

# Grade 5 Planning Session November - December Provincial Cohort

October 24, 2023



# Acknowledgment of Land and People

In the spirit of reconciliation, we want to acknowledge that this gathering is taking place on traditional lands across the province of Alberta, home to many diverse Indigenous, Métis and Inuit peoples. We acknowledge that this land is a traditional meeting ground giving voice to its original peoples and the story of creation of this country in a way that history has forgotten.

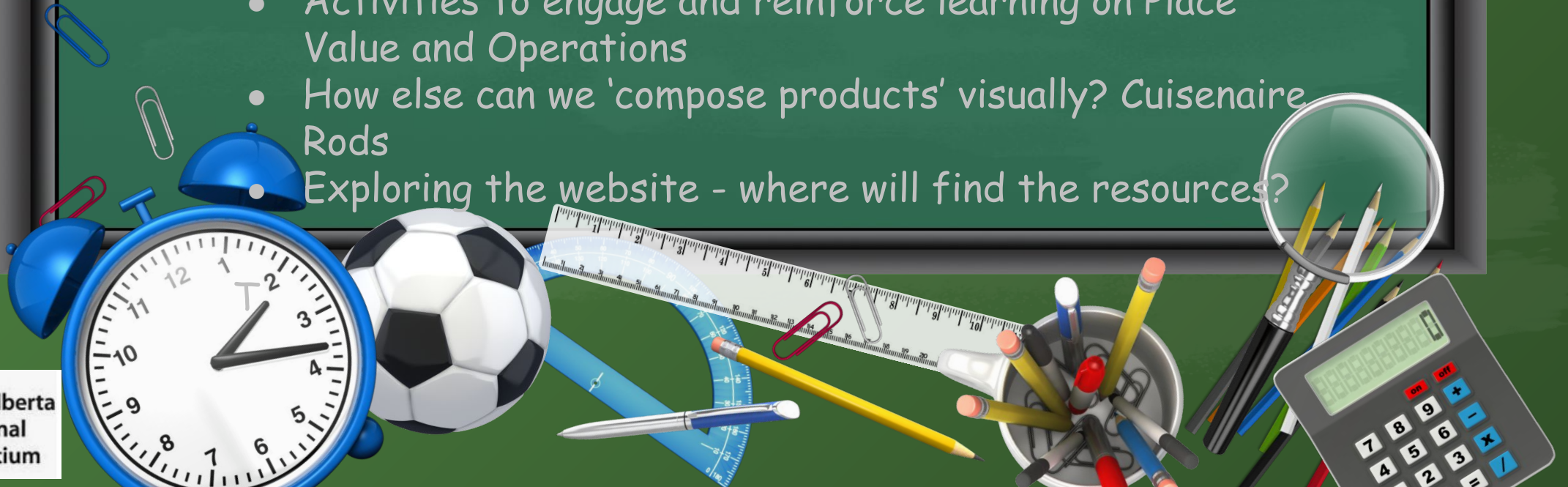
[Math Catcher Series](#) - Simon Fraser University

To promote mathematics we have created a series of stories with mathematical themes. These stories are inspired by the storytelling tradition of Indigenous peoples. The fact that most of our stories have been translated into several Indigenous languages as well as French and Spanish is probably the biggest recognition that an author could hope for.

# Welcome back!

## Agenda:

- Review of where we are - Looking at September - December
- Outcomes and Concepts - what does it mean?
- How do the Concepts link to assessment?
- Money and how we might leverage it for our journey to '100 + in decimals', whole numbers between 1000 - 5000, math facts 12x12
- Activities to engage and reinforce learning on Place Value and Operations
- How else can we 'compose products' visually? Cuisenaire Rods
- Exploring the website - where will find the resources?



# Success Criteria

This session will be successful if, at the end, you will ...



## **Confidence**

... feel confident in navigating the new Math curriculum and its associated resources.



## **Direction**

... have a sense of direction in moving forward with implementing the new curriculum.



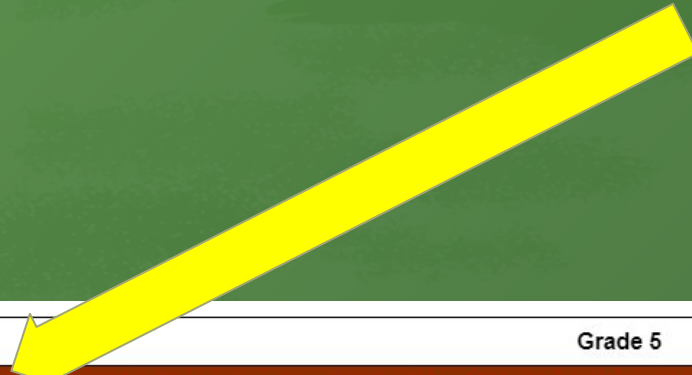
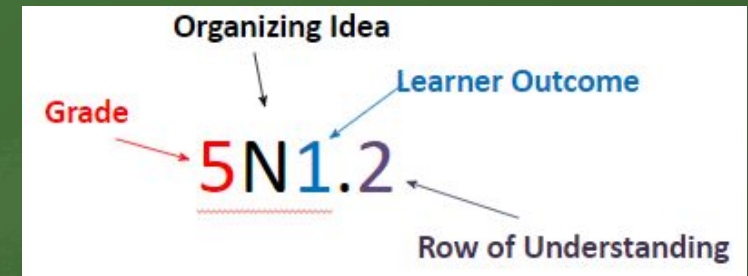
## **Efficacy**

... have a sense of efficacy that you have the skillset and resources to make the implementation work.

# Organizing Idea

- statement of the learning
- spans all or most grades
- main concepts

[Link](#)



	Grade 5			Grade 6		
<b>Organizing Idea</b>	Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.					
<b>Guiding Question</b>	How can the infinite nature of place value enhance insight into <u>number</u> ?			How can the infinite nature of the number line broaden the perception of <u>number</u> ?		
<b>Learning Outcome</b>	5N1 Students analyze patterns in place value.			6N1.1 Students investigate magnitude with positive and negative numbers.		
	Knowledge	Understanding	Skills & Procedures	Knowledge	Understanding	Skills & Procedures
	<p>A number expressed with more decimal places is more precise.</p> <p>A zero in the rightmost place of a decimal number does not change the value of the number.</p> <p>There are infinitely many decimal numbers between any two decimal numbers.</p>	<p>Place value symmetry extends infinitely to the left and right of the <u>ones</u> place.</p>	<p>Relate the names of place values that are the same number of places to the left and right of the ones place.</p> <p>Express numbers within 10 000 000, including decimal numbers to thousandths, using words and numerals.</p> <p>Relate a decimal number to its position on the number line.</p>	<p>Negative numbers are to the left of zero on the number line visualized horizontally, and below zero on the number line visualized vertically.</p> <p>Positive numbers can be represented symbolically with or without a positive sign (+).</p> <p>Negative numbers are represented symbolically with a negative sign (-).</p> <p>Zero is neither positive nor</p>	<p>Symmetry of the number line extends infinitely to the left and right of zero or above and below zero.</p> <p>Direction relative to zero is indicated symbolically with a positive or negative sign.</p> <p>Magnitude with direction distinguishes between positive and negative numbers.</p>	<p>Identify negative numbers in familiar contexts, including contexts that use vertical or horizontal models of the number line.</p> <p>Express positive and negative numbers symbolically, in context.</p> <p>Relate magnitude to the distance from zero on the number line.</p> <p>Relate positive and negative numbers, including additive inverses, to their positions on</p>

# A Note on Wording

## 5CG1 Positional language **includes:**

- left
- right
- up
- down



All that follows “include” must be taught, but other examples can be added.

## 3N 3.1 The order in which two quantities are multiplied does not affect the product (**commutative property**).



Parenthesized words are words students need to know but can be interchanged with the alternate wording during discussions. (Age appropriateness)

## 5G 1.1 Symmetry can be found in First Nations, Métis, and Inuit design, **such as**

- basket weaving
- wampum belts
- quilts
- First Nations beadwork, Inuit beadwork, or Métis floral beadwork
- architecture such as tipis or longhouses



What follows “such” are examples and don’t have to all be covered or can be replaced with alternatives.

# Progressions

[Link](#)

## Competencies

- Critical Thinking
- Problem Solving
- Research and Managing Information
- Creativity and Innovation
- Communication
- Collaboration
- Citizenship
- Personal Growth and Well-being

## Literacy

- Literacy involves acquiring and applying the understanding and skills necessary to decode, evaluate, and logically communicate ideas and build meaning, using oral, written, visual, and multimedia sources.
- Literacy is embedded in learning across all subject areas. It is foundational, allowing students to live, learn, and work as knowledgeable, active participants in a democratic society.
- **The Literacy Progressions** identify knowledge and behaviours that students may demonstrate by the end of each divisional age range.

## Numeracy

- Numeracy involves acquiring and applying the mathematical knowledge and skills needed to engage with quantitative and spatial information in a variety of situations.
- Numeracy is embedded in learning experiences across all subject areas
- **The Numeracy Progressions** identify knowledge and behaviours that students may demonstrate by the end of each divisional age range.



**Looking at the  
curriculum  
through the lens  
of concepts.**

# iConcepts



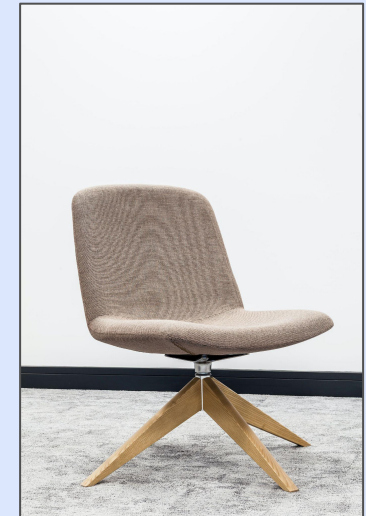
What is a concept?



## A concept is ...

- organizing idea
- with distinct attributes
- that are shared across multiple examples

# Chair is a concept





# A concept ...

- is timeless
- is universal
- is represented in 1 or 2 words

# Levels of Concepts

Broad/General Idea  
or  
Understanding

Furniture

Chair

More Specific Ideas  
or  
Understandings

Dining Chair



**Form**

**Function**

**Causation**





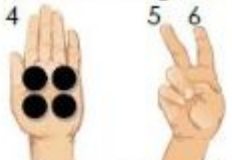


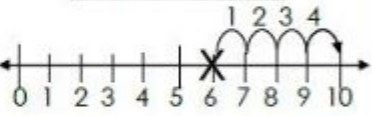
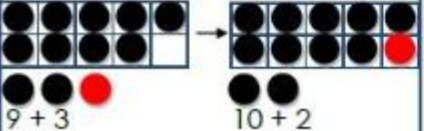
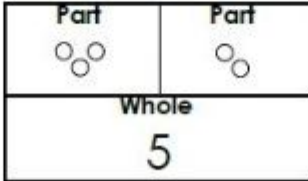
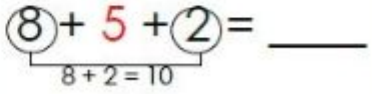
**Connection**

**Reflection**

**Responsibility**

**Perspective**

# A Conceptual Lens



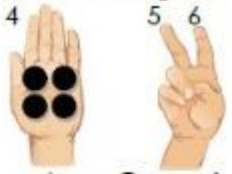


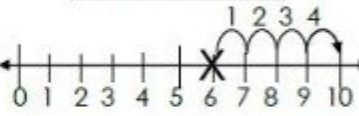
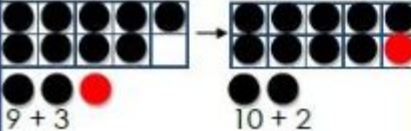
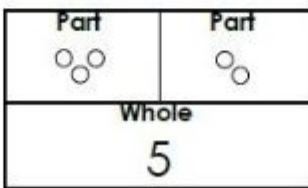
<p><u>Draw a Picture</u></p>  <p><math>6 + 3 = 9</math></p>	<p><u>Tally Marks</u></p>  <p><math>3 + 4 = 7</math></p>	<p><u>Counting On</u></p>  <p><math>4 + 2 = 6</math></p>
<p><u>Doubles</u> same number is added</p>  <p><math>4 + 4 = 8</math></p>	<p><u>Commutative Property</u> Turn-Around Facts</p>  <p><math>2 + 5 = 7</math>   <math>5 + 2 = 7</math></p>	<p><u>Number Line</u></p>  <p><math>6 + 4 = 10</math></p>
<p><u>Tens Frames</u> <math>9 + 3 = ?</math></p> <p>think:</p>  <p><math>9 + 3</math>   <math>10 + 2</math></p>	<p><u>Part-Part-Whole</u></p>  <p><math>3 + 2 = 5</math></p>	<p><u>Associative Property</u> combine numbers</p>  <p><math>10 + 5 = 15</math></p>

## Lens

### Math Concepts

- quantity
- addition
- modelling
- representation

# A Conceptual Lens

<p><u>Draw a Picture</u></p>  <p><math>6 + 3 = 9</math></p>	<p><u>Tally Marks</u></p>  <p><math>3 + 4 = 7</math></p>	<p><u>Counting On</u></p>  <p><math>4 + 2 = 6</math></p>
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## Lens

### Competencies

- critical thinking
- design

# conceptual lens: concepts

**5N3** Students determine divisibility of natural numbers.

<b>Knowledge</b>	<b>Understanding</b>	<b>Skills and Procedures</b>
<p>A divisibility test can be used to determine factors of a natural number.</p> <p>Division by zero is not possible.</p>	<p>A number is divisible by another number if it can be divided with a remainder of 0.</p>	<p>Investigate divisibility by natural numbers to 10, including 0.</p> <p>Generalize divisibility tests for 2, 3, and 5.</p> <p>Determine factors of natural numbers using divisibility tests.</p>

# conceptual lens: concepts

5N3 Students determine divisibility of natural numbers.

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# conceptual lens: concepts

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# Skills & Procedures

## Grade 5 Math September - December

- **Model** fractions, including improper fractions and mixed numbers, using quantities, lengths, and areas.
- **Compare** and **order** numbers, including decimal numbers.
- **Relate** fractions, improper fractions, and mixed numbers to their positions on the number line.
- **Assess** the reasonableness of a sum or difference using estimation
- **Determine** a decimal number between any two other decimal numbers.
- **Describe** a number as prime or composite.
- **Identify** the place value of each digit in a number, including tenths and hundredths.
- **Investigate** divisibility by natural numbers to 10, including 0.
- **Generalize** divisibility tests for 2, 3, and 5.
- **Express (represent)** numbers within 10 000 000, including decimal numbers to thousandths, using words and numerals.
- **Round** numbers, including decimal numbers, to various places according to context
- **Recognize** a product with a variable, a quotient with a variable, or a number as a single term.
- **Explain** the standard algorithms for multiplication and division of natural numbers.
- **Solve** problems using addition and subtraction, including problems involving money.
- **Assess** the reasonableness of a sum or difference using estimation.
- **Write** an algebraic expression involving one or two terms to describe an unknown value.
- **Evaluate** an algebraic expression by substituting a given number for the variable.
- **Classify** 2-D shapes according to the number of reflection or rotation symmetries.
- **Show** the line of symmetry of a 2-D shape.

[Link](#)

# Skills & Procedures

## Grade 5 Math September - December

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- **Compare** and **order** numbers, including decimal numbers.
- **Relate** fractions, improper fractions, and mixed numbers to their positions on the number line.
- **Assess** the reasonableness of a sum or difference using estimation. **Is able to use estimation to assess the reasonableness of a number to \_\_\_\_.**
- **Determine** a decimal number between any two other decimal numbers. **Is able to determine a decimal number between any two other decimal numbers.**
- **Describe** a number as prime or composite.
- **Identify** the place value of each digit in a number, including tenths and hundredths. **Is able to identify the place value of each digit in a number, including tenths and hundredths.**
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## September

## October

## November

**Number:** Quantity is measured with numbers that enable counting, labelling, comparing and operating. (use money as concept/manipulative and consider FL)

5N1 Students analyze patterns in place value

- Place value [symmetry](#) extends [infinitely](#) to the left and right of the ones place. (introduce with basic money skills/ [fraction](#) initially - unit [fraction](#) of denominator 10 & 100, [number line](#).s)  
\*\*\* students will need time to learn and be fluent with money concepts first

5N2 Students add and subtract within 1 000 000, including [decimal number](#) to [thousandths](#), using standard [algorithms](#)

- Addition and subtraction of numbers with many [digits](#) is facilitated by standard [algorithms](#). (initially whole numbers to 100 - 1 000)

5N4 Students multiply and divide [natural number](#).

within 100 000, including with standard [algorithms](#). (limit to math facts of 12x12 review, 2 digit x 1 and 2 digit multiplication)

- Standard [algorithms](#) are efficient procedures for multiplication and division.

\* Review of math facts with different strategies should be ongoing

5N1 Students analyze patterns in place value

- Place value [symmetry](#) extends infinitely to the left and right of the one's place. (introduce to hundredths in context, [number line](#).s, finding numbers between, compare and order with emphasis on money, dollars and cents)  
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5N3 Students determine divisibility of [natural number](#).

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- A number is divisible by another number if it can be divided with a [remainder](#) of 0.

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## September

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

5G1.1 Students investigate symmetry as a geometric property (also tie into number line and place value, no rotational symmetry)

- Symmetry is a property of shapes. Symmetry can be created and can occur in nature. (ensure use of visuals for symmetry)

5G1.1 Students investigate symmetry as a geometric property

- Symmetry is a property of shapes. Symmetry can be created and can occur in nature.

5G1.2 Students investigate symmetry as a geometric property.

- Symmetry is related to other geometric properties.

**Coordinate Geometry: Location and movement of objects in space can be communicated using a coordinate grid.**

5CG1 Students relate location to position on a grid.

- Location can describe the position of shapes in space.
- Location can be described precisely using a coordinate grid.

**Algebra: Equations express relationships between quantities.**

5A1.1 Students interpret numerical and algebraic expressions. (tie into math facts, review order of operations)

- Numerical expressions represent a quantity of known value.
- Parentheses change the order of operations in a numerical expression

5A1.1 Students interpret numerical and algebraic expressions (5N2 link)

- Numerical expressions represent a quantity of known value.
- Parentheses change the order of operations in a numerical expression

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

5N4 Students multiply and divide natural numbers within 100 000, including with standard algorithms.

- Standard algorithms are efficient procedures for multiplication and division (3 digit by 1 digit, include alternate strategies for division).

\* Review of math facts with different strategies should be ongoing

5N5 Students interpret improper fractions.

- Fractions allow counting and measuring between whole quantities. (begin with review of multiple different unit fractions on a number line, money to be focus)
- Improper fractions and mixed numbers that represent the same number are associated with the same point on the number line. (leave for later)

\* Review of math facts with different strategies should be ongoing

**Algebra:** Equations express relationships between quantities.

5A1.1 Students interpret numerical and algebraic expressions (link with 5N4)

- Numerical expressions represent a quantity of known value.
- Parentheses change the order of operations in a numerical expression

Leave fractions until after Christmas if possible - will tie into "cents", "unit fraction tey represent"

December 2022  
2023

January

December

January

February

constant terms. (focus more on expressions and writing them in real contexts)

Measurement: Attributes such as length, area, volume and angle are quantified by measure.

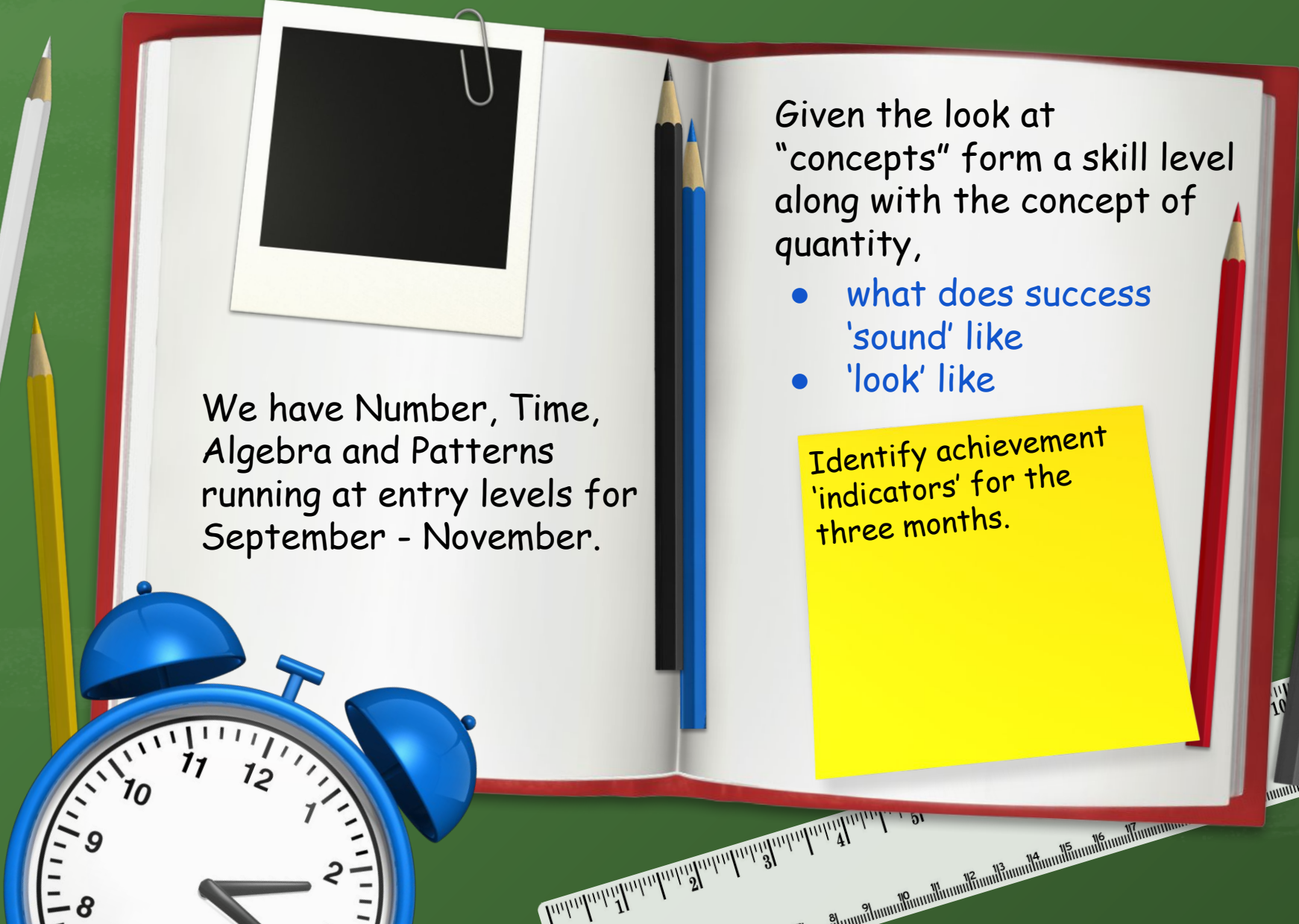
5M1 Students estimate and calculate area using standard units. (can also use to review plotting points on a coordinate grid)

- Area can be expressed in various units according to context and desired precision.
- Rectangles with the same area can have different perimeters. (include basic fractions and line of symmetry)

5M1 Students estimate and calculate area using standard units.

- Area can be expressed in various units according to context and desired precision.
- Rectangles with the same area can have different perimeters. (include basic, improper and mixed fractions and symmetry)

# Assessment



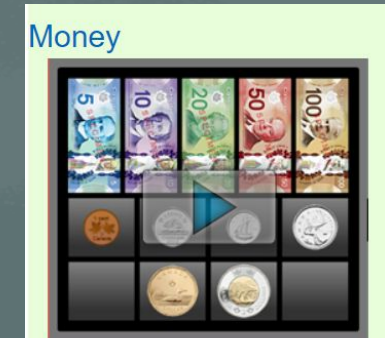
We have Number, Time, Algebra and Patterns running at entry levels for September - November.

Given the look at "concepts" form a skill level along with the concept of quantity,

- what does success 'sound' like
- 'look' like

Identify achievement 'indicators' for the three months.

- Understanding “Money” and its role in many other concepts.
- Understanding how it connects between grades and end goals.
- “Money is a Leader”
- A Physical “tool” - should be related to other “tools”
- Culturally Common - Common Context regardless of language
- Note: Canadian Money has colour as part of its identification - try to use stay away from black/white unless there are no other options and then ensure the coins are realistic!



## September

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5N1 Students analyze patterns in place value

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\*\*\* students will need time to learn and be fluent with money concepts first

5N2 Students add and subtract within 1 000 000, including [decimal number](#) to [thousandths](#), using standard [algorithms](#)

- Addition and subtraction of numbers with many [digits](#) is facilitated by standard [algorithms](#). (initially whole numbers to 100 - 1 000)

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within 100 000, including with standard [algorithms](#). (limit to math facts of 12x12 review, 2 digit x 1 and 2 digit multiplication)

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# Grade 5 - 5N1

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating. (use money as concept/manipulative and consider FL)

How can the infinite nature of place value enhance insight into number?

Students analyze patterns in place value.

Knowledge	Understanding	Skills & Procedures
<p>A number expressed with more decimal places is more precise.</p> <p>A zero in the rightmost place of a decimal number does not change the value of the number.</p> <p>There are infinitely many decimal numbers between any two decimal numbers.</p>	<p>Place value symmetry extends infinitely to the left and right of the ones place.</p>	<p>Relate the names of place values that are the same number of places to the left and right of the ones place.</p> <p>Express numbers within 10 000 000, including decimal numbers to thousandths, using words and numerals.</p> <p>Relate a decimal number to its position on the number line.</p> <p>Determine a decimal number between any two other decimal numbers.</p> <p>Compare and order numbers, including decimal numbers.</p> <p>Express the relationship between two numbers, including decimal numbers, using <math>&lt;</math>, <math>&gt;</math>, or <math>=</math>.</p> <p>Round numbers, including decimal numbers, to various places</p>

5N1 Students analyze patterns in place value

- Place value symmetry extends infinitely to the left and right of the ones place. (introduce with basic money skills/fractions initially - unit fractions of denominator 10 & 100, number lines)

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Curriculum Support Document  
5N1

# Money here!

DOLLARS				CENTS	
\$1000	\$100	\$10	\$1	dimes	pennies

[Dollars and Sense Template](#)

# Work area here!

[Money APP](#)

For addition/Subtraction, Converting and Trading Use the Base 10 Bags

### Base 10 Bag - Grades 3-6



## Base 10 Approach

Sheet of \$1000.00 bills

## Learning Money - Initially

### Suggested amounts of Money for each Ziplock Bag



- 10 pennies
- 6 nickels
- 10 dimes
- 6 quarters
- 4 loonies
- 3 toonies
- 2 x \$5.00
- 2 x \$10.00
- 2 x \$20.00
- 2 x \$50.00
- 1 x \$100.00

Additional cash, if needed, can be retrieved from the "Bank"

# Show Me! Paper and Pencil Take a Rest!

twenty four dollars

below that - thirty five dollars

sixteen dollars

twenty five dollars

one hundred fourteen dollars

seventy seven dollars

one thousand two hundred twelve dollars

one hundred ninety nine dollars

# Writing Large Numbers; Reading & Writing

Billions			Millions			Thousands					
H	T	O	H	T	O	H	T	O	H	T	O

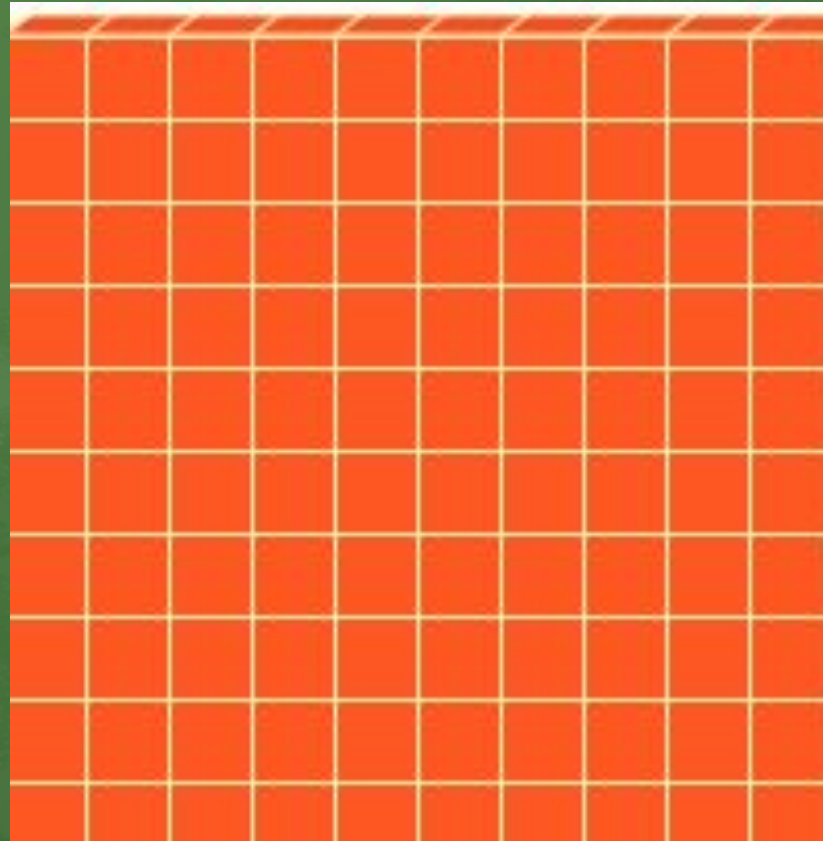
Place value [Slides and Houses](#)

# Create the Unit Fractions Visually





How is this item like money?





(not legal tender)



As of January 1, 2021, the \$1, \$2, \$25, \$500 and \$1,000 bills from every Bank of Canada series are no longer legal tender.









# Grade 5 5N2

## Grade 5

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

In what ways can the processes of addition and subtraction be articulated?

Students add and subtract within 1 000 000, including decimal numbers to thousandths, using standard algorithms.

Knowledge	Understanding	Skills & Procedures
Standard algorithms are efficient procedures for addition and subtraction.	Addition and subtraction of numbers with many digits is facilitated by standard algorithms.	<p>Add and subtract numbers, including decimal numbers, using standard algorithms.</p> <p>Assess the reasonableness of a sum or difference using estimation.</p> <p>Solve problems using addition and subtraction, including problems involving money.</p>
 (not legal tender)		
		
		

5N2 Students add and subtract within 1 000 000, including decimal numbers to thousandths, using standard algorithms.

- Addition and subtraction of numbers with many digits is facilitated by standard algorithms. (initially whole numbers to 100 - 1 000)

5N2 Students add and subtract within 1 000 000, including decimal numbers to thousandths, using standard algorithms.

- Addition and subtraction of numbers with many digits is facilitated by standard algorithms. (money values (\$1.00 - \$1000.00))

5N2 Students add and subtract within 1 000 000, including decimal numbers to thousandths, using standard algorithms.

- Addition and subtraction of numbers with many digits is facilitated by standard algorithms. (estimation included)

What Strategies do your students know for addition/subtraction?

### Money Pattern



nickel, nickel, nickel, dime, nickel, nickel, nickel, dime

What is this? What is the 'core'?  
Extend it - create a new pattern with  
the same core pattern - create a  
unique 4 core pattern

four of anything, four of the  
same,,how much is 4 of the  
same?

Each dot is 10  
Each dot is 100



# Work on Mastery to 100

Tens

Ones



What number is this?

What digit is in the tens place?

How many tens in this number?

How many ones in this number?

What number is this?

What digit is in the tens place?

How many tens in this number?

How many ones in this number?

# How many tens in...



How many ones?

# Work on Mastery to 100

Hundreds

Tens

Ones



What number is this?

What digit is in the tens place?

How many tens in this number?

How many ones in this number?

\$100

\$10

\$1



\$100

\$10

\$1



4



3



4

# Rename



- Drawing on the ideas of grouping, regrouping and partitioning, rename numbers in multiple ways in terms of place value parts without the use of manipulatives

e.g., 1260 is equivalent to:

126 tens

12 hundreds and 6 tens

1 thousand and 260 ones



# Close to 100

Tens	Ones

Each player rules up a column for “tens” and a column for “ones”. The aim of the game is to get a total as close to 100 as possible. The student tosses a dice and decides whether the number will be put in the ones or the tens place. For example, if a four is thrown, it could either be 40 or four. The dice is rolled a total of seven times. All seven numbers must be used. The total of all the columned numbers may exceed 100, but the students will need to decide which player has got closer to 100.

## Extension Activity

Use larger numbers and decimals for the target numbers. Vary the number of throws and what the thrown number can represent, such as:

Closest to 1 000: 10 throws of hundreds, tens, or ones.

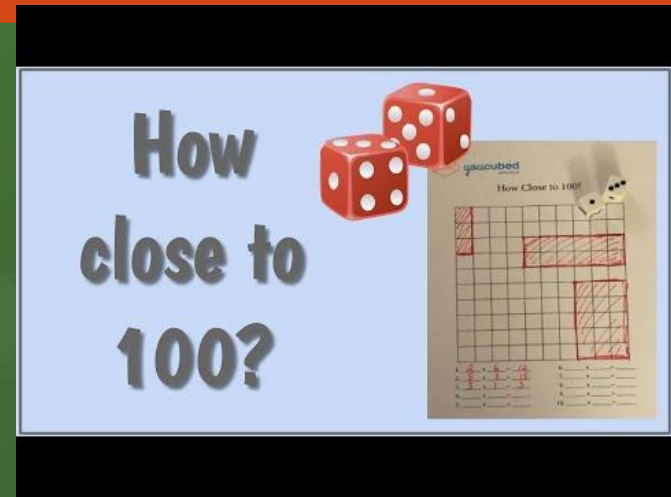
Closest to 10: 10 throws of ones, tenths, or hundredths.

Closest to 1: 10 throws of tenths, hundredths, or thousandths

Don't wait until I have learned my facts to play, let me learn them while I play!

# Close to 100 Using grids and Multiplication Facts

Greatest total area covered wins!



## Impress me! Money - Assessment

Select numbers to best show your understanding of Money.

Name/Record	Count	Make/Represent
<ol style="list-style-type: none"> <li>1. Write a dollar amount greater than \$22.00</li> <li>2. Write your dollar amount in words.</li> <li>3. Round your dollar amount to the nearest ten.</li> <li>4. What is the value of each digit in your dollar amount?</li> </ol>	<ol style="list-style-type: none"> <li>1. Write the number <b>after your dollar amount.</b></li> <li>2. Write the number <b>before your dollar amount.</b></li> <li>3. What is ten more than your dollar amount?</li> <li>4. What is ten less than your dollar amount?</li> <li>5. What is one hundred more?</li> <li>6. What is one hundred less?</li> <li>7. Include your number in a counting pattern- include bridging.</li> </ol>	<ol style="list-style-type: none"> <li>1. Draw a number using "Show Me the Money" Mat (Can you show the number in four different ways? (one should be efficiently)</li> </ol>
Compare/Order	Rename	Calculate
<ol style="list-style-type: none"> <li>1. What number is ten times larger?</li> <li>2. What number is ten times smaller?</li> <li>3. Put 5 two digit dollar amounts in order from smallest to largest</li> <li>4. Place your original dollar amount on a number line</li> <li>5. Select two dollar <u>amounts</u> your number is between.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rename dollar amount in as many ways as you can. Can you show 10 different ways?</li> </ol>	<ol style="list-style-type: none"> <li>1. Your dollar amount <math>\times 10</math></li> <li>2. Your dollar amount <math>\div 10</math></li> <li>3. Add \$19.00 to your number</li> <li>4. Subtract \$18.00 from your number</li> </ol>

Name \_\_\_\_\_

Impress Me!

Date: \_\_\_\_\_

Name/Record	Count	Make/Represent
Compare/Order	Rename	Calculate

# Grade 5 5N4

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

In what ways can the processes of multiplication and division be articulated?

Students multiply and divide natural numbers within 100 000, including with standard algorithms.

Knowledge	Understanding	Skills & Procedures
<p>Multiplication and division of numbers with many digits is facilitated by standard algorithms.</p>	<p>Standard algorithms are efficient procedures for multiplication and division.</p>	<p>Explain the standard algorithms for multiplication and division of natural numbers.</p> <p>Multiply up to 3-digit by 2-digit natural numbers using standard algorithms.</p> <p>Divide 3-digit by 1-digit natural numbers using standard algorithms.</p> <p>Express a quotient with or without a remainder according to context.</p> <p>Assess the reasonableness of a product or quotient using estimation.</p> <p>Solve problems using multiplication and division of natural numbers.</p>

5N4 Students multiply and divide natural numbers within 100 000, including with standard algorithms. (limit to math facts of 12x12 review, 2 digit x 1 and 2 digit multiplication)

- Standard algorithms are efficient procedures for multiplication and division.

\* Review of math facts with different strategies should be ongoing

## Multiplication by 10

5N4 Students multiply and divide natural numbers within 100 000, including with standard algorithms. (limit to math facts of 12 x12 review, 2 digit x 1 and 2 digit multiplication)

- Standard algorithms are efficient procedures for multiplication and division.

What strategies do students have to multiply? Use of base 10 blocks, grid paper, cuisenaire rods

5N4 Students multiply and divide natural numbers within 100 000, including with standard algorithms.

- Standard algorithms are efficient procedures for multiplication and division (2 digit by 1 digit).

\* Review of math facts with different strategies should be

5N4 Students multiply and divide natural numbers within 100 000, including with standard algorithms.

- Standard algorithms are efficient procedures for multiplication and division (3 digit by 1 digit, include alternate strategies for division).

Visuals for division - money can start you off.

# Strategies

Window

$$42 \times 35 = \textcircled{1,470}$$

	40	2
30	1200	60
5	200	10

$$\begin{array}{r} 1200 \\ 200 \\ 60 \\ + 10 \\ \hline 1,470 \end{array}$$

Breaking

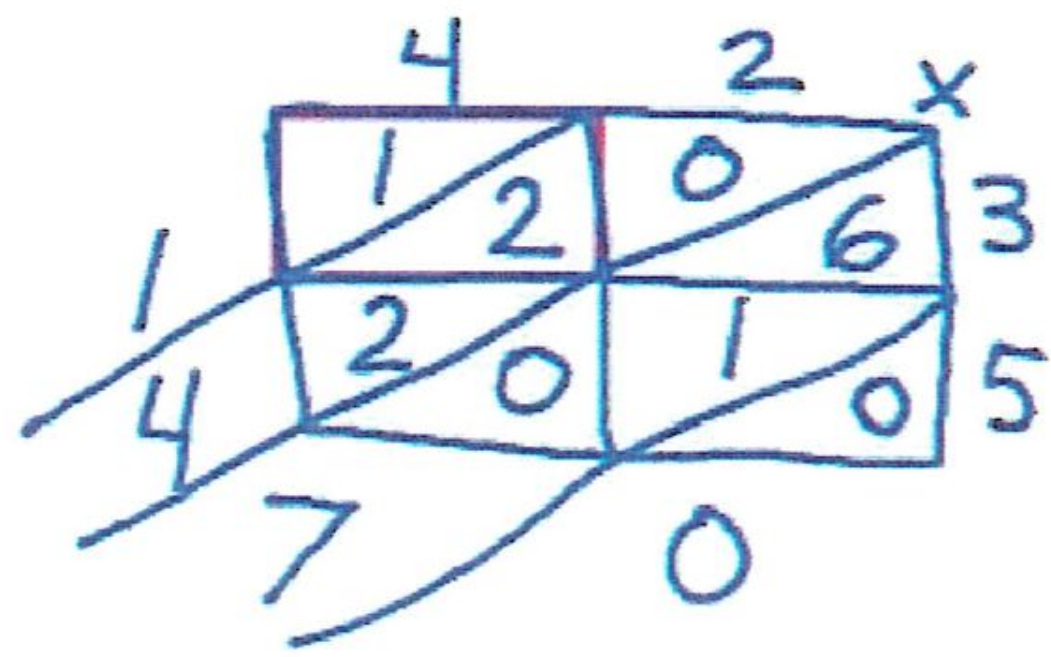
$$42 \times 35 =$$

40 2 30 5

Apart

$$\begin{array}{r} 40 \times 30 = 1,200 \\ 40 \times 5 = 200 \\ 2 \times 5 = 10 \\ 2 \times 30 = +60 \\ \hline 1,470 \end{array}$$

# 42x35 Lattice

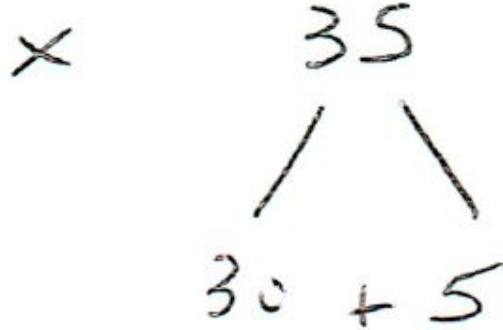
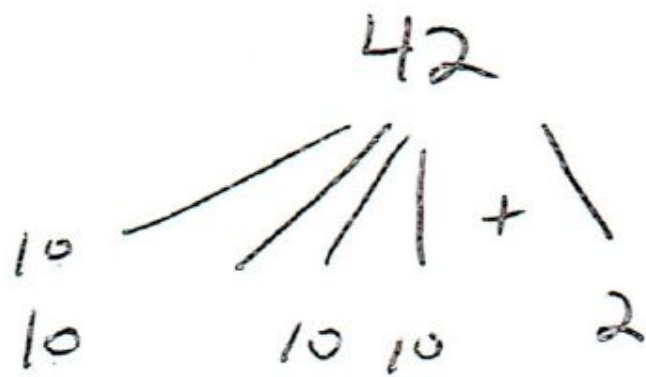


# Traditional

$$\begin{array}{r}
 +142 \\
 \times 35 \\
 \hline
 210 \\
 +1260 \\
 \hline
 1470
 \end{array}$$

$5 \times 2 \uparrow$   
 $5 \times 4 \uparrow$   
 ☺  
 $3 \times 2 \nearrow$   
 $3 \times 4 \uparrow$   
 add +

Using 10's



$$10 \times 30 = 300$$

$$10 \times 5 = 50$$

$$10 \times 30 = 300$$

$$10 \times 5 = 50$$

$$10 \times 30 = 300$$

$$10 \times 5 = 50$$

$$10 \times 30 = 300$$

$$10 \times 5 = 50$$

$$2 \times 30 = 60$$

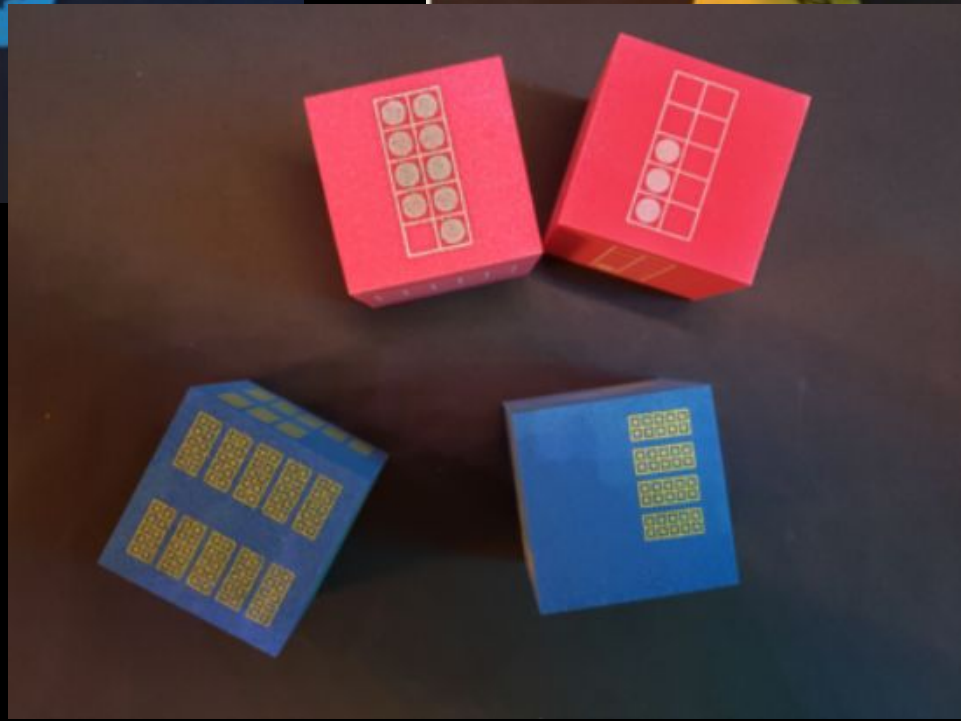
$$2 \times 5 = 10$$

Multiplying & Dividing with [Base 10 Blocks](#)

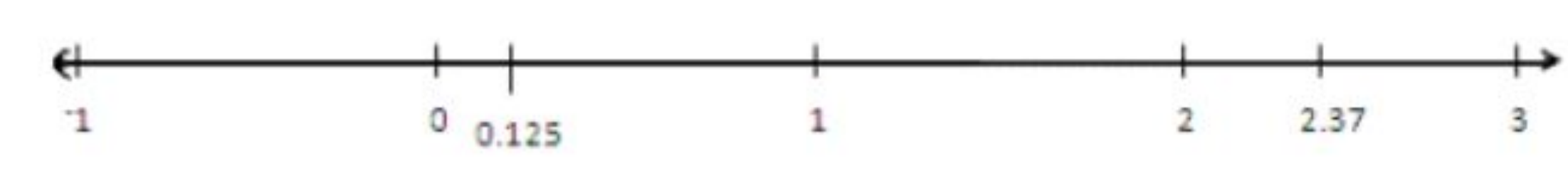
# Place Value Chart Beginning with Money (Dime, Loonie, \$5, \$10, \$20, \$100)

 (not legal tender)					

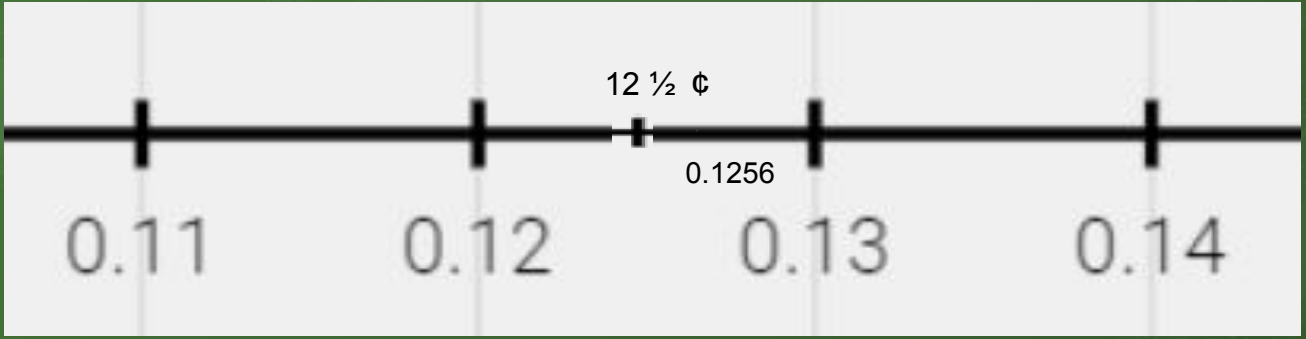
As of January 1, 2021, the \$1, \$2, \$25, \$500 and \$1,000 bills from every Bank of Canada series are no longer legal tender.





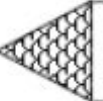

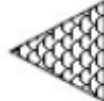

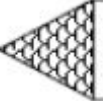
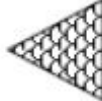
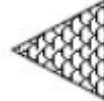
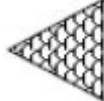
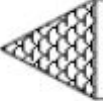



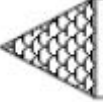
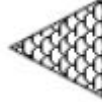
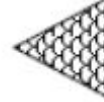
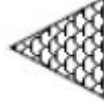
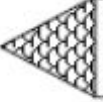
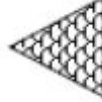
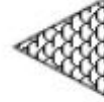

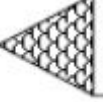

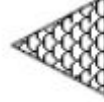
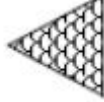
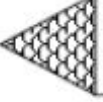
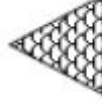
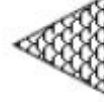

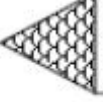

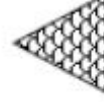

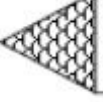
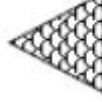
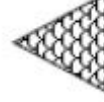



How are 0.12 and 0.13 related? OR 12 ¢ or 13 ¢  
 Where would 12 ½ ¢ fit? How are 12 ½ ¢ related to 0.125



## Dealing with Decimals

Explaining the meaning of decimals in decimal numbers.

 1.	 0.1	 0.01	 0.001
 2.	 0.2	 0.02	 0.002
 3.	 0.3	 0.03	 0.003
 4.	 0.4	 0.04	 0.004
 5.	 0.5	 0.05	 0.005
 6.	 0.6	 0.06	 0.006
 7.	 0.7	 0.07	 0.007
 8.	 0.8	 0.08	 0.008
 9.	 0.9	 0.09	 0.009

# Grade 5 5N3 (starts in Nov)

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

In what ways can divisibility characterize natural numbers?

Students determine divisibility of natural numbers.

Knowledge	Understanding	Skills & Procedures
<p>A divisibility test can be used to determine factors of a natural number.</p> <p>Division by zero is not possible.</p>	<p>A number is divisible by another number if it can be divided with a remainder of 0.</p>	<p>Investigate divisibility by natural numbers to 10, including 0.</p> <p>Generalize divisibility tests for 2, 3, and 5.</p> <p>Determine factors of natural numbers using divisibility tests.</p>

- 5N3 Students determine divisibility of natural numbers
- A number is divisible by another number if it can be divided with a remainder of 0.

[Cuisenaire Rods](#) can help give a visual of divisibility

Divisibility Rules - possible resources

[Mathlinks 7](#) Nelson Online learning Centre (Divisibility ONLY)

Suggested focus:

Page 199 Part 2 Divisibility of 2,5 and include 10 for our base 10 foundations,

Part 3 page 200 - Divisibility of 3  
Select questions related to Natural Numbers.

*Math Makes Sense 7* (Pearson Publishing)

Suggested focus:

Pages 6 - 14 focussing on Divisibility of 2, 5, 3 and 10.

Model with money to ensure understanding of odd/even. Also helps with Divisibility.

*Math Focus 7* (Nelson Publishing)

Suggested focus:

Pages 6 - 14 focussing on Divisibility of 2, 5, 3 and 10.

Pages 4-10 focussing on Divisibility of 2, 5, 3, and 10.

# Sites to use

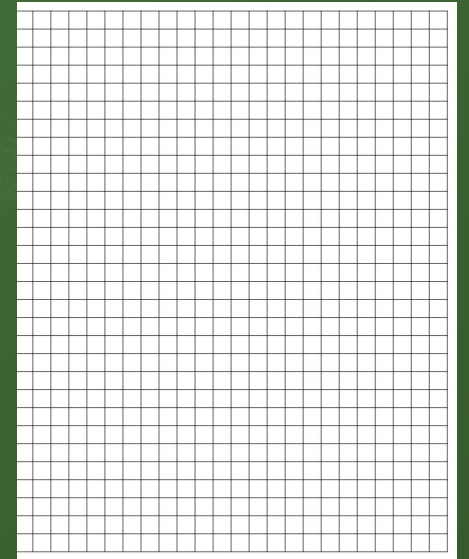
$$2+2=4$$

Toy Theater

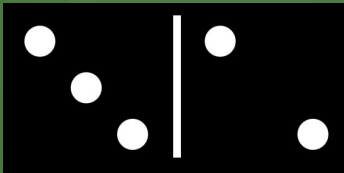


Didax Dice

NRich - Cuisenaire Rods

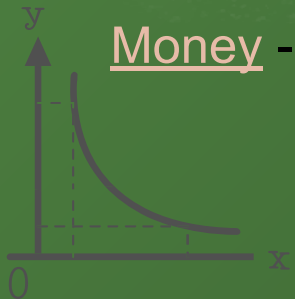


Toy Theater



Number line - Interactive

Money - Denominations of Peso



BrainingCamp

Use the Redeem Code FALL23  
for 90 days free

# Primes and Composites - a Visual

**Describe** a number as **prime** or composite.

Cuisenaire Rods <https://nrich.maths.org/4348>

Math Facts - develop a visual of them

## How can multiplication and division characterize the composition of numbers?

4N3 Students explain properties of prime and composite numbers using multiplication and division.

Knowledge	Understanding	Skills & Procedures
<p>A factor of a number is a divisor of that number.</p> <p>A number is a multiple of any of its factors.</p> <p>A prime number has factors of only itself and one.</p> <p>A composite number has factors other than one and itself.</p> <p>Zero and one are neither prime nor composite numbers.</p>	<p>Different factors can compose the same product.</p> <p>Different products can share factors.</p> <p>A number divided by one of its factors will result in a remainder of 0.</p>	<p>Determine the factors of a number within 100.</p> <p>Describe a number as prime or composite.</p> <p>Determine the first five multiples of a given number within 100.</p> <p>Recognize the greatest common factor (greatest common divisor) of two numbers within 100.</p>

Students should see the visual image of the mat facts they are learning as well as to understand the difference between prime and composite numbers. (Visually what does it mean to say *a number divisible by one and itself is prime?*)

One manipulative you can use: [Cuisenaire Rods](#)



# Grade 5 5 G1.1

Geometry: Shapes are defined and related by geometric attributes.

In what ways might symmetry characterize shape?

Students investigate symmetry as a geometric property.

Knowledge	Understanding	Skills & Procedures
<p>A 2-D shape has reflection symmetry if there is a straight line over which the shape reflects and the two halves exactly match.</p> <p>A 3-D shape has reflection symmetry if there is a plane over which the shape reflects and the two halves exactly match.</p> <p>A 2-D shape has rotation symmetry if it exactly overlaps itself one or more times within a rotation of less than <math>360^\circ</math> around its centre point.</p> <p>Order of rotation symmetry describes the number of times a shape coincides with itself within a rotation of <math>360^\circ</math> around its centre point.</p> <p>Central symmetry is the rotational symmetry by <math>180^\circ</math>.</p> <p>The straight line that connects a point with its image in the central symmetry passes through the centre of rotation.</p> <p>Symmetry can be found in First Nations, Métis, and Inuit designs, such as</p> <ul style="list-style-type: none"> <li>• basket weaving</li> <li>• wampum belts</li> <li>• quilts</li> <li>• First Nations beadwork, Inuit beadwork, or Métis floral beadwork</li> <li>• architecture such as tipis or</li> </ul>	<p>Symmetry is a property of shapes.</p> <p>Symmetry can be created and can occur in nature.</p>	<p>Recognize symmetry in nature.</p> <p>Recognize symmetry in First Nations, Métis, and Inuit designs.</p> <p>Investigate symmetry in familiar 2-D and 3-D shapes using hands-on materials or digital applications.</p> <p>Show the line of symmetry of a 2-D shape.</p> <p>Describe the order of rotation symmetry of a 2-D shape.</p>

5G1.1 Students investigate symmetry as a geometric property (also tie into number line and place value, no rotational symmetry)

- Symmetry is a property of shapes. Symmetry can be created and can occur in nature. (ensure use of visuals for symmetry)

Sept

5G1.1 Students investigate symmetry as a geometric property

- Symmetry is a property of shapes. Symmetry can be created and can occur in nature.

Nov

Sample Diagrams to use for line symmetry and later rotational symmetry

# Grade 5 5G1.2 (Nov)

Geometry: Shapes are defined and related by geometric attributes.		
In what ways might symmetry characterize shape?		
Students investigate symmetry as a geometric property.		
Knowledge	Understanding	Skills & Procedures
In a regular polygon, the number of sides equals the number of reflection symmetries and the number of rotation symmetries.  A circle has infinitely many reflection and rotation symmetries.	Symmetry is related to other geometric properties.	Compare the number of reflection and rotation symmetries of a 2-D shape to the number of equal sides and angles.  Classify 2-D shapes according to the number of reflection or rotation symmetries.

5G1.2 Students investigate symmetry as a geometric property.

- Symmetry is related to other geometric properties.



# Grade 5 5 CG1

Coordinate Geometry: Location and movement of objects in space can be communicated using a coordinate grid.

How can location enhance the ways in which space is defined?

Students relate location to position on a grid.

Knowledge	Understanding	Skills & Procedures
<p>Coordinate grids use coordinates to indicate the location of the point where the vertical and horizontal grid lines intersect.</p> <p>Coordinates are ordered pairs of numbers in which the first number indicates the distance from the vertical axis and the second number indicates the distance from the horizontal axis.</p> <p>Positional language includes</p> <ul style="list-style-type: none"> <li>• left</li> <li>• right</li> <li>• up</li> <li>• down</li> </ul>	<p>Location can describe the position of shapes in space.</p> <p>Location can be described precisely using a coordinate grid.</p>	<p>Locate a point on a coordinate grid given the coordinates of the point.</p> <p>Describe the location of a point on a coordinate grid using coordinates.</p> <p>Describe the location of a point on a coordinate grid in relation to the location of another point using positional language.</p> <p>Model a polygon on a coordinate grid using coordinates to indicate the vertices.</p> <p>Describe the location of the vertices of a polygon on a coordinate grid using coordinates.</p>

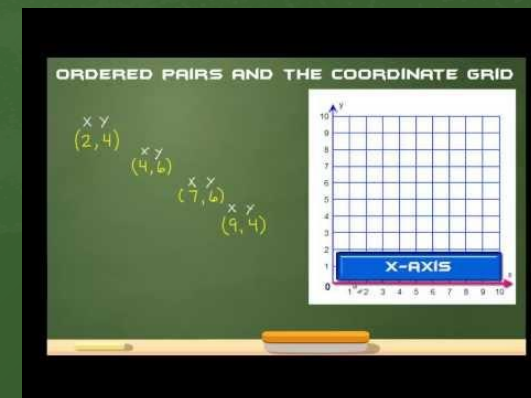
5CG1 Students relate location to position on a grid.

- Location can describe the position of shapes in space.
- Location can be described precisely using a coordinate grid.

Appears to be quadrant 1 - check any Grade 6 Math resource in your building.

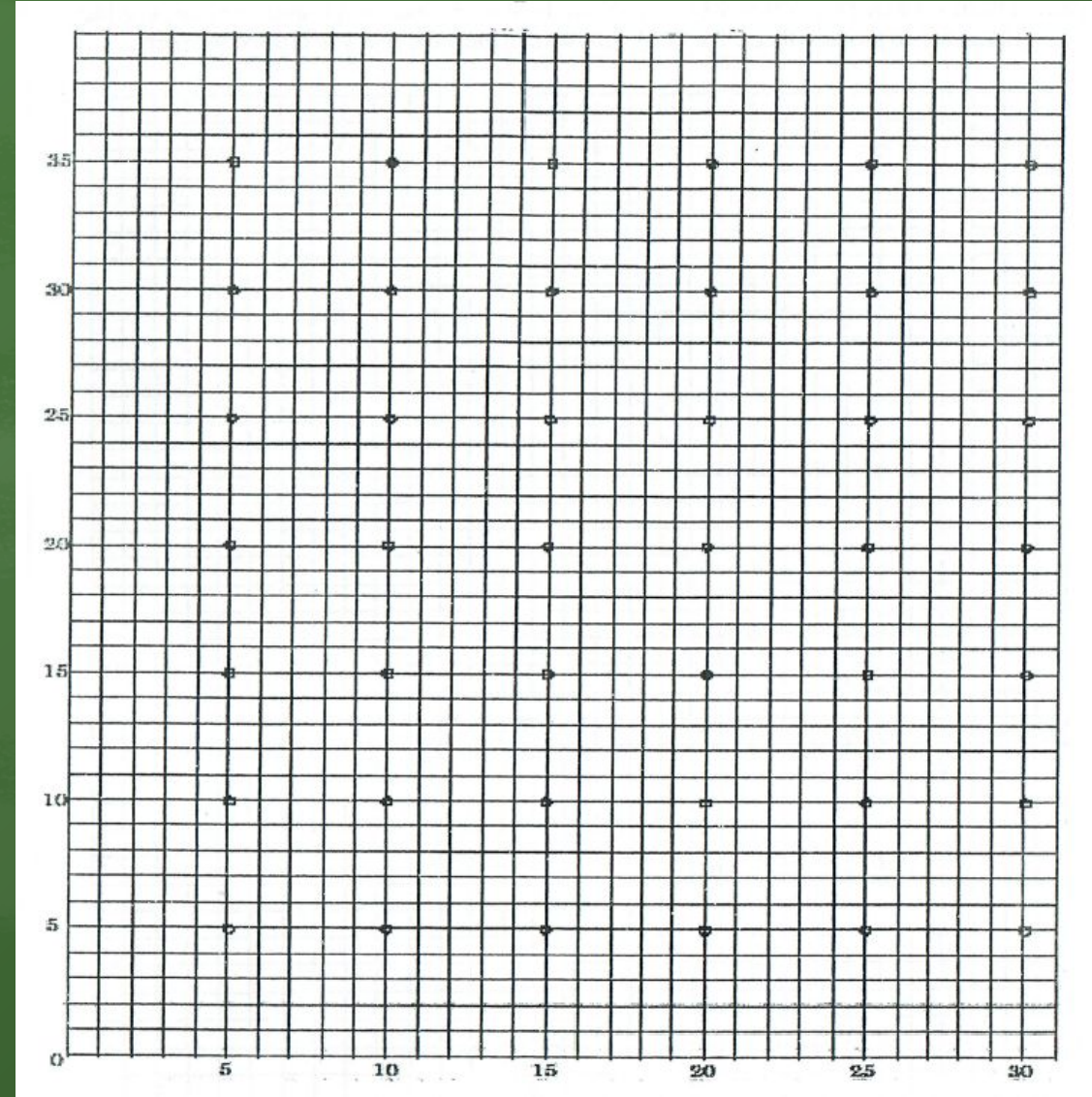
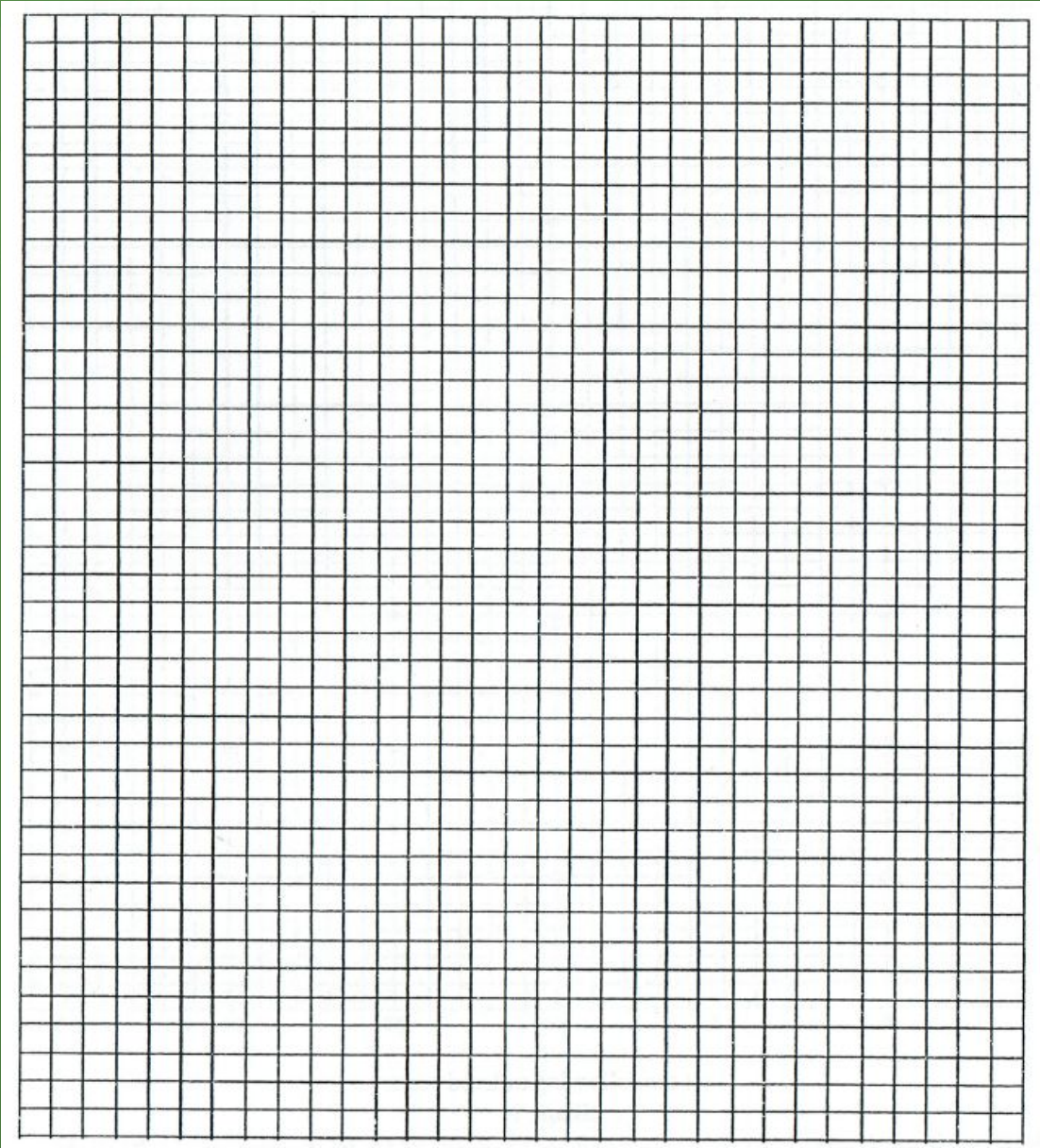
Coordinate Grid

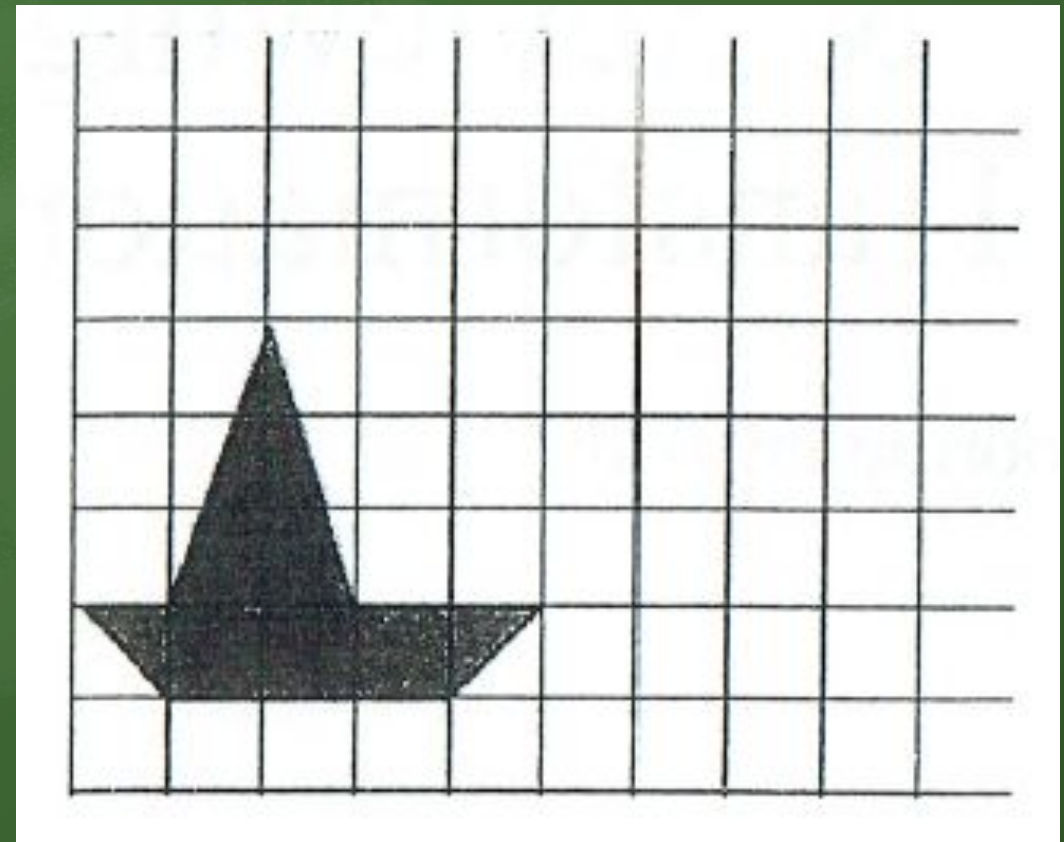
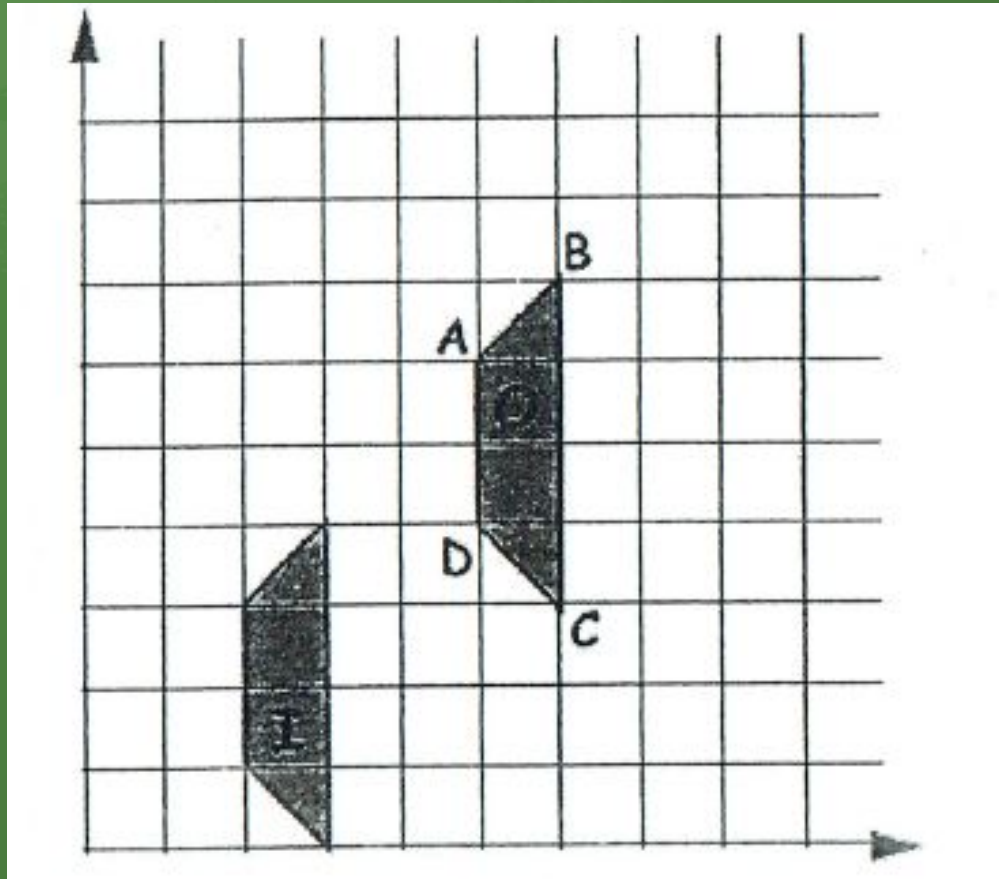
Source: [Gruendingmath6](#)



**Note:** the video will introduce the x and y axis and the origin.

# Positional Language on a Coordinate Grid to start!





# Grade 5 5A1.1

Algebra: Equations express relationships between quantities.

How can expressions enhance communication of number?

Students interpret numerical and algebraic expressions.

Knowledge	Understanding	Skills & Procedures
<p>Numerical expressions with multiple operations may include parentheses to group numbers and operations.</p> <p>The conventional order of operations includes performing operations in parentheses before other operations.</p>	<p>Numerical expressions represent a quantity of known value.</p> <p>Parentheses change the order of operations in a numerical expression.</p>	<p>Evaluate numerical expressions involving addition or subtraction in parentheses according to the order of operations.</p>

Oct

5A1.1 Students interpret numerical and algebraic expressions. (tie into math facts, review order of operations)

- Numerical expressions represent a quantity of known value.
- Parentheses change the order of operations in a numerical expression

5A1.1 Students interpret numerical and algebraic expressions (5N2 link)

- Numerical expressions represent a quantity of known value.
- Parentheses change the order of operations in a numerical expression

5A1.1 Students interpret numerical and algebraic expressions (link with 5N4)

- Numerical expressions represent a quantity of known value.
- Parentheses change the order of operations in a numerical expression



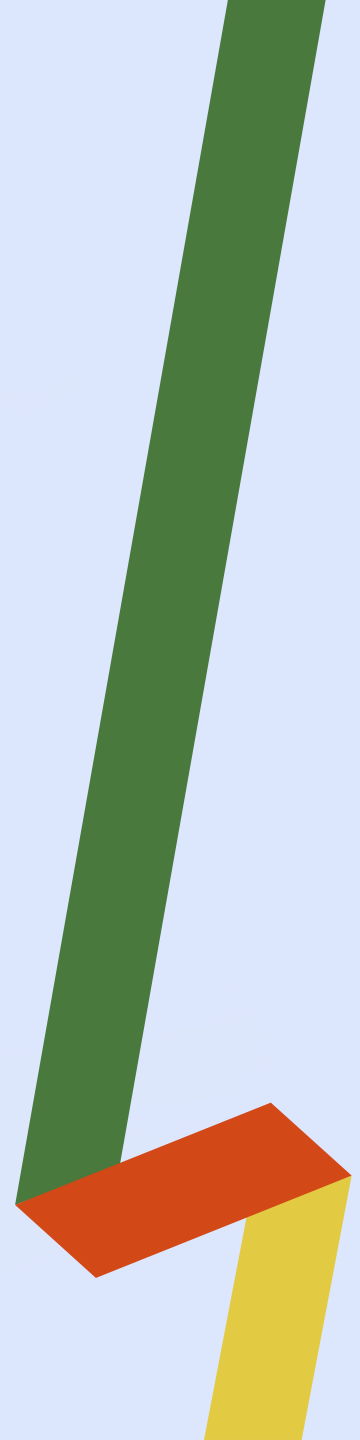
What are the order of operations? Why do we need them?

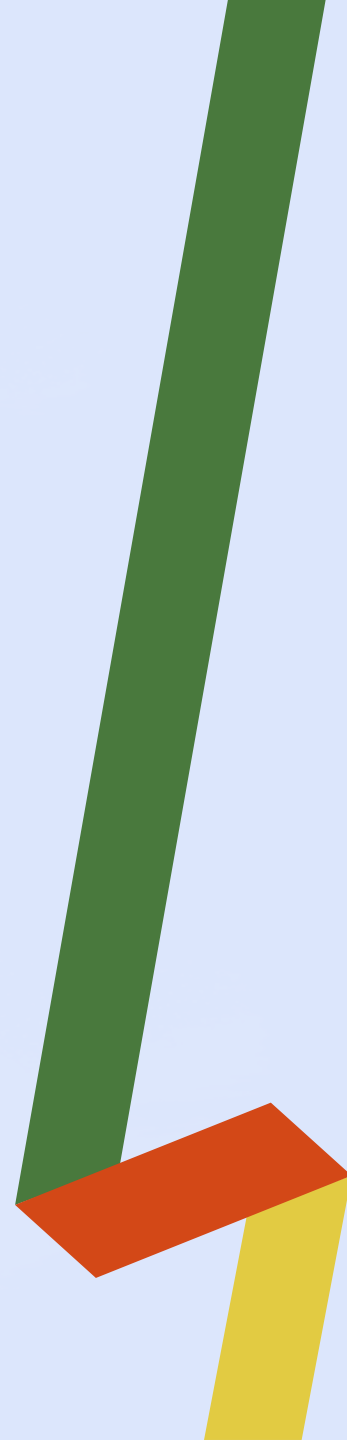
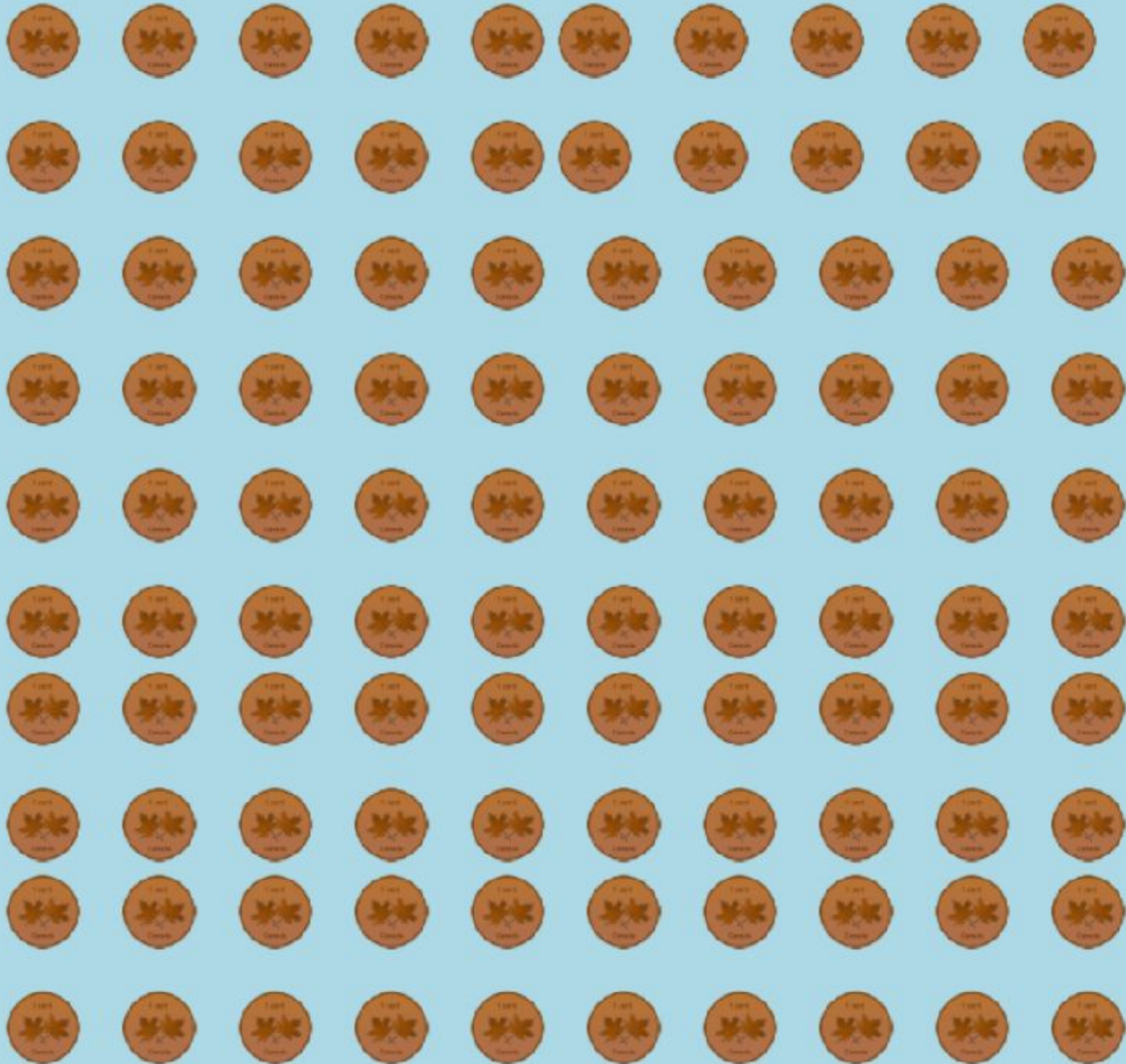
Note: will cover exponents

Order of Operations

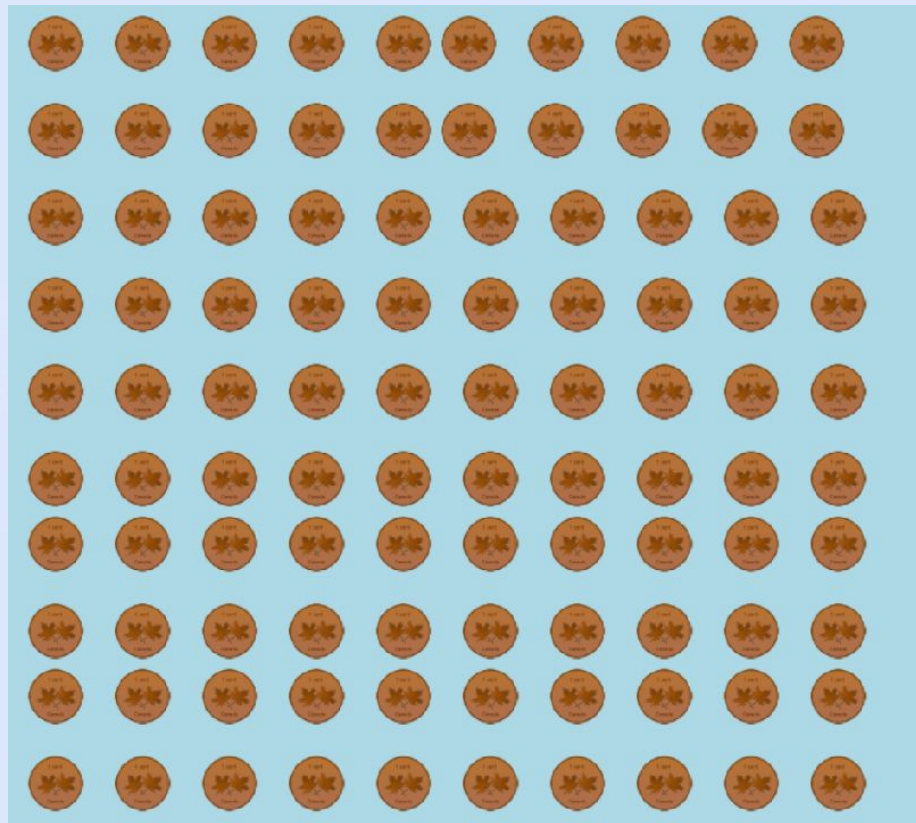
4 Operations with Parentheses  
Parentheses in Brackets

Source: K5 learning

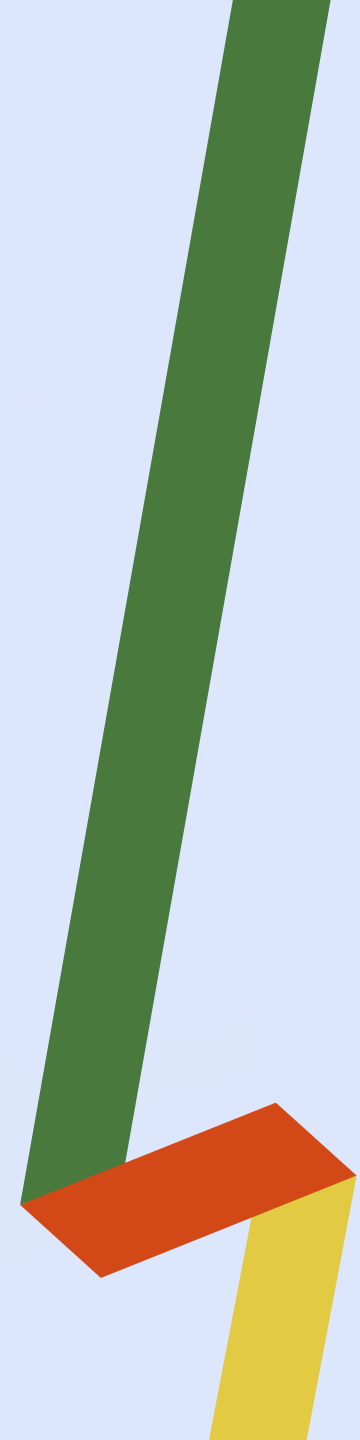




Dollars



Cents



A piggy bank pig with pink and white fur is looking towards the camera. In the background, there are several stacks of gold coins on a wooden surface. The scene is set against a white background with a green border on the left and right sides.

# On the Road to Financial Literacy

Don't forget students need to learn the money before they contextually apply it. Use it as a *Concept* to learn and a *Manipulative* to teach your other outcomes.

FPPT.com

# How would you model, exemplify or teach the following using money?

## Kindergarten:

- Quantities using objects, words, pictures, numbers
- Counting objects
- Subitize to 5/10
- “like/unlike/more/less/same”/enough/too many/too few
- Compose quantities within 10 in various ways
- “Share” - this is the beginning of fractions
- Describe a shape using words such as flat, curved, straight, or round.
- Sort shapes according to one attribute and describe the sorting rule.
- Measurable attributes can include • length • area • capacity • mass
- “longer • taller • shorter • heavier • lighter • bigger • smaller • big enough • too big • too small”
- Describe the size of an object in relation to another object, using comparative language.  
Describe the size of an object in relation to a purpose or need, using comparative language.
- Identify the pattern core, up to three elements, in a repeating pattern.
- Predict the next elements in a repeating pattern. Create a repeating pattern with a pattern core of up to three elements.

# How would you model, exemplify or teach the following using money?

## Grade 1

No quantity represented by 0

Know all coins and bills including 100

Know value of each coin and bill

Skip count to 100 by 5, 10; 20 by 2"s

Symbols for equal, not equal

Words greater than, less than, Compose quantities within 20 in various ways

Model transactions with money, limited to dollar values within 20

In a part-part-whole relationship, the sum represents the whole and the difference represents a missing part.

Sharing involves partitioning a quantity into a certain number of groups.

$\frac{1}{2}$ , one- half of the whole quantity.(not using fraction)

**Length** may refer to the size of any one dimensional measurable attribute of an object, including: • **height** • **width** • **depth** • **diameter**

Compare the **length**, area, mass, or capacity of two objects directly, or indirectly using a third object.

Describe the **size of an object in relation to another object**, using comparative language.

**Pattern** core, up to four elements, in a cycle. Identify a missing element in a repeating pattern or cycle.

Describe change and constancy in repeating patterns and cycles.

**Create different representations of the same repeating pattern or cycle**, limited to a pattern core of up to four elements.

**Extend a sequence** of elements in various ways to create repeating patterns

## Grade 2

Decompose into groups of 100

Skip count by 20, 25, 50, (review skip counting by 1's, 2's, 5's, 10's)

Determine the value of bills or coins of the same denomination by skip counting

<, >, =

sum composed in multiple ways

Model transactions with money, limited to dollar values within \$100 or 100 cents

$\frac{1}{2}$ ,  $\frac{1}{4}$  and unit fractions with denominators or 10 or less

Common geometric attributes include. • sides • vertices • faces or surfaces

Length can be measured with nonstandard units or standard units (e.g., centimetres).

Identify referents for a centimetre. Estimate length by visualizing the iteration of a referent for a centimetre.

Change can be an increase or a decrease in the number and size of elements.

Create and express a repeating pattern with a pattern core of up to four elements that change by more than one attribute.

## Grade 3

The **dollar sign \$** is placed to the left of the dollar value in English and to the right of the dollar value in French.

The **cent sign** is placed to the right of the cent value in English and in French.

**How can work with money support the work for place value?**

**Count and represent** the value of a collection of nickels, dimes, and quarters as cents.

**Count and represent** the value of a collection of loonies, toonies, and bills as dollars.

Compare French and English symbolic representations of **monetary values**.

**Estimation** can be used when an exact sum or difference is not needed and to check if an answer is reasonable.

**Model regrouping by place value for addition and subtraction.**

**Relate multiplication to repeated addition.** Relate multiplication to **skip counting**.

Model a **quotient by partitioning a quantity** into equal groups with or without remainders. Visualize and model products and quotients as **arrays**.

**Examine patterns in multiplication and division, including patterns in multiplication tables and skip counting.**

Recognize families of related multiplication and division number facts. Recall multiplication number facts, with factors to 10, and related division facts. **(10 x 10)**

Fraction notation (a/b) relates the numerator 'a' as a number of equal parts, 'b' to the as the total number of equal parts in the whole. (leave until the end)

Green shows where money will LEAD the Fraction work

A **whole quantity** can be a whole set of objects or a whole object that can be **partitioned**. Each fraction is associated with a point on the number line.

A unit fraction is any one part of a whole divided into equal parts.

Fractions with common denominators are multiples of the same unit fraction

A unit fraction is any one part of a whole divided into equal parts.

Fractions with common denominators are multiples of the same unit fraction

Decompose a fraction into unit fractions.

Express a fraction as repeated addition of a unit fraction. Relate repeated addition of a unit fraction to multiplication of a natural number by a unit fraction.

**Add and subtract fractions** within one whole, limited to common denominators of 12 or less. Solve problems involving fractions, limited to common denominators of 12 or less.

\*\*\*Unit Fractions will LEAD the work

Fractions can be compared by considering the number of parts or the size of parts.

Partition a whole into 12 or fewer equal parts.

Describe a whole as a fraction, limited to denominators of 12 or less.

Model fractions of a whole, limited to denominators of 12 or less. Express fractions symbolically. Relate a fraction less than one to its position on the number line, limited to denominators of 12 or less.

Compare fractions to benchmarks 0,  $\frac{1}{2}$ , and 1.

Recognize the whole to which a fraction refers in various situations.

Compare the same fraction of different-sized wholes.

Compare different fractions with the same denominator.

Compare different fractions with the same numerator.

Write equations that represent equality between a number and an expression or between two different expressions of the same number.

## Grade 4

### Money could be used initially to teach the outcome

### Lines in white are best approached outside of money

For numbers in base-10, each place has one-tenth the value of the place to its left.

Multiplying or dividing a number by 10 corresponds to shifting place value one position to the left or right, respectively.

Numbers, including decimal numbers, can be composed in various ways using place value.

A zero placed to the right of the last digit in a decimal number does not change the value of the number.

The word *and* is used to indicate the decimal point when reading a number.

Identify the place value of each digit in a number, including tenths and hundredths.

Relate the values of adjacent places, including tenths and hundredths.

Determine the value of each digit in a number, including tenths and hundredths.

Express numbers, including decimal numbers, using words and numerals.

Express various compositions of a number, including decimal numbers, using place value.

Round numbers to various places, including tenths.

Compare and order numbers, including decimal numbers.

Express the relationship between two numbers, including decimal numbers, using  $<$ ,  $>$ , or  $=$ .

Express a monetary value in cents as a monetary value in dollars using decimal notation.

## Grade 4

Standard algorithms for addition and subtraction of decimal numbers are conventional procedures based on place value.

Estimation can be used to check the reasonableness of a sum or difference.

Add and subtract numbers, including decimal numbers, using standard algorithms.

Assess the reasonableness of a sum or difference using estimation.

Solve problems using addition and subtraction, including problems involving money.

A factor of a number is a divisor of that number.

A number is a multiple of any of its factors.

A prime number has factors of only itself and one.

A composite number has factors other than one and itself.

Zero and one are neither prime nor composite numbers.

Determine the factors of a number within 100.

Describe a number as prime or composite.

Determine the first five multiples of a given number within 100.

Recognize the greatest common factor (greatest common divisor) of two numbers within 100.

Recall of multiplication and division number facts facilitates multiplication and division strategies.

Recall and apply multiplication number facts, with factors to 12, and related division number facts.

Investigate patterns in multiplication and division of natural numbers by 10, 100, and 1000.

## Grade 4

- Determine the factors of a number within 100.
- Describe a number as prime or composite.
- Determine the first five multiples of a given number within 100.
- Recognize the greatest common factor (greatest common divisor) of two numbers within 100.
- Recall of multiplication and division number facts facilitates multiplication and division strategies.
- Recall and apply multiplication number facts, with factors to 12, and related division number facts.
- Investigate patterns in multiplication and division of natural numbers by 10, 100, and 1000.
- Equivalent fractions are associated with the same point on the number line
- Equivalent fractions can be created by partitioning each equal part of a fraction in the same way.
- Partitioning a fraction can be interpreted as multiplying the numerator and denominator of a fraction by the same number.
- A fraction can be simplified to an equivalent form by dividing the numerator and denominator by a common factor.

## Grade 4

Standard algorithms facilitate multiplication and division of natural numbers that have multiple digits.

Estimation can be used to check the reasonableness of a product or quotient.

Model equivalent fractions by partitioning a whole in multiple ways.

Multiply and divide 3-digit natural numbers by 1-digit natural numbers using personal strategies.

Examine standard algorithms for multiplication and division.

Multiply and divide 3-digit natural numbers by 1-digit natural numbers using standard algorithms.

Divide and express a quotient with or without a remainder.

Investigate strategies for estimation of products and quotients.

Assess the reasonableness of a product or quotient using estimation.

Solve problems using multiplication and division.

## Grade 4

- Determine fractions equivalent to a given fraction.
- Relate the position of equivalent fractions on the number line.
- Identify fractions in which the numerator and denominator have a common factor.
- Simplify a given fraction by dividing the numerator and denominator by a common factor.
- Compare and order fractions.
  
- Express a fraction in simplest form.
  
- Fractions and decimal numbers can represent the same number.
- Decimals can be expressed as fractions with a denominator that is equivalent to the place value of the last non-zero digit of the decimal number.
- Percentage is represented symbolically with %.
- Decimals can be expressed as percentages by multiplying by 100.
- Percentages can be expressed as decimals by dividing by 100.
- One percent represents one hundredth of a whole.

## Grade 4

Investigate percentage in familiar situations.

Compare percentages within 100%.

Express the fraction, decimal, and percentage representations of the same part-whole relationship.

There are infinitely many expressions that represent the same number.

The order in which operations are performed can affect the value of an expression.

An equation is solved by determining an unknown value that makes the left and right sides of the equation equal.

Geometric properties are measurable.

Geometric properties define a hierarchy for classifying shapes.

A shape resembling a polygon that does not share the defining geometric properties of the polygon is a close approximation.

## Grade 5

- A number expressed with more decimal places is more precise.
- Relate the names of place values that are the same number of places to the left and right of the ones place.
- Relate a decimal number to its position on the number line.
- Determine a decimal number between any two other decimal numbers.
- Compare and order numbers, including decimal numbers.
- Express the relationship between two numbers, including decimal numbers, using  $<$ ,  $>$ , or  $=$ .
- Round numbers, including decimal numbers, to various places according to context.
- Add and subtract numbers, including decimal numbers, using standard algorithms.
- Assess the reasonableness of a sum or difference using estimation.
- Solve problems using addition and subtraction, including problems involving money.
- A number is divisible by another number if it can be divided with a remainder of 0.
- Multiply up to 3-digit by 2-digit natural numbers using standard algorithms.
- Divide 3-digit by 1-digit natural numbers using standard algorithms.
- Express a quotient with or without a remainder according to context.
-

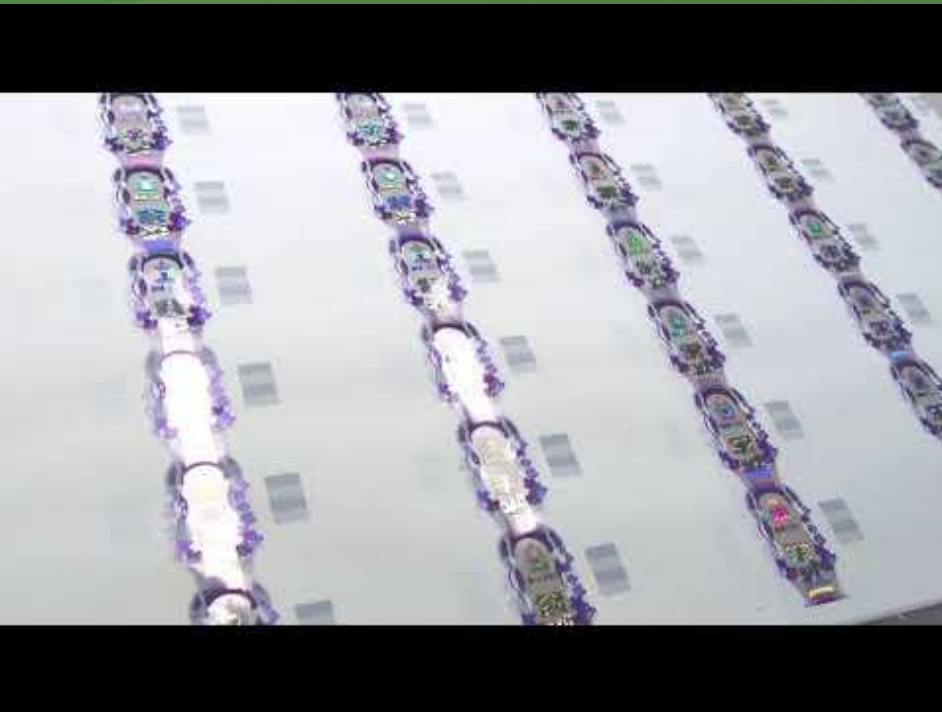
## Grade 5

- Fractions allow counting and measuring between whole quantities.
- Improper fractions and mixed numbers that represent the same number are associated with the same point on the number line.
- Count beyond 1 using fractions with the same denominator.
- Model fractions, including improper fractions and mixed numbers, using quantities, lengths, and areas.
- Compare fractions, including improper fractions and mixed numbers, to benchmarks of 0,  $\frac{1}{2}$  and 1.
- Fractions with common denominators are multiples of the same unit fraction.
- Properties for addition and subtraction of natural numbers apply to fractions.
- Investigate the composition and decomposition of a quantity within 1 using unit fractions.
- Express the composition or decomposition of fractions with common denominators as a sum
- or difference.
- Compare strategies for adding or subtracting improper fractions to strategies for adding or subtracting mixed numbers.

## Grade 5

- Add and subtract fractions with **common denominators** within 100, including improper fractions and mixed numbers.
- Solve problems requiring addition and subtraction of fractions with common denominators, including improper fractions and mixed numbers.
- A **ratio** is a comparison of two quantities in a specific situation.
- Fractions, decimals, ratios, and percentages can represent the same **part-whole relationship**.
- Evaluate **numerical expressions** involving addition or subtraction in parentheses according to the order of operations.
- **Solve problems** using equations, limited to equations with one or two operations.
- **Solve problems** involving an arithmetic sequence.

# The Making of a Bank Note

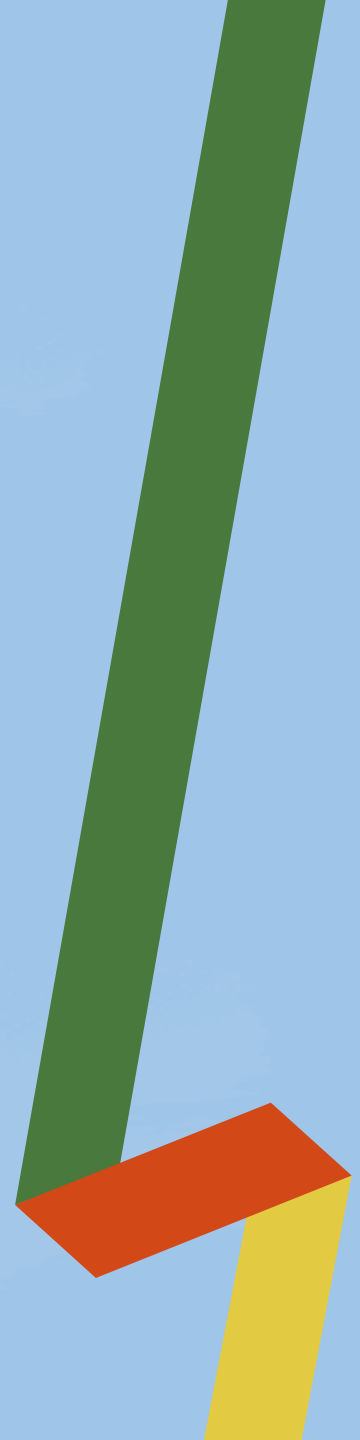
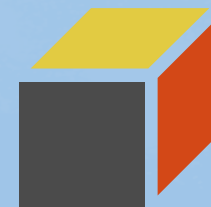


## Canada's New Banknotes

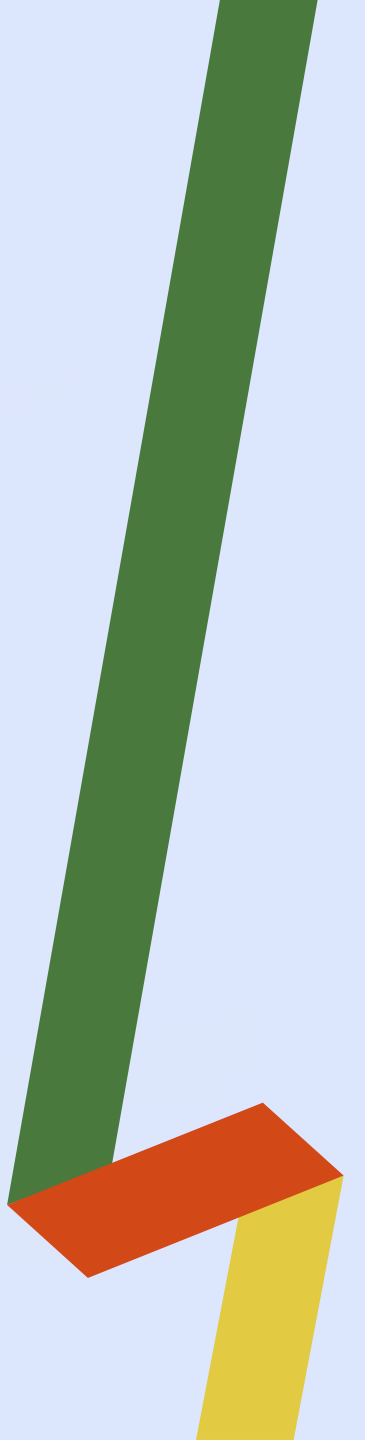
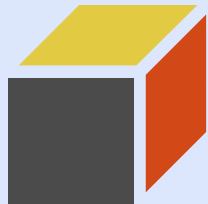
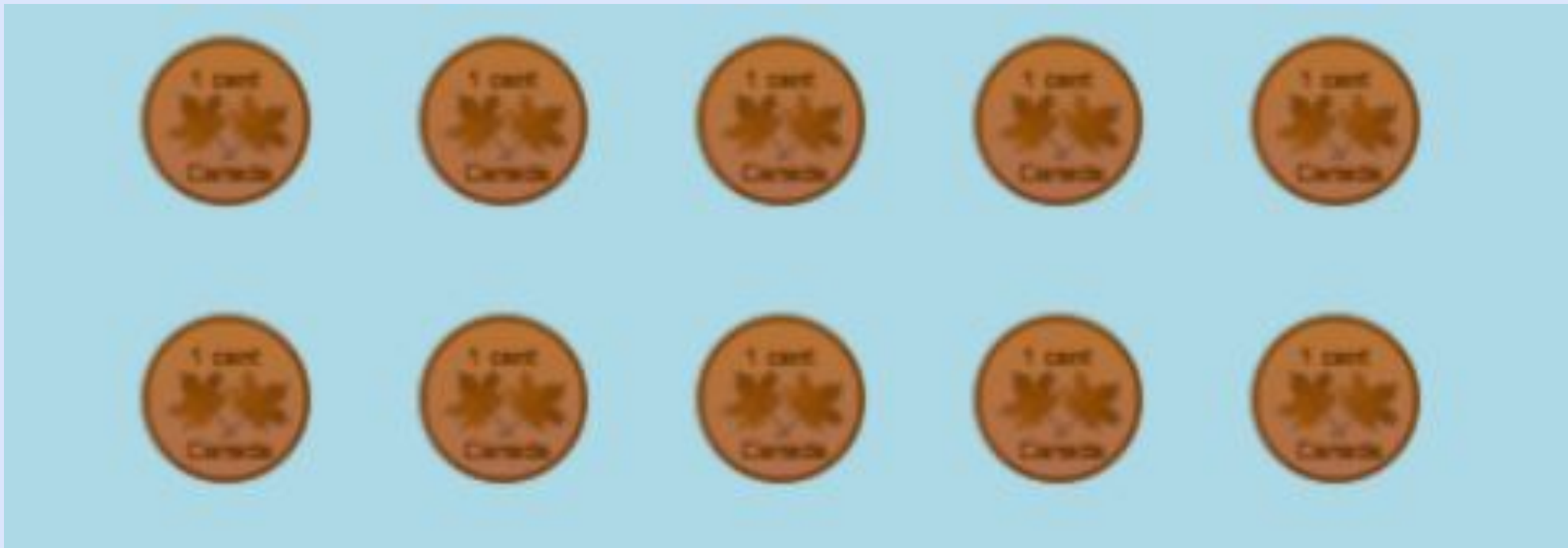


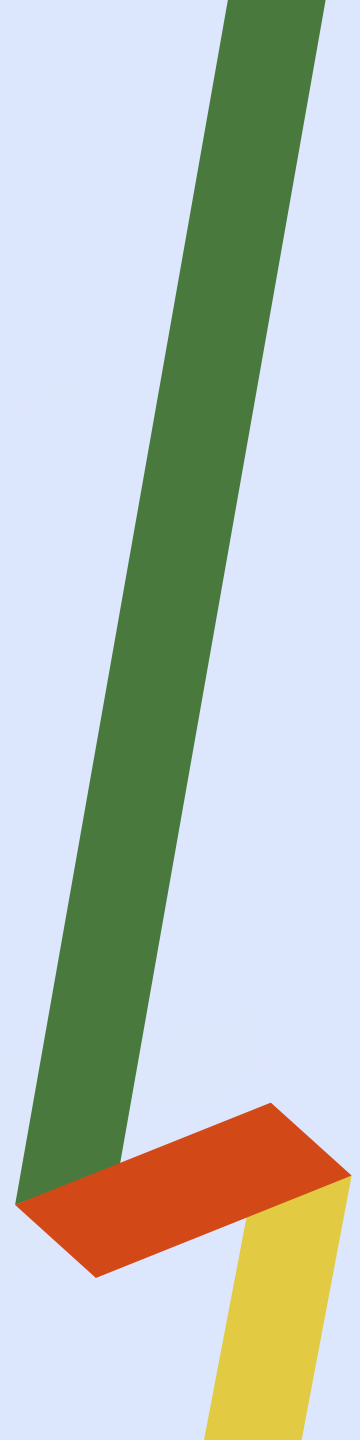
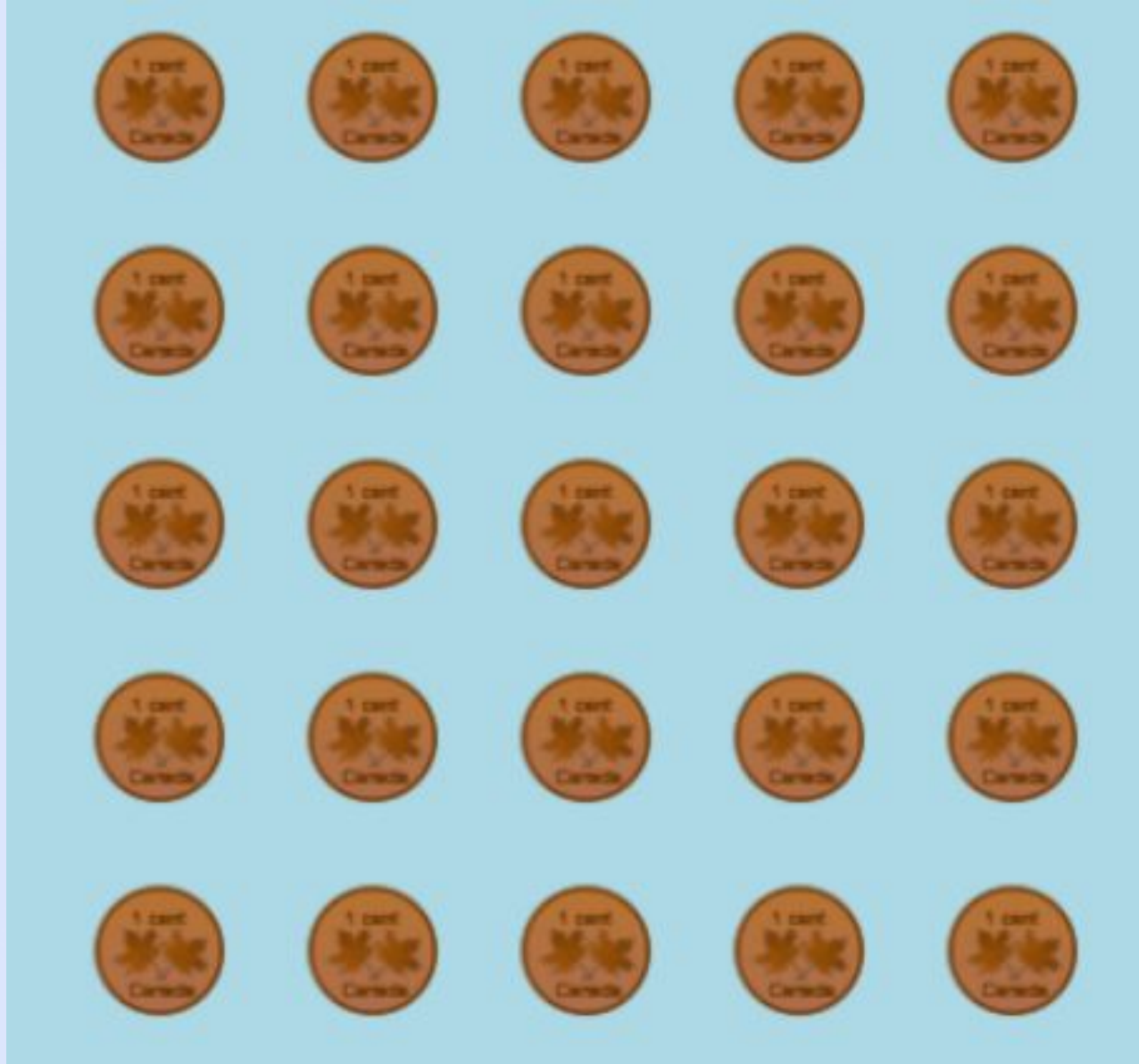
## The Secrets of the Canadian Dollar

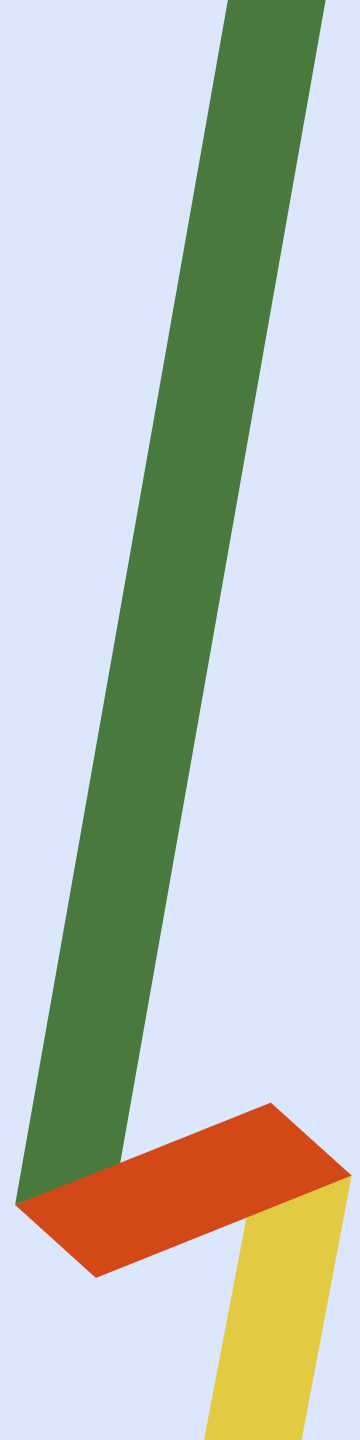
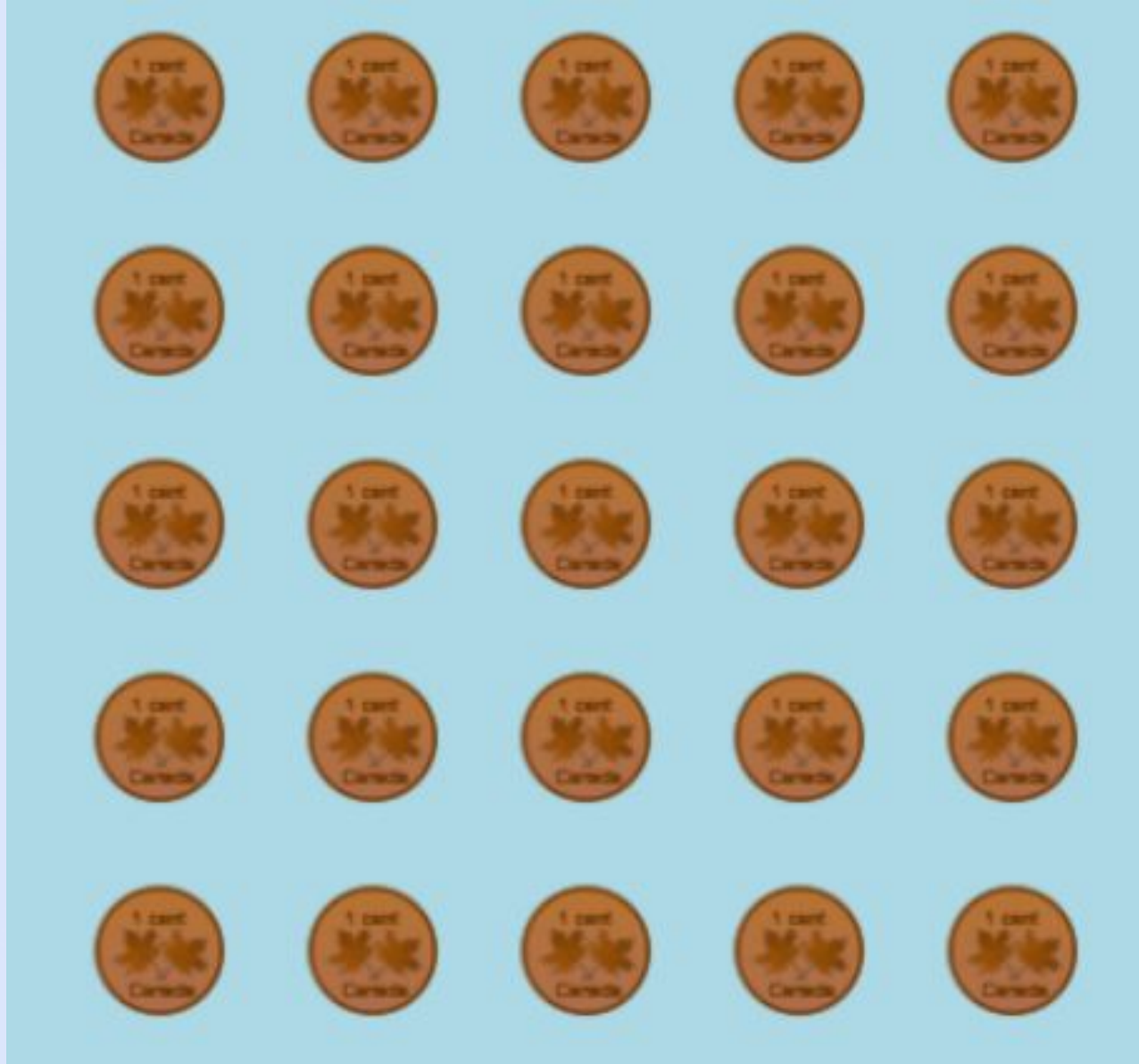
# Understanding Place value

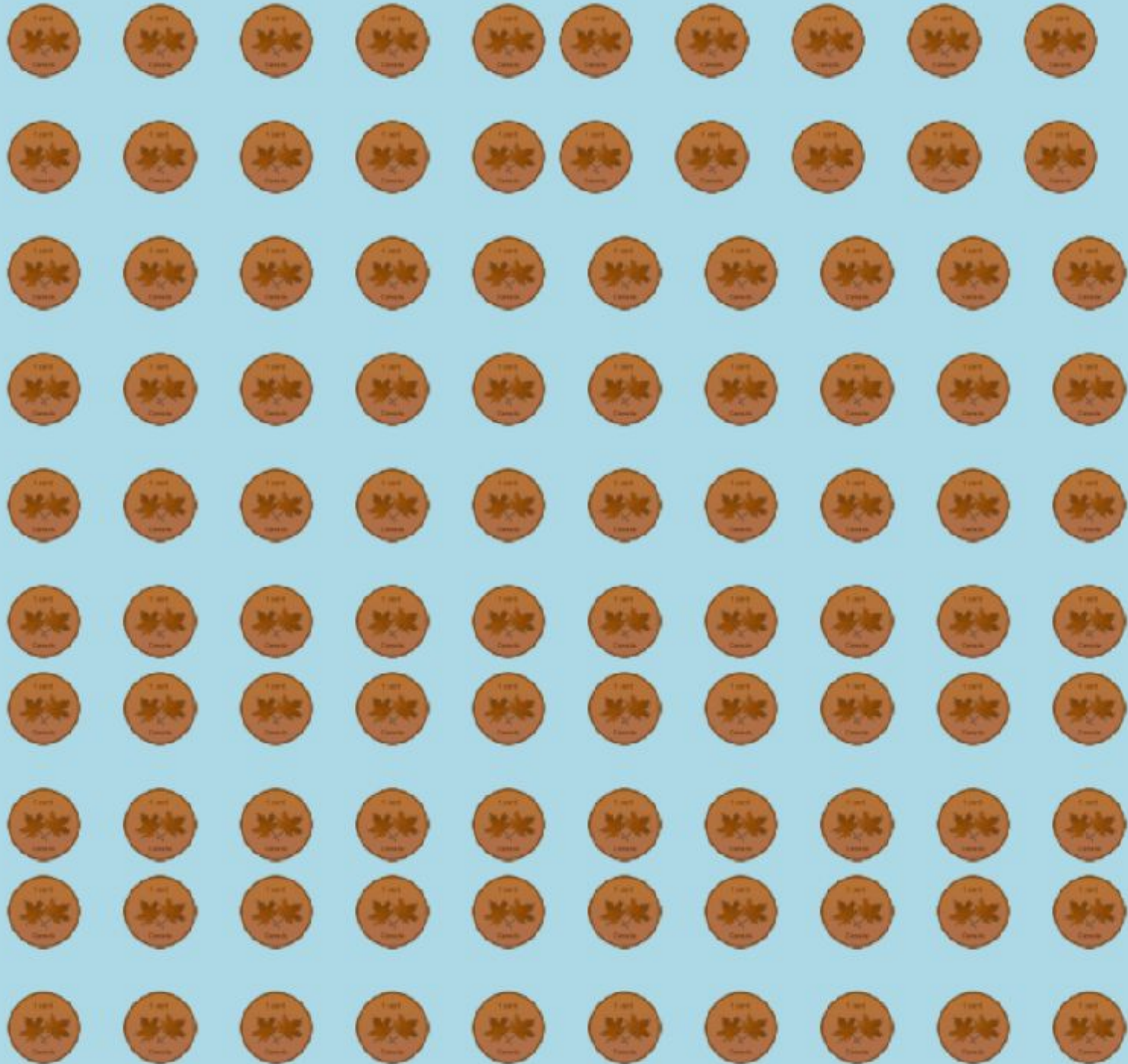




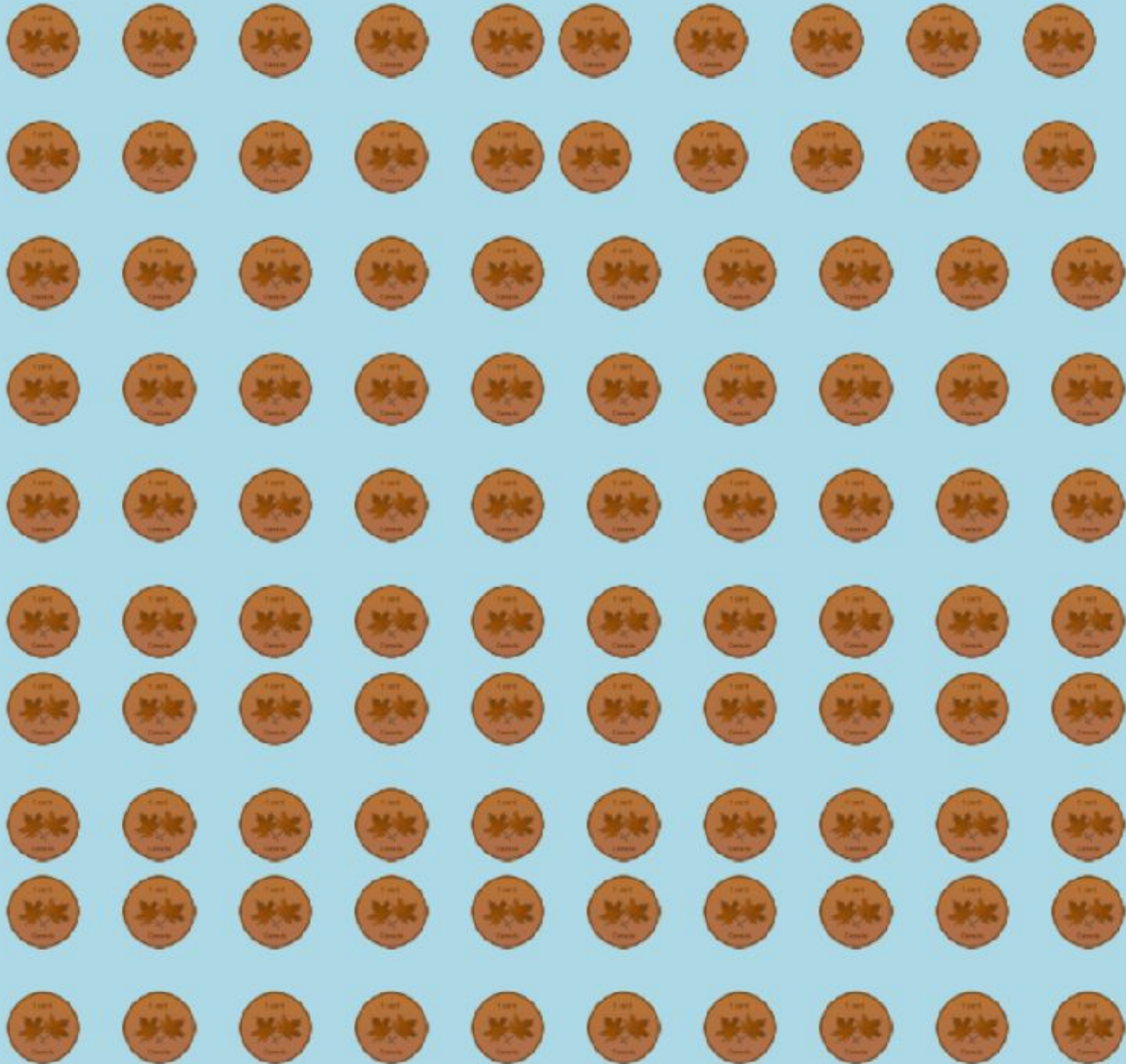








Arrays galore!!!



Build your math facts here.  
All they need is a copy of any money you are studying, use pencil crayons or markers to identify all possible arrays. Write them out.





Spectrum Number Lines

# Create the Unit Fractions **Visually**

- no fraction terminology



# Thank You

Do not hesitate to reach out to your local consortia for anything you might need.

