

Table of Contents

Grade 4 Math

Math: Measurement and Data	1
Essential Skill: Know relative sizes of measurement units within one system of units.	2
Essential Skill: Apply the area formula for polygons in real world and mathematical problems.	2
Essential Skill: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.	3
Numbers and Operations in Base Ten	3
Essential Skill: Use place value understanding to round multi-digit whole numbers to any place.	4
Numbers and Operations: Fractions	4
Essential Skill: Recognize and generate equivalent fractions.	4
Essential Skill: Convert improper fractions to mixed numbers.	5
Essential Skill: Rewrite fractions into decimals; rewrite decimals into fractions.	5
Essential Skill: Read, write, and compare decimals.	6
Operations and Algebraic Thinking	6
Essential Skill: Solve multiplication problems in real world or mathematical problems.	6
Essential Skill: Solve word problems using all four operations.	7
Essential Skill: Investigate factoring.	7

Math: Measurement and Data

Essential Skill: Know relative sizes of measurement units within one system of units.

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

Essential Skill: Apply the area formula for polygons in real world and mathematical problems.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> What formula would you use to solve for the area of a rectangle?</p>	<p><u>Area of Polygons Movie</u> Discover how to find the area of polygons like triangles, trapezoids,</p>	<p><u>Design a How-To</u> Make a movie that teaches viewers how to calculate the area of a triangle.</p>	<p><u>Quiz</u> What did you learn about finding the area of polygons?</p>	<p><u>Polygons</u></p>

	and parallelograms.			
--	---------------------	--	--	--

Essential Skill: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> What is an acute angle?</p>	<p><u>Angles Movie</u> Learn the difference between acute, obtuse, and right angles.</p>	<p><u>Make a Concept Map</u> Find angles in objects around you—at school, at home, at the playground. Classify the angles as acute, obtuse, right, or straight.</p>	<p><u>Quiz</u> What did you learn about angles?</p>	<p><u>Geometry</u></p>

Numbers and Operations in Base Ten

Essential Skill: Use place value understanding to round multi-digit whole numbers 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 of cereal, with the price. <i>Ask: How can rounding be helpful when we're shopping?</i></p>	<p><u>Rounding Movie</u> Discover how to use place values to estimate and round numbers.</p>	<p><u>Make-a-Movie</u> Make a BrainPOP-style movie in which Moby describes how rounding can be helpful in real life.</p>	<p><u>Quiz</u> What did you learn about rounding?</p>	<p><u>Decimals</u></p>

Numbers and Operations: Fractions

Essential Skill: Recognize and generate equivalent fractions.

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 $\frac{4}{24}$ 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 equivalent fractions?</p>	<p><u>Adding and Subtracting Fractions</u></p>

Essential Skill: Convert improper fractions to mixed numbers.

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> Sequence the process of converting a mixed number into an improper fraction.</p>	<p><u>Quiz</u> What did you learn about equivalent fractions?</p>	<p><u>Adding and Subtracting Fractions</u></p>

Essential Skill: Rewrite fractions into decimals; rewrite decimals into 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> Show the steps to converting fractions into decimals, and decimals into fractions.</p>	<p><u>Quiz</u> What did you learn about converting fractions into decimals?</p>	<p><u>Multiplying and Dividing Fractions</u></p>

Essential Skill: Read, write, and compare decimals.

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><u>Decimals Movie</u> Learn about three kinds of decimals, including a very special type that goes on forever without repeating.</p>	<p><u>Primary Source Activity</u> Examine the baseball card, and use the information to answer the accompanying questions.</p>	<p><u>Challenge</u> Use critical thinking skills to show what you know about decimals.</p>	<p><u>Rounding</u></p>

Operations and Algebraic Thinking

Essential Skill: Solve multiplication problems in real world or mathematical problems.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion <i>Say: Describe a time you use multiplication in your daily life.</i></p>	<p><u>Multiplication Movie</u> Discover the basics of solving multiplication problems!</p>	<p><u>Make-a-Movie</u> Tell a real-life story of how you used multiplication to solve a problem.</p>	<p><u>Quiz</u> What did you learn about multiplication?</p>	<p><u>Distributive Property</u></p>

Essential Skill: Solve word problems using all four operations.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p>Pre-Assessment: Class Discussion <i>Ask: What words signal which operation to use in a word problem?</i></p>	<p><u>Word Problems Movie</u> Learn the difference between a word problem and a regular math problem.</p>	<p><u>Make-a-Movie</u> Show how to solve a problem from everyday life.</p>	<p><u>Quiz</u> What did you learn about solving word problems?</p>	<p><u>Problem Solving Using Tables</u></p>

Essential Skill: Investigate factoring.

Warm Up	Build Background	Think and Do	Assess	Explore More Topics
<p><u>Pre-Assessment</u> Find the factors in a multiplication equation.</p>	<p><u>Factoring Movie</u> Discover what factors and multiplication have to do with breaking prime numbers into smaller parts.</p>	<p><u>Make a Concept Map</u> Identify all the factors of 45.</p>	<p><u>Quiz</u> What did you learn about factoring?</p>	<p><u>Prime Numbers</u></p>