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Geometry

Essential Skill: Find the coordinates of given points on a grid using coordinates to interpret locations.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> What do you notice about the coordinate plane?</p>	<p><u>Coordinate Plane Movie</u> Learn about an imaginary boundless surface with length and width, but no depth.</p>	<p><u>Primary Source</u> Investigate the Naval Academy map, and use your knowledge of coordinate planes to answer the accompanying questions.</p>	<p><u>Challenge</u> Use critical thinking skills to show what you know about coordinate planes.</p>	<p><u>Slope and Intercept</u> <u>Graphs</u></p>

Essential Skill: Identify acute, obtuse, straight and right angles.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion <i>Say: Look around the classroom (or your</i></p>	<p><u>Angles Movie</u> Learn about the difference between acute, obtuse, and right</p>	<p><u>Play a Sorting Game</u> Sort angles based on their measurements.</p>	<p><u>Quiz</u> What did you learn about angles?</p>	<p><u>Geometry</u></p>

home). Describe the angles you see.	angles.			
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Essential Skill: Classify triangles by their sides and angles.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> What do you notice about the sides and angles of these triangles?</p>	<p><u>Types of Triangles Movie</u> Discover how to classify triangles by the measurements of their sides and angles.</p>	<p><u>Play a Sorting Game</u> Sort triangles based on their sides and angles.</p>	<p><u>Quiz</u> What did you learn about different types of triangles?</p>	<p><u>Pythagorean Theorem</u> <u>Similar Figures</u></p>

Essential Skill: Identify parallel and perpendicular lines.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Ask: <i>Where do you see parallel lines in the</i></p>	<p><u>Parallel and Perpendicular Lines Movie</u> Explore real-world</p>	<p><u>Make a Concept Map</u> Identify differences between perpendicular and parallel lines.</p>	<p><u>Quiz</u> What did you learn about parallel and perpendicular lines?</p>	<p><u>Angles</u></p>

<i>classroom? At home?</i>	examples of lines that are parallel, lines that are not parallel, and lines that intersect parallel lines.			
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Essential Skill: Identify diameter, radius, chord, center and circumference of a circle.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion <i>Ask: What parts of a circle might you measure? How might you measure them?</i></p>	<p><u>Circles Movie</u> Discover how to determine a circle's diameter, radius, and center, and use them to find its circumference and area.</p>	<p><u>Produce a Video Tutorial</u> Teach viewers how to use the circle's center to measure its diameter, radius, and circumference.</p>	<p><u>Challenge</u> Use critical thinking skills to show what you know about circles.</p>	<p><u>Pi</u> <u>Volume of Cylinders</u></p>

Math: Measurement and Data

Essential Skill: Convert within a given system of measurement (e.g. 1 liter = 1000 milliliters).

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Show a meter stick. Ask: <i>What units does this measure? How are these units related?</i></p>	<p>Metric Units Movie Learn how easy it is to convert centimeters to meters or kilograms to milligrams.</p>	<p>Create a Video Tutorial Make a movie that teaches viewers how to convert between metric units.</p>	<p>Challenge Use critical thinking skills to show what you know about metric units.</p>	<p>Metric vs. Customary</p>

Essential Skill: Recognize volume as an attribute of solid figures and understand concepts of volume measurements.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Hold up a tissue box or an unsharpened pencil. Ask: <i>What makes this</i></p>	<p>Volume of Prisms Movie Explore volume and learn the formula for finding the volume of a</p>	<p>Make a Concept Map Sequence the steps to finding the volume of a real-world prism, like a box or a book.</p>	<p>Challenge Use critical thinking skills to show what you know about volume.</p>	<p>Surface Area Area of Polygons</p>

<i>object a prism? How would you describe it?</i>	prism.			
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Essential Skill: Determine how many items can be purchased within a given budget.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion <i>Ask: Have you ever had to make a budget? If yes, How did you do it? If no, what do you think the benefits of a budget might be?</i></p>	<p><u>Budgets Movie</u> Learn about the basics of budgeting.</p>	<p><u>Primary Source</u> Read the spending record, and use the information to answer the accompanying questions.</p>	<p><u>Challenge</u> Use critical thinking skills to show what you know about budgets.</p>	<p><u>Comparing Prices</u></p>

Math: Numbers in Base Ten

Essential Skill: Read, write, and compare decimals to thousandths.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Ask: <i>Why do we use decimals?</i></p>	<p>Decimals Movie Learn about three kinds of decimals, including a very special type that goes on forever without repeating.</p>	<p>Primary Source Activity Examine the baseball card, and use the information to answer the accompanying questions.</p>	<p>Challenge Use critical thinking skills to show what you know about decimals.</p>	<p>Converting Fractions to Decimals</p>

Essential Skill: Use place value understanding to round decimals to any place.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Show an item, like a box</p>	<p>Rounding Movie Discover how to round decimals.</p>	<p>Make-a-Movie Make a BrainPOP-style movie in which Moby</p>	<p>Quiz What did you learn about rounding</p>	<p>Comparing Prices</p>

of cereal, with the price. Ask: <i>How can rounding be helpful when we're shopping?</i>		describes how rounding decimals can be helpful in real life.	decimals?	
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Essential Skill: Multiply decimals to hundredths.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
Pre-Assessment: Class Discussion Ask: <i>When might you have to multiply numbers that have decimals?</i>	Multiplying Decimals Movie Learn how to multiply decimals.	Make a Concept Map Sequence the steps to multiplying decimals using any strategy.	Quiz Show what you know about multiplying decimals?	Comparing Prices

Essential Skill: Divide decimals to hundredths.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
Pre-Assessment: Class Discussion Ask: <i>When might you</i>	Dividing Decimals Movie Discover tips and tricks	Make a Movie Make a BrainPOP style movie that shows how	Challenge Use critical thinking skills to show what	Multiplying Decimals

<i>have to divide numbers that have decimals?</i>	for dividing decimals.	Tim and Moby can evenly split the cost of a pizza that costs \$12.48.	you know about dividing decimals.	Comparing Prices
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Numbers and Operations: Fractions

Essential Skill: Add and subtract fractions with unlike denominators, including mixed numbers

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion <i>Ask: When might you need to add or subtract fractions in real life?</i></p>	<p>Adding and Subtracting Fractions Movie Discover what the lowest common denominator is, and how it's the key to adding and subtracting fractions with different denominators.</p>	<p>Make a Movie Tell a story in which Moby has to add fractions to solve a problem.</p>	<p>Quiz What did you learn about adding and subtracting fractions?</p>	<p>Simplifying Fractions</p>

Essential Skill: Find fraction equivalents.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> How is a fraction related to its simplified form?</p>	<p><u>Simplifying Fractions Movie</u> Discover how simplifying and reducing can cut large and clunky fractions down to size.</p>	<p><u>Make a Concept Map</u> Put $16/64$ in the center of a map and identify all of its equivalent fractions. Include a statement of how you calculated each equivalent fraction.</p>	<p><u>Quiz</u> What did you learn about finding fraction equivalents?</p>	<p><u>Adding and Subtracting Fractions</u></p> <p><u>Multiplying and Dividing Fractions</u></p>

Essential Skill: Multiply a fraction or whole number by a fraction. Divide fractions by whole numbers; divide whole numbers by fractions.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Discussion</u> <i>Ask: When might you have to multiply fractions in real life?</i></p>	<p><u>Multiplying and Dividing Fractions Movie</u> Discover how to multiply and divide fractions.</p>	<p><u>Make a Cooking Show</u> Show how Moby can multiply fractions to make 5 batches of cookies that each need $\frac{3}{4}$ cups flour.</p>	<p><u>Quiz</u> What did you learn about multiplying and dividing fractions?</p>	<p><u>Fractions</u></p> <p><u>Division</u></p> <p><u>Multiplication</u></p>

Essential Skill: Convert a mixed number into a fraction.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> What is the easiest way to convert a mixed number to a fraction?</p>	<p><u>Mixed Numbers Movie</u> Learn how to convert fractions into mixed numbers.</p>	<p><u>Make a Concept Map</u> Identify the steps for converting a mixed number into an improper fraction.</p>	<p><u>Quiz</u> What did you learn about converting mixed numbers into fractions?</p>	<p><u>Division</u></p>

Essential Skill: Find the percentages and decimal equivalents of common fractions.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> Compare a fraction, decimal, and percent.</p>	<p><u>Converting Fractions to Decimals Movie</u> Learn how to convert fractions into decimals, and back again.</p>	<p><u>Make a Concept Map</u> Identify the steps to converting fractions into decimals, and decimals into fractions.</p>	<p><u>Quiz</u> What did you learn about converting fractions to decimals and percentages?</p>	<p><u>Decimals</u></p>

Operations and Algebraic Thinking

Essential Skill: Evaluate expressions using parentheses, addition, and subtraction.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Ask: <i>Why is it important to follow steps in a certain order to solve a problem?</i></p>	<p><u>Order of Operations Movie</u> Discover the order of operations that you should use when solving a math problem.</p>	<p><u>Make a Concept Map</u> Sequence the order of operations to solve the expression $(4 \times 5) + 3$.</p>	<p><u>Quiz</u> What did you learn about the order of operations in solving problems?</p>	<p><u>Multiplication</u></p>

Essential Skill: Use the distributive property to solve an equation.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Ask: <i>How can we break up bigger numbers to help solve multiplication problems?</i></p>	<p><u>Distributive Property Movie</u> Discover what the distributive property means, and how you can use it to rewrite a problem for simpler solving.</p>	<p><u>Make a Concept Map</u> Identify different ways to express 12×7 using the distributive property.</p>	<p><u>Quiz</u> What did you learn about the distributive property?</p>	<p><u>Associative Property</u> <u>Commutative Property</u></p>