

➔ SUPER SIMPLE ←
ALGEBRA CURRICULUM

$$4 + x = 10$$

12 COMPLETE UNITS

 **MAKING MATH ACCESSIBLE TO ALL LEARNERS**



For students who:

- are emerging or non-readers
- take alternate assessments
- are in special education
- short-attention span
- lack pre-requisite skills
- benefit from the use of pictures for support
- middle/high school

SUPER SIMPLE

- Super simple indicates that it is intended for students working at a **K-1 level** and need maximum support.
- Problems are **simplified**.
- **Pictures** are used throughout.
- Intended for students in self-contained settings.
- **Printable and digital** activities for more practice.

Essential Topics

1. Plotting Coordinates
2. Exponents
3. Rational Numbers
4. Ratios
5. Function Machines
6. Function Tables
7. Slope
8. Algebra
9. Inequalities
10. Polynomials
11. Systems of Equations
12. Pythagorean Theorem

Most often taught in this order

1. Plotting Coordinates

This unit mainly focuses on **Quadrant 1**:

- Labeling parts of a graph
- Identify coordinates on objects
- Plotting objects on a coordinate grid

Draw a dot or place a sticker on the correct place on the graph.

$(3,5)$

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Determine the ordered pair for the following image on the graph.

(\square, \square)
X Y

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Circle the correct ordered pair for the object on the graph.

$(1,2)$

$(3,0)$

$(2,2)$

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2. Exponents

This unit addresses:

- Identify numbers with exponents
- Identify the base and power
- Expanded form of exponents
- Focus on **squared** and **cubed**

1^2 squared	1^3 cubed	
2^2	4^3	7^3
9^3	3^2	8^2
4^2	2^3	6^2
6^3	5^2	3^3

2^5

The base is:

The power or exponent is:

$8^3 =$

Choose the correct expanded form of the exponent and place it in the box.

$8 \times 8 \times 8$

$8 + 8 + 8$

3. Rational Numbers

This unit addresses:

- Types of rational numbers
- Repeating and nonrepeating decimals
- Irrational numbers

The image shows two worksheets and a circle map activity. The top-left worksheet is titled 'rational' and 'irrational' and contains a grid of numbers: -16, 5/1, 98, 3.14159, 4, 4/0, 8/0, 0.98254, 6.33333, 2.02020, and 3. The top-right worksheet is titled 'repeating decimals' and 'nonrepeating decimals' and contains a grid of numbers: 0.3333333, 0.4978243, 1.3333333, 6.7598124, 0.09090909, 2.44444444, 1.41421356, 2.4875642, 0.87154268, 4.15151515, 8.64646464, 1.54872984, 7.55555555, and 3.1415926. The bottom worksheet is a circle map activity titled 'Place pictures in circle map about rational numbers.' It features a central circle with a 'rational' icon and a grid of icons: numbers (4,5), fractions (1/2), decimals (3.25), repeating decimals (four diamonds), ending decimals (xxxx), time (clock), price (tag), measuring cups, address (house), and temperature (thermometer).

4. Ratios

This unit addresses:

- Ways to express ratios
 - part:part
 - part:whole
 - whole:part
- Equivalent ratios
- Percentage (with ratios out of 100)
- Real-world problems

1

Write each ratio as a percentage

10 to 100 = 10 to 100 = $\frac{10}{100}$ =

70 to 100 = 70 to 100 = $\frac{70}{100}$ =

30 to 100 = 30 to 100 = $\frac{30}{100}$ =

50 to 100 = 50 to 100 = $\frac{50}{100}$ =

50% 10% 30% 70%

2

Answer the questions below.

There are 10 kids in your class. There are 5 boys and 5 girls.

What is the ratio of boys : girls?

What is the ratio of whole class: girls?

What is the ratio of boys: whole class?

$\frac{5}{10}$ 5 to 5 10:5

Match the equivalent ratios.

1 to 2 = =

4 to 5 = =

3 to 1 = =

1:2 $\frac{4}{5}$ 4:5

$\frac{3}{1}$ 3:1 $\frac{1}{2}$

5. Function Machines

This unit addresses:

- The output of the machine given an input
- The input of the machine given an output
- The function rule for the machine

The image shows three worksheets illustrating function machines:

- Copying Machine:** A worksheet with a copying machine icon. Text: "This copying machine will give you one exact copy of the page you put in." An example shows a bee on a page being copied. Below, it asks "What is the output for each input below?" with three boxes for a strawberry, a map, and a frog. A legend at the bottom shows the map, frog, and strawberry icons.
- Arcade Machine:** A worksheet with an arcade machine icon. Text: "For one quarter, you can play one game on this machine." It shows a flow from a quarter to a game. Below, it asks "What is the function rule for this machine? Look at the examples to figure it out." Examples show 3 quarters leading to 3 games, 1 quarter leading to 1 game, and 2 quarters leading to 2 games. A legend at the bottom shows a game and a quarter.
- Shape Transformer:** A worksheet with a shape transformer icon. Text: "This shape transformer, turns a 2D shape into a 3D shape." An example shows a square being transformed into a cube. Below, it asks "What is the function rule for this machine? Look at the examples to figure it out." Examples show a rectangle becoming a rectangular prism, a triangle becoming a triangular prism, and a semi-circle becoming a semi-circular prism. To the right, it says "Place the pictures in the correct location to show the function rule for this machine." with two boxes labeled "3D" and "2D".

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6. Function Tables

This unit addresses:

- Identify parts of a function table
- Identify the output values in the table
- Identify the input values in the table
- Fill in missing outputs in the table

Look at the function table and answer the questions below.

INPUT	OUTPUT

1. If the output is 2 , what was the input?

2. If the output is 4 , what was the input?

3. If the output is 6 , what was the input?

The vending machine will give you one soda for each dollar you put in.

Fill in the output values in the function table below.

INPUT	OUTPUT

You start babysitting to earn extra money. You charge \$5 for every hour.

Fill in the output values in the function table below.

INPUT	OUTPUT

Places the pictures in the correct location on the table.

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7. Slope

This unit addresses:

- Objects that have a slope
- Steeper indicates more slope
- Positive, negative, and zero slope
- Rise and run

1

Cut out the three graphs below and place them in the order from *greatest to least* slope.

1 2 3

Three boxes for ordering graphs. Box 1 contains a ladder icon. Box 2 contains a steep red line. Box 3 contains a shallow red line.

3

Look at the graph below. Glue the boy on the bike into the box, then circle the correct answer.

Circle the correct answer.

+ slope - slope 0 slope

Look at the graph. Place the kid on the bike into the box, then circle the correct answer.

○

+ slope - slope 0 slope

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8. Algebra

This unit addresses:

- Checking if equations are balanced
- Balancing equations
- Solving for an unknown variable

2

$\square - \text{orange} = \text{orange} + \text{orange} + \text{orange}$

$\square - \text{crayon} = \text{crayon} + \text{crayon}$

9

$\square - \text{rabbit} - \text{rabbit} = \text{rabbit} + \text{rabbit}$

$\square - \text{giraffe} - \text{giraffe} = \text{giraffe}$

Fill in the missing variable to balance the equation.

$1 + \text{ice cream} = 1 + \square$

$5 + \text{balls} = 5 + \square$

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9. Inequalities

This unit addresses:

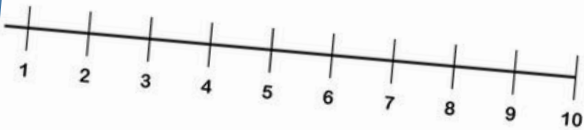
- Identify inequality symbols
- Identify possible values on inequalities
- Use a number line to draw inequalities
- Real-world examples

$>$ Greater than	$<$ Less than
$3 > 1$	$5 < 6$
$3 < 9$	$7 > 4$
$14 > 2$	$2 < 3$
$y > 10$	$10 > 3$
$x < 18$	$x < 8$
$7 < 12$	$y < 4$
	$x > 3$
	$y < 6$
	$9 > 1$

7

1. Draw an open or closed circle on the starting point on the number line.
2. Draw an arrow in the correct location.
3. Based on your number line, circle some possible answers.

$x \leq 5$



Circle the numbers below that are possible answers based on your number line.

2

3

5

6

9

10

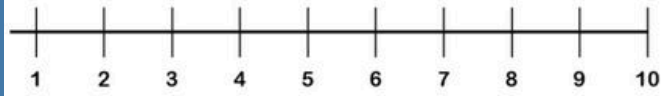
Your class went to the amusement park. The sign says you have to be at least 6 years old to ride the bumper cars.

What is the inequality that describes how old you need to be to ride the bumper cars? Use x as the age a person is.





$x \geq 6$

$x < 6$

$x < 5$



Circle all the kids who could ride on the bumper cars.


7 years old

6 years old

4 years old

5 years old

Answer the questions about the inequalities.



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10. Polynomials

This unit addresses:

- Identify variables in a polynomial
- Identify numbers in a polynomial
- Identify coefficients in a polynomial
- Identify operations in a polynomial (addition and subtraction)

Look at the polynomial and answer the questions below.

$$2 - 6 \text{ 🍎}$$

1. What is the **coefficient** in the polynomial?

2. What is the **variable** in the polynomial?

3. What is the **operation** in the polynomial?

Look at the polynomial and answer the questions below.

$$5 - 2z$$

1. What is the **coefficient** in the polynomial?

2. What is the **variable** in the polynomial?

3. What is the **operation** in the polynomial?

Look at the polynomial and answer the questions.

$$\text{🐢} + 5$$

1. What is the **number** in the polynomial?

2. What is the **variable** in the polynomial?

3. What is the **operation** in the polynomial?

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11. Systems of Equations

This unit addresses:

- Real-world situations that are systems in disguise
- Identifying variables
- How variables are related
- **Uses simple math**

The image shows three worksheets illustrating systems of equations with visual aids:

- Worksheet 1b:** "Draw it out. Step 1. How many pots do you need?" It shows two groups of two yellow flowers. Below each group is a square box. At the bottom, there are two small images of brown pots.
- Worksheet 1c:** "Draw it out. Step 2. How much dirt fits in each pot?" It shows two brown pots. Below each pot are three square boxes. At the bottom, there are six small images of brown mugs.
- Worksheet 1:** "Step 1. How many sodas do you need?" It shows three stick figures. Below each figure are two square boxes. To the right, there are six small images of soda cans arranged in a 3x2 grid.

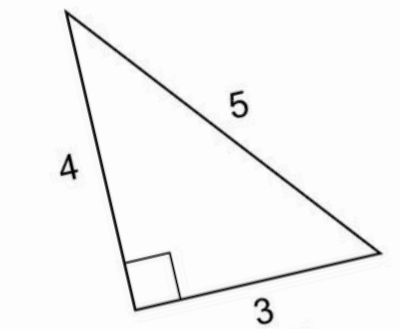
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12. Pythagorean Theorem

This unit addresses:


- Identifying right triangles
- Identify the legs and hypotenuse
- Plug values into the Pythagorean Theorem

Fill in the numbers for the Pythagorean theorem for each triangle.


$$\square^2 + \square^2 = \square^2$$

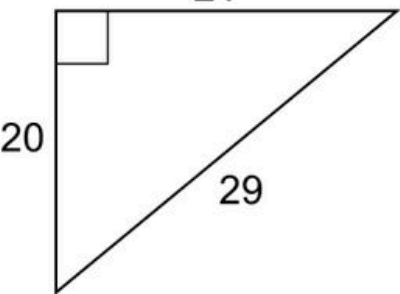
3 4 5

Label the parts of the triangle.



leg leg hypotenuse

Fill in the missing numbers in the Pythagorean Theorem.


$$\square^2 + \square^2 = \square^2$$

20 21 29

What's Included?

Each unit has:

- Detailed lesson plans
- Engaging PowerPoints to teach concepts
- **Group activities**
- Practice worksheets
- Assessments
- Printable and digital formats

Day 4	Activity	Notes	Materials
	Read or listen to a recording of the PowerPoint: Super Simple Pythagorean Theorem (10 minutes)	<ul style="list-style-type: none">• Read through the story, asking lots of questions• Continue to make connections between the book and the vocabulary board	<ul style="list-style-type: none">• PowerPoint• Vocabulary board
	Group Activity (15 minutes)	<ul style="list-style-type: none">• Do one of the group activities• There are five to choose from<ul style="list-style-type: none">○ See activity for specific instructions• Review the activity completed yesterday	<ul style="list-style-type: none">• Materials for group activity (see pdf)• Worksheets completed yesterday• Worksheet• Scissors• Glue
	Labeling activity review (5 minutes)		
	Writing the Pythagorean Theorem (15 minutes)	<ul style="list-style-type: none">• Students will now practice writing the Pythagorean Theorem (cut and paste) when given a right triangle with the side lengths labeled.• There are 11 problems. Do as many repetitions as appropriate for your students. Keep the extra work for review or homework.<ul style="list-style-type: none">○ Add color-coding for students who need more support• Have students practice reading the completed Pythagorean Theorem.• Each student shares their finished worksheet with the group using the communication method of their choice	<ul style="list-style-type: none">• Completed• Commu
	Sharing (10 minutes)		

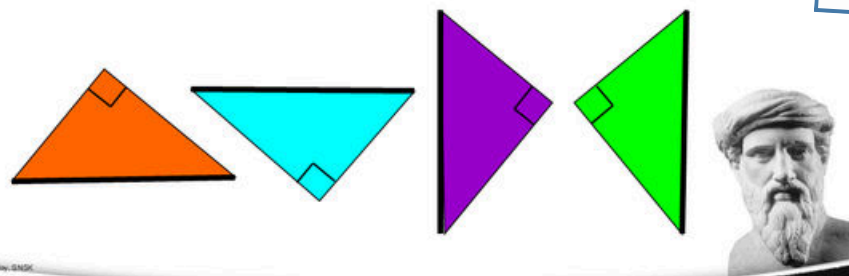
Inequalities: Group Activities #3 Shopping

- **Scenario:** Students decide if they have enough money to purchase an item.
- **Materials:**
 - Template from activity 2
 - Cards from activity 2
 - Pretend money
 - Price tags (blank sheet also included)
 - Magazines
- **Activity:**
 - Teacher places money on one side of the template. If you do not have play money, write an amount in the circle with a dry-erase marker.
 - Use the less than or equal sign in the center square.
 - Show students various pictures you have cut from magazines with the price tags attached.
 - Students pick what they would buy and stay within budget.



Sometimes, people get confused and think the hypotenuse is the slanted side. **This is not true.** Look at all the examples below. The hypotenuse is not slanted, but it is:

1. Is the longest side.
2. Is across from the right angle.
3. Never touches the right angle.



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Digital Activities



- Provide extra practice
- Great independent work centers
- Include a differentiated set of slides
- Click and drag

This shoe picker will choose the best shoes to wear for a place you are going or thing you are doing.

Circle the input for each output below.

Circle the correct input.

Fill in the missing numbers in the Pythagorean Theorem.

$40^2 + 9^2 = 41^2$

$\square^2 + \square^2 = \square^2$

40 9 41

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What Teachers Are Saying

I was truly struggling with finding algebra materials (without having to make everything from scratch) for my high school students whose comprehension is more on a k-1st grade level. These visual algebra activities made the content accessible. Great resource.

This resource aligns with our standards that need to be covered for alternative assessment. The worksheets help to make the concept more concrete for my students.

Still have questions?

Reach out at specialneedsforspecialkids@gmail.com

I will answer your question personally and promptly.



Christa Joy, M.Ed., DVM