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Geometry

Essential Skill: Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment What everyday objects are examples of cylinders?</p>	<p>Volume of Cylinders Movie Discover how to find the area of circles and the volume of cylinders.</p>	<p>Make-a-Movie Show how to calculate the volume of soda in a can with a height of 5 inches and a base diameter of 3 inches.</p>	<p>Quiz What did you learn about finding the volume of cylinders?</p>	<p>Circles Surface Area</p>

Expressions and Equations

Essential Skill: Solve linear equations with one variable.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Display this problem: <i>Chris needs an extension cord to set up his new video game. How many 2-meter cords will he need to reach 7 meters?</i> Ask: <i>How can we write an equation that represents this problem?</i></p>	<p><u>Equations with Variables Movie</u> Learn how to simplify and solve algebraic equations with variables.</p>	<p><u>Make a Concept Map</u> Diagram the process of isolating and solving for the variable in the equation $5y-13=12$.</p>	<p>Challenge Use critical thinking to show what you know about solving equations with variables.</p>	<p><u>Division</u> <u>Multiplication</u> <u>Graphing Linear Equations</u></p>

Functions

Essential Skill: Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment What does each variable in a linear equation represent?</p>	<p>Slope and Intercept Movie Learn how to plot the x- and y-intercepts of a line and calculate its slope.</p>	<p>Make-a-Movie Explain what the slope of a line is and how you find it.</p>	<p>Quiz What did you learn about slope and intercept?</p>	<p>Graphing Linear Equations Coordinate Plane</p>

The Number System

Essential Skill: Identify prime numbers.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment</p>	<p>Prime Numbers Movie</p>	<p>Play a Sorting Game</p>	<p>Quiz</p>	<p>Factoring</p>

What is a prime number?	Learn how every whole number greater than 1 is either a prime number or formed by multiplying prime numbers together.	Use what you know about prime numbers and prime factorization to sort numbers.	What did you learn about prime numbers?	Rational and Irrational Numbers
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Essential Skill: Write a number using exponents.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Ask: <i>Where have you seen exponents before? How are they useful in expressing really large or really small numbers?</i></p>	<p>Exponents Movie Learn to use exponents to express really big (or really small) numbers.</p>	<p>Make a Concept Map Break down the expression $5^5 + 3^2$ from exponential form into standard form, and solve.</p>	<p>Quiz What did you learn about exponents?</p>	<p>Square Roots</p> <p>Multiplying and Dividing Exponents</p> <p>Standard and Scientific Notation</p>

Essential Skill: Find the equivalent values of a fraction, decimal, and percent.

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?</p>	<p><u>Decimals</u></p>

Essential Skill: Find the square root of a given number.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment: Quiz</u> What do you know about square roots?</p>	<p><u>Square Root Movie</u> Learn how to find the root of a square by measuring one of its sides.</p>	<p><u>Make-a-Movie</u> Explain why it's easier to find the square root of a perfect number that's not a perfect square.</p>	<p><u>Challenge</u> Use critical thinking skills to show what you know about square roots.</p>	<p><u>Exponents</u></p>

Essential Skill: Determine the greatest common factor of a given set of numbers.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> What is a greatest common factor?</p>	<p><u>Factoring Movie</u> Find out what factors and multiplication have to do with breaking prime numbers into smaller pieces.</p>	<p><u>Make a Concept Map</u> Use factor trees to find the greatest common factor of 9, 12, and 21.</p>	<p><u>Quiz</u> What did you learn about factoring?</p>	<p><u>Prime Numbers</u> <u>Exponents</u></p>

Statistics and Probability

Essential Skill: Determine the probability of an event.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion Show a coin. <i>Ask: If we flip this three times, what are the chances that we will get</i></p>	<p><u>Basic Probability Movie</u> Learn how to calculate and express basic probability.</p>	<p><u>Make-a-Movie</u> Explain how to determine the probability of picking a green shirt out of a bag containing two green</p>	<p><u>Challenge</u> Use critical thinking to show what you know about probability.</p>	<p><u>Compound Events</u></p>

<i>three heads in a row?</i>		shirts, three red shirts, and four white shirts.		
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Essential Skill: Use tables to solve word problems.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> Examine a table to determine what we can learn from it.</p>	<p><u>Problem Solving Using Tables Movie</u> Learn to solve problems using rows, columns and data.</p>	<p><u>Make-a-Movie</u> Describe a situation where it would be helpful to use a table to organize information.</p>	<p><u>Quiz</u> What did you learn about problem solving using tables?</p>	<p><u>Word Problems</u> <u>Graphs</u></p>