

MATH BUNDLE #1

Project Based Learning

4th Grade
Print & Digital

Cupcakes Galore Project Based Learning

4th Grade Math
Print & Digital

Measure Twice, Cut Once Project Based Learning QUILTING

4th Grade Math
Print & Digital

BUILD A ZOO Project Based Learning

4th Grade
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BUILDING THE EXHIBITS

FEEDING TIME

Animal	Feeding Time	Amount	Notes
1. How much does a giraffe eat in one week? Use the best method of multiplication.			
2. How much more does a giraffe eat in one week than a zebra eats in one week?			



4th Grade Print & Digital

For the lions costs \$26 a pound, how much would it cost to feed one lion for a



Aligned to CCSS Math Standards

- 4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations.
- 4.NBT.A.2 Compare two multi-digit numbers based on meanings of the digits in each place.
- 4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number.
- 4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.
- 4.NF.A.2 Compare two fractions with different numerators and different denominators.
- 4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money.
- 4.MD.A.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

FEEDING TIME

The table below shows how much food one of each type of animal is fed per day. Use the data from the table to answer the questions.

ANIMAL	Zebra	Giraffe	Lion	Flamingo	Gorilla	Crocodile
FOOD CONSUMED PER DAY	24 lbs.	72 lbs.	13 lbs.	1 ½ lb.	68 lbs.	2 ¼ lbs.

1. How much does a giraffe eat in one week? Use the box method of multiplication to show your thinking.

2. How much more does a gorilla eat in one week than a zebra?

3. If the lions' meat costs \$26 a pound, how much would it cost to feed one lion for a week?



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Measure Twice, Cut Once

Measurement Project Based Learning

QUILTING

4th Grade Math
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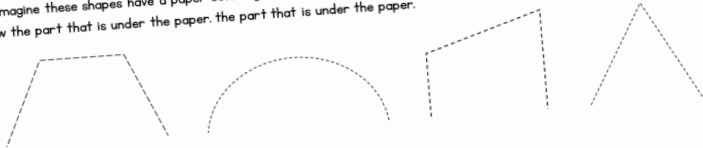
FINDING LINES OF SYMMETRY

Quilters use lines of symmetry to help them create patterns for their quilts. Follow the steps below to explore lines of symmetry.

1. How many lines of symmetry do these shapes have? Draw the lines with the line tool and label each shape.



2. Imagine these shapes have a paper covering the bottom half at the line of symmetry. Use the scribble tool to draw the part that is under the paper. The part that is under the paper.

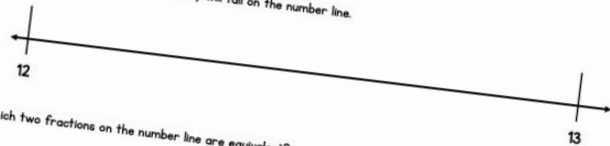


MEASURING FABRIC

The table shows the measurements for the 5 fabrics Grandmother is using in each of the 9-Patch squares.

	Pink Solid Fabric	Blue Solid Fabric	Yellow Print Fabric	Pink Print Fabric	Green Print Fabric
Length in inches	$12 \frac{1}{2}$ inches	$12 \frac{2}{4}$ inches	$12 \frac{3}{4}$ inches	$12 \frac{1}{3}$ inches	$12 \frac{3}{4}$ inches

1. Place the measurements where they will fall on the number line.



2. Which two fractions on the number line are equivalent?

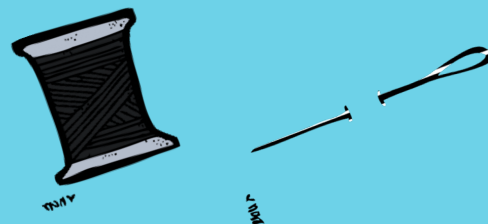


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Magic
CORE

4th Grade Math Standards Aligned



FOR THE TEACHER

MEASURE TWICE, CUT ONCE is a project-based learning task that involves using Measurement and Geometry to solve problems related to quilt making. It addresses the following 4th grade CCSS standards:

- 4.MD.A.1 Know relative sizes of measurement units within one system of units. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a 2-column table.
- 4.MD.A.2 Use the 4 operations to solve word problems, including problems involving single fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as a number line that feature a measurement scale.
- 4.MD.A.3 Apply area and perimeter formulas for rectangles in real world and mathematical problems.
- 4.MD.B.4 Make a line plot to display a data set of measurements in fractions of a unit. Solve problems involving addition and subtraction of fractions by using information presented in line plots.
- 4.MD.C.5 Recognize angles as geometric shapes that are formed by 2 rays that share a common endpoint and understand concepts of angle measurement.
- 4.MD.C.6 Measure and sketch angles in whole-number degrees using a protractor.
- 4.MD.C.7 Relate area to the operations of multiplication and addition.
- 4.GA.1 Draw points, lines, line segments, rays, angles, and perpendicular/parallel lines. Identify these in 2-D figures.
- 4.GA.2 Classify 2-D figures based on the presence or absence of parallel or perpendicular lines, or angles. Recognize and identify right angles
- 4.GA.3 Recognize a line of symmetry for a 2-D figure as a line across the figure, such that the figure can be folded along the line into matching parts. Identify and draw lines of symmetry.

DIRECTIONS

1. Assign students to work alone or in small groups.
2. Preview the activity with your students.
3. Allow students class time to complete the activity. This can span over several days.
4. Students have an opportunity to complete optional extra challenge activities.
5. Students will complete the self-evaluation reflection and evaluation rubric.
6. Allow students an opportunity to share their completed projects.
7. Put students' finished quilt pieces together to create a class quilt.



4th Grade Math Standards Aligned

FOR THE TEACHER

Cupcakes Galore is a project-based learning task that offers students experience with the following standards: *Operations and Algebraic Thinking*, *Numbers in Base Ten*, and *Measurement and Data*, as they prepare to make cupcakes for a school bake fair.

- 4.OA.A.2 Multiply and divide to solve word problems involving multiplicative comparisons.
- 4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the 4 operations, including problems with remainders.
- 4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
- 4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction
- 4.NF.A.2 Compare 2 fractions with different numerators and denominators.
- 4.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
- 4.MD.A.1 Know relative sizes of measurement units within one system.
- 4.MD.A.2 Use the 4 operations to solve word problems, including problems involving single fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as a number line that feature a measurement scale.

Directions:

1. Assign students to work alone or in small groups.
2. Preview the activity with your students.
3. Allow students class time to complete the activity. This can span over several days.
4. Students will be preparing to bake cupcakes for a school bake sale.
5. Students will read and interpret recipes for making cupcakes and icing.
6. Students will solve fraction or decimal problems aligned to the CCSS NF standards.
7. Students have an opportunity to complete extra challenge activities.
8. Students will complete the self-evaluation reflection and evaluation rubric.
9. Allow students an opportunity to share their completed projects.

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Print & Digital Versions

CUPCAKES GALORE BAKE SALE Baker:

Page 6, Version 2

You must pack all your cupcakes in boxes to deliver to the bake sale. There are two different size boxes you can use. They are shown below. In the chart below, draw two ways you can pack all your cupcakes. Which arrangement leaves the fewest number of empty spaces?

Box A

Box B

Number of cupcakes in box 1:

2.

Total number of cupcakes to pack:

Arrangement 2

Number of Box A =

Number of Box B =

Back to Recipe Cards

CUPCAKES GALORE BAKE SALE Baker:

Page 5, Version 2

You have decided that you will make a double batch of *one* of the cupcake recipes so that you can share with you family. You must determine how much of each ingredient you will need to make a double batch. Complete the table below. Pick one ingredient from each list to draw fractions models on your scrap paper that will show the math you used to complete this table.

Cupcake

Cupcake ingredients	Amount in 1 batch	Amount in 2 batches	Icing Ingredients	Amount in 1 batch	Amount in 2 batches

A circular logo with a pink border. Inside, the word "MAGI" is written in a stylized, colorful font, and "CORE" is written in a bold, blocky font below it. There are small star and confetti icons around the text.