

Math Travels, volume 1

Curriculum Correlation: British Columbia 1-9 Mathematics

1. Repeating Patterns (K-6)

BIG IDEAS

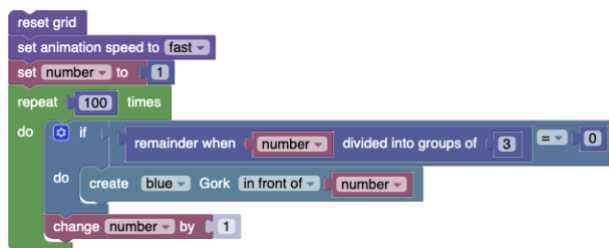
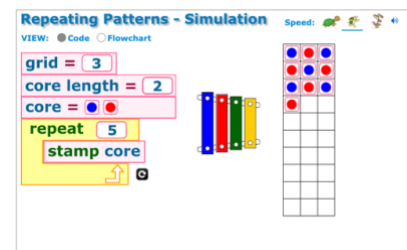
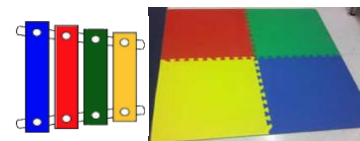
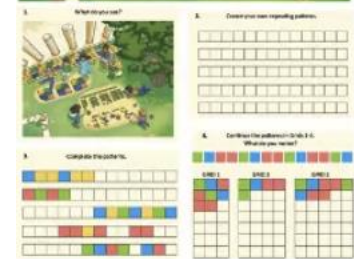
- The regular change in increasing patterns can be identified and used to make generalizations.

CURRICULAR COMPETENCIES

- **Reasoning and analyzing**
 - o Reasoning; technology; modelling
- **Understanding and solving**
 - o Play, inquiry, and problem solving; visualize; multiple strategies
- **Communicating and representing**
 - o Communicate in many ways; explain and justify; represent in concrete, pictorial, and symbolic forms; reflect on mathematical thinking
- **Connecting and reflecting**
 - o Reflect on thinking; connect mathematical concepts

CONTENT

- **Grade 1**
 - o repeating patterns with two or three elements
 - o concrete or pictorial graphs as a visual tool
- **Grade 2**
 - o repeating and increasing patterns
 - o pictorial representation of concrete graphs
 - o number concepts to 100
 - o benchmarks of 25, 50, and 100 and personal referents
 - o addition and subtraction facts to 20 (introduction of computational strategies)
 - o addition and subtraction to 100
- **Grade 3**
 - o pattern rules using words and numbers, based on concrete experiences
 - o multiplication and division concepts
- **Grade 4**
 - o multiplication and division facts to 100
- **Grade 5**
 - o multiplication and division facts to 100



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	100

2. Growing Patterns (1-9)

BIG IDEAS

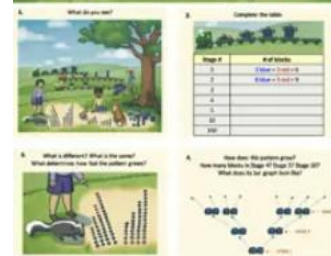
- Identified regularities in number patterns can be expressed in tables.
- Linear relations can be identified and represented using expressions with variables and line graphs and can be used to make generalizations.

CURRICULAR COMPETENCIES

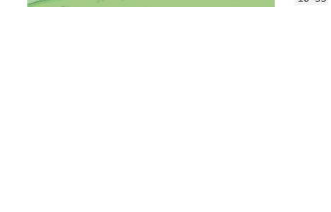
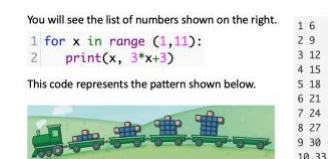
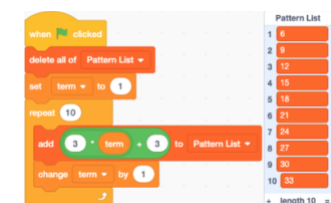
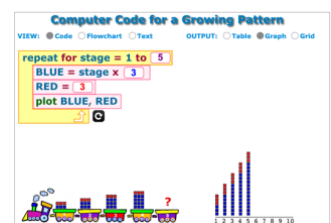
- **Reasoning and analyzing**
 - o Reasoning; technology; modelling
- **Understanding and solving**
 - o Play, inquiry, and problem solving; visualize; multiple strategies
- **Communicating and representing**
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- **Connecting and reflecting**
 - o Reflect on thinking; connect mathematical concepts

CONTENT

- **Grade 1**
 - o repeating patterns with multiple elements and attributes
 - o concrete graphs, using one-to-one correspondence
- **Grade 2**
 - o repeating and increasing patterns
 - o change in quantity, using pictorial and symbolic representation
 - o pictorial representation of concrete graphs, using one-to-one correspondence
- **Grade 3**
 - o increasing and decreasing patterns
 - o pattern rules using words and numbers, based on concrete experiences
 - o one-step addition and subtraction equations with an unknown number
 - o one-to-one correspondence with bar graphs, pictographs, charts, tables
- **Grade 4**
 - o increasing and decreasing patterns, using tables and charts
 - o algebraic relationships among quantities
 - o one-to-one correspondence, using bar graphs and pictographs
- **Grade 5**
 - o rules for increasing and decreasing patterns with words, numbers, symbols, and variables
 - o one-step equations with variables
- **Grade 6**
 - o increasing and decreasing patterns, using expressions, tables, and graphs as functional relationships
 - o one-step equations with whole-number coefficients and solutions
 - o line graphs
- **Grade 7**
 - o discrete linear relations, using expressions, tables, and graphs
 - o two-step equations with whole-number coefficients, constants, and solutions
 - o Cartesian coordinates and graphing
- **Grade 8**
 - o discrete linear relations (extended to larger numbers, limited to integers)
 - o expressions- writing and evaluating using substitution
 - o two-step equations with integer coefficients, constants, and solutions
- **Grade 9**
 - o two-variable linear relations, using graphing, interpolation, and extrapolation
 - o multi-step one-variable linear equations



Stage #	# of blocks
1	3 blue + 3 red = 6
2	6 blue + 3 red = 9
3	9 blue + 3 red = 12
4	12 blue + 3 red = 15
5	15 blue + 3 red = 18
10	30 blue + 3 red = 33
100	300 blue + 3 red = 103



3. Number Patterns (1-8)

BIG IDEAS

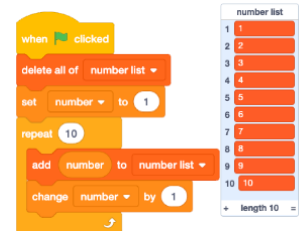
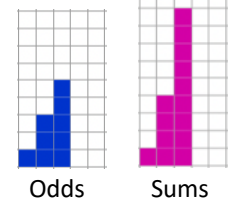
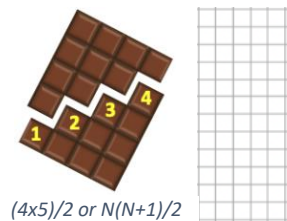
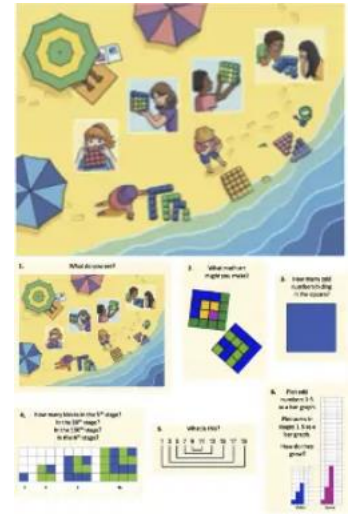
- Identified regularities in number patterns can be expressed in tables.
- Linear relations can be identified and represented using expressions with variables and line graphs and can be used to make generalizations.

CURRICULAR COMPETENCIES

- **Reasoning and analyzing**
 - o Reasoning; technology; modelling
- **Understanding and solving**
 - o Play, inquiry, and problem solving; visualize; multiple strategies
- **Communicating and representing**
 - o Communicate in many ways; explain and justify; represent in concrete, pictorial, and symbolic forms; reflect on mathematical thinking
- **Connecting and reflecting**
 - o Reflect on thinking; connect mathematical concepts

CONTENT

- **Grade 1**
 - o repeating patterns
 - o concrete graphs, using one-to-one correspondence
- **Grade 2**
 - o repeating and increasing patterns
 - o change in quantity, using pictorial and symbolic representation
 - o pictorial representation of concrete graphs, using one-to-one correspondence
- **Grade 3**
 - o increasing and decreasing patterns
 - o pattern rules using words and numbers, based on concrete experiences
 - o one-step addition and subtraction equations with an unknown number
 - o one-to-one correspondence with bar graphs, pictographs, charts, tables
- **Grade 4**
 - o increasing and decreasing patterns, using tables and charts
 - o algebraic relationships among quantities
 - o one-to-one correspondence, using bar graphs and pictographs
- **Grade 5**
 - o rules for increasing and decreasing patterns with words, numbers, symbols, and variables
- **Grade 6**
 - o increasing and decreasing patterns, using expressions, tables, and graphs as functional relationships
- **Grade 7**
 - o two-step equations with whole-number coefficients, constants, and solutions
 - o Cartesian coordinates and graphing
- **Grade 8**
 - o expressions- writing and evaluating using substitution
 - o two-step equations with integer coefficients, constants, and solutions
- **Grade 9**
 - o two-variable linear relations, using graphing, interpolation, and extrapolation



```
1 for N in range (1,6):
2   print (2*N)
```

2
4
6
8
10

4. Infinity Patterns (3-9)

BIG IDEAS

- Fractions and decimals are types of numbers that can represent quantities.
- Identified regularities in number patterns can be expressed in tables.
- Linear relations can be identified and represented using expressions with variables and line graphs and can be used to make generalizations.

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- **Reasoning and analyzing**
 - o Reasoning; technology; modelling
- **Understanding and solving**
 - o Play, inquiry, and problem solving; visualize; multiple strategies
- **Communicating and representing**
 - o Communicate in many ways; explain and justify; represent in concrete, pictorial, and symbolic forms; reflect on mathematical thinking
- **Connecting and reflecting**
 - o Reflect on thinking; connect mathematical concepts

CONTENT

- **Grade 3**
 - o fraction concepts
 - o increasing and decreasing patterns
 - o pattern rules using words and numbers, based on concrete experiences
 - o one-step addition and subtraction equations with an unknown number
 - o one-to-one correspondence with bar graphs, pictographs, charts, tables
- **Grade 4**
 - o ordering and comparing fractions
 - o increasing and decreasing patterns, using tables and charts
 - o algebraic relationships among quantities
 - o one-to-one correspondence, using bar graphs and pictographs
- **Grade 5**
 - o equivalent fractions
 - o whole-number, fraction, and decimal benchmarks
 - o rules for increasing and decreasing patterns with words, numbers, symbols, and variables
- **Grade 6**
 - o increasing and decreasing patterns, using expressions, tables, and graphs as functional relationships
- **Grade 7**
 - o relationships between decimals, fractions, ratios, and percents
 - o Cartesian coordinates and graphing
- **Grade 8**
 - o operations with fractions
- **Grade 9**
 - o operations with rational numbers (addition, subtraction, multiplication, division, and order of operations)

