patterns (e.g., fill in missing elements of a repeating pattern) using a variety of materials (e.g., beads, shapes, words in a poem, beat and rhythm in music, objects from the natural world)</p> <p>18.3 identify the smallest unit (the core) of a pattern (e.g., ABBABBABB – the core is ABB) and describe why it is important (e.g., it helps us to know what comes next; it helps us make generalizations)</p>
Grade 1
<p>Patterning and Algebra Patterns and Relationships</p> <ul style="list-style-type: none"> – identify, describe, and extend, through investigation, geometric repeating patterns involving one attribute (e.g., colour, size, shape, thickness, orientation); (Activities 1, 5) – identify and extend, through investigation, numeric repeating patterns (e.g., 1, 2, 3, 1, 2, 3, 1, 2, 3, ...); (Activities 2, 4, 5) – describe numeric repeating patterns in a hundreds chart; (Activity 4) – identify a rule for a repeating pattern (e.g., “We’re lining up boy, girl, boy, girl, boy, girl.”); (Activities 1, 2, 5) – represent a given repeating pattern in a variety of ways (e.g., pictures, actions, colours, sounds, numbers, letters) (Sample problem: Make an ABA, ABA, ABA pattern using actions like clapping or tapping). (Activities 1, 2, 5) <p>Cross Strands:</p> <p>Number Counting</p> <ul style="list-style-type: none"> – count forward by 1’s, 2’s, 5’s, and 10’s to 100, using a variety of tools and strategies (e.g., move with steps; skip count on a number line; place counters on a hundreds chart; connect cubes to show equal groups; count groups of pennies, nickels, or dimes) (Activity 4) <p>Geometry and Spatial Sense Geometric Properties</p> <ul style="list-style-type: none"> – identify and describe common two-dimensional shapes (e.g., circles, triangles, rectangles, squares) and sort and classify them by their attributes (e.g., colour; size; texture; number of sides), using concrete materials and pictorial representations (e.g., “I put all the triangles in one group. Some are long and skinny, and some are short and fat, but they all have three sides.”); (Activities 1, 5)

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Patterning and Algebra Cluster 1: Investigating Repeating Patterns

ON (con't)

Grade 2

Patterning and Algebra

Patterns and Relationships

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

Curriculum Correlation

Patterning and Algebra Cluster 1: Investigating Repeating Patterns

BC/YT

Kindergarten
Repeating patterns with two or three elements <ul style="list-style-type: none"> • Sorting and classifying using a single attribute • Identifying patterns in the world • Repeating patterns with 2-3 elements • Identifying the core • Representing repeating patterns in various ways • Noticing and identifying repeating patterns in First Peoples and local art and textiles, including beadwork and beading, and frieze work in borders
Grade 1
Repeating patterns with multiple elements and attributes <ul style="list-style-type: none"> • repeating patterns with multiple elements/attributes (Activities 1, 2, 3, 4, 5) • translating patterns from one representation to another (e.g., an orange blue pattern could be translated to a circle square pattern) (Activity 5) • letter coding of pattern (Activities 1, 2, 5) • predicting an element in repeating patterns using a variety of strategies (Activity 3) • patterns using visuals (ten-frames, hundred charts) (Activity 4) • investigating numerical patterns (e.g., skip-counting by 2s or 5s on a hundred chart) (Activities 2, 4) <p>Cross Strands:</p> <p>Counting</p> <ul style="list-style-type: none"> • skip-counting by 2 and 5 (Activity 4) <p>Comparison of 2D shapes and 3D objects</p> <ul style="list-style-type: none"> • sorting 3D objects and 2D shapes using one attribute, and explaining the sorting rule (Activities 1, 5)
Grade 2
Repeating and increasing patterns <ul style="list-style-type: none"> • exploring more complex repeating patterns (e.g., positional patterns, circular patterns) • identifying the core of repeating patterns (e.g., the part of the pattern that repeats over and over) • increasing patterns using manipulatives, sounds, actions, and numbers (0 to 100) • First Peoples head/armband patterning

Curriculum Correlation

Patterning and Algebra Cluster 1: Investigating Repeating Patterns

SK

Kindergarten
<p>Patterns and Relations</p> <p>PK.1 Demonstrate an understanding of repeating patterns (two or three elements) by:</p> <ul style="list-style-type: none"> • identifying • reproducing • extending • creating <p>patterns using manipulatives, sounds and actions.</p>
Grade 1
<p>Patterns and Relations</p> <p>P1.1 Demonstrate an understanding of repeating patterns (two to four elements) by:</p> <ul style="list-style-type: none"> • describing • reproducing • extending • creating patterns using manipulatives, diagrams, sounds, and actions. <p>(Activities 1, 2, 3, 4, 5)</p> <p>P1.2 Translate repeating patterns from one form of representation to another. (Activities 1, 2, 5)</p> <p>Cross Strands:</p> <p>Number</p> <p>N1.1 Say the number sequence, 0 to 100, by:</p> <ul style="list-style-type: none"> • 1s forward and backward between any two given numbers • 2s to 20, forward starting at 0 • 5s and 10s to 100, forward starting at 0. <p>Shape and Space</p> <p>SS1.2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.</p>
Grade 2
<p>Patterns and Relations</p> <p>P2.1 Demonstrate understanding of repeating patterns (three to five elements) by:</p> <ul style="list-style-type: none"> • describing • representing patterns in alternate modes • extending • comparing • creating patterns using manipulatives, pictures, sounds, and actions.

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Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NS

Kindergarten
<p>Patterns and Relations</p> <p>PR01: Students will be expected to demonstrate an understanding of repeating patterns (two or three elements) by identifying, reproducing, extending, and creating patterns using manipulatives, sounds, and actions.</p>
Grade 1
<p>Patterns and Relations</p> <p>PR01: Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions. (Activities 1, 2, 3, 4, 5)</p> <p>PR02 Students will be expected to translate repeating patterns from one representation to another. (Activities 1, 2, 5)</p> <p>Cross Strands:</p> <p>Number</p> <p>N01 Students will be expected to say the number sequence by</p> <ul style="list-style-type: none"> • 1s, forward and backward between any two given numbers, 0 to 100 • 2s to 20, forward starting at 0 • 5s to 100, forward starting at 0, using a hundred chart or a number line • 10s to 100, forward starting at 0, using a hundred chart or a number line <p>Geometry</p> <p>G01 Students will be expected to sort 3-D objects and 2-D shapes using one attribute and explain the sorting rule.</p>
Grade 2
<p>Patterns and Relations</p> <p>PR01: Students will be expected to demonstrate an understanding of repeating patterns (three to five elements) by describing, extending, comparing, and creating patterns using manipulatives, diagrams, sounds, and actions.</p>

Curriculum Correlation

Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NB/PEI

Kindergarten
<p>Patterns and Relations</p> <p>KPR1. Demonstrate an understanding of repeating patterns (two or three elements) by:</p> <ul style="list-style-type: none"> • identifying • reproducing • extending • creating <p>patterns using manipulatives, sounds and actions.</p>
Grade 1
<p>Patterns and Relations</p> <p>1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by:</p> <ul style="list-style-type: none"> • describing • reproducing • extending • creating <p>patterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5)</p> <p>1PR2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5)</p> <p>Cross Strands:</p> <p>Number</p> <p>N1: Say the number sequence, 0 to 100, by:</p> <ul style="list-style-type: none"> • 1s forward and backward between any two given numbers • 2s to 20, forward starting at 0 • 5s and 10s to 100, forward starting at 0. <p>Shape and Space</p> <p>SS2 : Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.</p>
Grade 2
<p>Patterns and Relations</p> <p>2PR1. Demonstrate an understanding of repeating patterns (three to five elements) by:</p> <ul style="list-style-type: none"> • describing • extending • comparing • creating <p>patterns using manipulatives, diagrams, sounds and actions.</p> <p>2PR2. Demonstrate an understanding of increasing patterns by:</p> <ul style="list-style-type: none"> • describing • reproducing • extending • creating <p>patterns using manipulatives, diagrams, sounds and actions (numbers to 100).</p>

Curriculum Correlation

Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NFL

Kindergarten
<p>Patterns and Relations</p> <p>KPR1. Demonstrate an understanding of repeating patterns (two or three elements) by:</p> <ul style="list-style-type: none"> • identifying • reproducing • extending • creating <p>patterns using manipulatives, sounds and actions.</p>
Grade 1
<p>Patterns and Relations</p> <p>1PR1. Demonstrate an understanding of repeating patterns (two to four elements) by:</p> <ul style="list-style-type: none"> • describing • reproducing • extending • creating <p>patterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5)</p> <p>1PR2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5)</p> <p>Cross Strands:</p> <p>Number</p> <p>1N1 Say the number sequence 0 to 100 by:</p> <ul style="list-style-type: none"> • 1s forward between any two given numbers • 1s backward from 20 to 0 • 2s forward from 0 to 20 • 5s and 10s forward from 0 to 100. <p>Shape and Space</p> <p>1SS2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule.</p>

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Patterning and Algebra Cluster 1: Investigating Repeating Patterns

NFL (con't)

Grade 2

Patterns and Relations

2PR1. Demonstrate an understanding of repeating patterns (three to five elements) by:

- describing
- extending
- comparing
- creating

patterns using manipulatives, diagrams, sounds and actions.

2PR2. Demonstrate an understanding of increasing patterns by:

- describing
- reproducing
- extending
- creating

numerical (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds and actions.

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Patterning and Algebra Cluster 1: Investigating Repeating Patterns

MB

Kindergarten
<p>Patterns and Relations</p> <p>K.PR1. Demonstrate an understanding of repeating patterns (two or three elements) by:</p> <ul style="list-style-type: none"> • identifying • reproducing • extending • creating <p>patterns using manipulatives, sounds, and actions.</p>
Grade 1
<p>Patterns and Relations</p> <p>1.PR1. Demonstrate an understanding of repeating patterns (two to four elements) by:</p> <ul style="list-style-type: none"> • describing • reproducing • extending • creating <p>patterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5)</p> <p>1.PR2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5)</p> <p>Cross Strands:</p> <p>Number</p> <p>1.N.1. Say the number sequence by</p> <ul style="list-style-type: none"> • 1s forward and backward between any two given numbers (0 to 100) • 2s to 30, forward starting at 0 • 5s and 10s to 100, forward starting at 0 <p>Shape and Space</p> <p>1.SS.2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.</p>
Grade 2
<p>Patterns and Relations</p> <p>2.PR.1. Predict an element in a repeating pattern using a variety of strategies.</p> <p>2.PR.2. Demonstrate an understanding of increasing patterns by:</p> <ul style="list-style-type: none"> • describing • reproducing • extending • creating <p>patterns using manipulatives, diagrams, sounds, and actions (numbers to 100).</p>

Curriculum Correlation

Patterning and Algebra Cluster 1: Investigating Repeating Patterns

AB/NWT/NU

Kindergarten
<p>Patterns and Relations</p> <ol style="list-style-type: none">1. Demonstrate an understanding of repeating patterns (two or three elements) by:<ul style="list-style-type: none">• identifying• reproducing• extending• creatingpatterns using manipulatives, sounds and actions.2. Sort a set of objects based on a single attribute, and explain the sorting rule.
Grade 1
<p>Patterns and Relations</p> <ol style="list-style-type: none">1. Demonstrate an understanding of repeating patterns (two to four elements) by:<ul style="list-style-type: none">• describing• reproducing• extending• creatingpatterns using manipulatives, diagrams, sounds and actions. (Activities 1, 2, 3, 4, 5)2. Translate repeating patterns from one representation to another. (Activities 1, 2, 5)3. Sort objects, using one attribute, and explain the sorting rule. (Activity 1) <p>Cross Strands:</p> <p>Number</p> <ol style="list-style-type: none">1. Say the number sequence 0 to 100 by:<ul style="list-style-type: none">• 1s forward between any two given numbers• 1s backward from 20 to 0• 2s forward from 0 to 20• 5s and 10s forward from 0 to 100. <p>Shape and Space</p> <ol style="list-style-type: none">2. Sort 3-D objects and 2-D shapes, using one attribute, and explain the sorting rule.

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Patterning and Algebra Cluster 1: Investigating Repeating Patterns

AB/NWT/NU (con't)

Grade 2

Patterns and Relations

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