

4th Grade Unit 3 Real World Experience

Teacher's Notes

Fourth graders study regions of the United States. Illinois is part of the Midwest Region and known for its farmland. If you drive through the Midwest, you will see many barns, some of which have barn quilts. Barn quilts are large pieces of wood that are painted to look like a quilt block. The sizes of the squares vary, but usually, they measure 8 feet by 8 feet. After they are painted, these blocks are hung on the outside of a barn, house, garage or other building. Barn quilts are made of simple geometric shapes, like squares, rectangles and triangles. This makes them easier to create. They are painted in solid colors and the simplicity in shape and the brightness of solid colors make these blocks easily seen from afar.

Every fourth grade class is developing a scaled paper diagram of a barn quilt to represent their class. You will create a diagram of what you propose should be the design for your class barn quilt. It will show the exact measurements and details on the size and shape of the portions devoted to each color. In addition, you will determine how much area each color will cover on the actual barn quilt and how much it will cost to purchase the paint for a finished barn quilt.

Task 1:

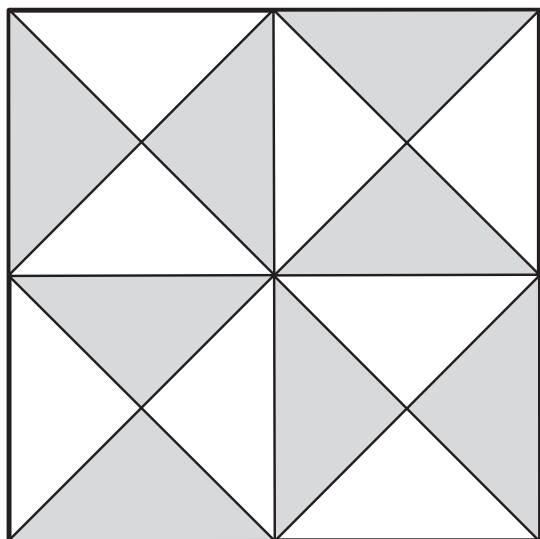
- Look at the websites below for examples and descriptions of barn quilts.
- Design your barn quilt using one or more of the standard quilt patterns attached.
- Draft a picture of your proposed design including color. You must have at least three colors and no more than five colors.

<http://www.craftsy.com/blog/2013/08/what-are-barn-quilts/>

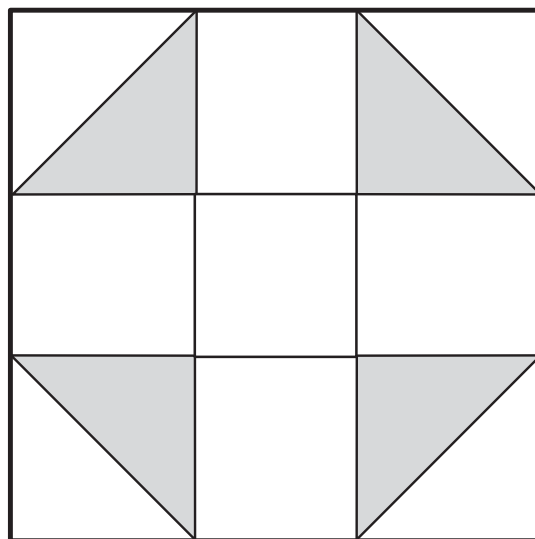
<http://barnquiltinfo.com/>



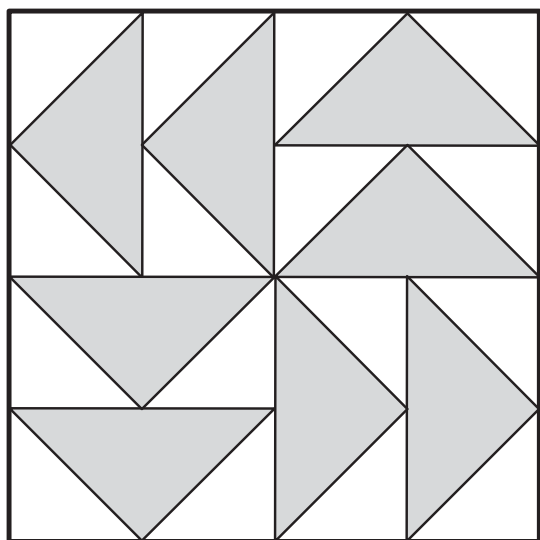
Quilt Patterns



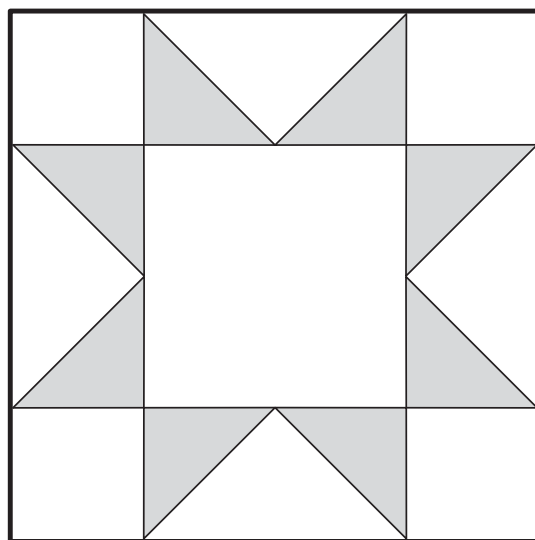
Bow Tie



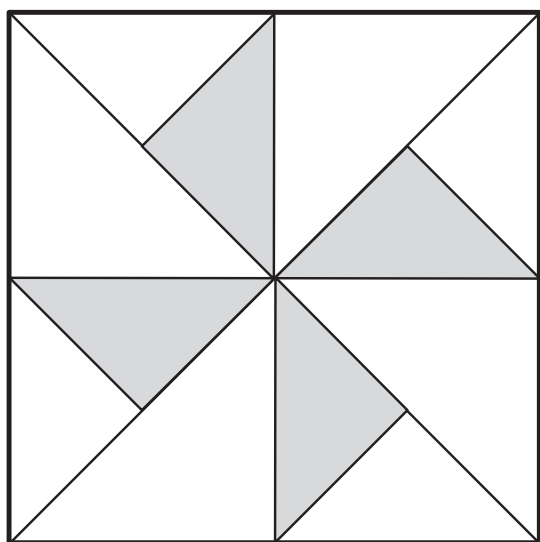
Shoofly



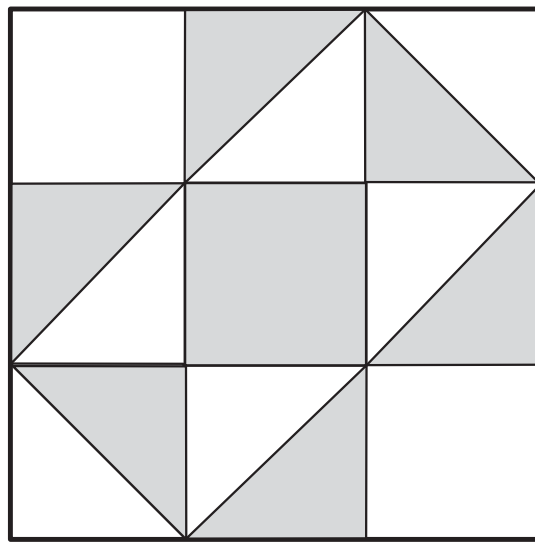
Flying Geese



Lone Star



Water Wheel



Split Nine Patch

Task 2: If the finished barn quilt will measure 8 feet, determine how you will use $\frac{1}{4}$ inch graph paper to make the diagram to scale. Use the graph paper and draw a precise diagram of your proposed barn quilt design including color. Have discussions about using scale and how to use it in SS in map reading. Work on this topic during SS too.

- If the scale is 1 inch to 1 foot, how many feet will three inches be?
- If the scale is $\frac{1}{2}$ inch to 2 feet, how many inches will 8 feet be?

Task 3:

- Using the diagram developed in Task 2, determine the fractional parts for each color. Create a table to show the fractional part for each color in ascending order (least to greatest).
- Using the table or the scale diagram, determine the area, in feet, of the barn quilt, covered by each color.
- Add a column to your table to show the area, in feet, of the barn quilt, covered for each color.

Color	Fractional Part	Area in Feet
Blue	$\frac{1}{4}$	18 square feet
Red	$\frac{1}{4}$	18 square feet
Yellow	$\frac{1}{2}$	32 square feet

Task 4: Use the chart below to help you with your calculations.

- Determine how much paint of each color you will need.
- Determine the cost of paint for each color and the total paint cost. (Remember, you may have to purchase more paint than you need.)

Coverage	Amount of Paint Needed	Cost
21 square ft.	1 cup	\$1.30
43 square ft.	1 pint (2 cups)	\$2.60
86 square ft.	1 quart (2 pints)	\$5.20

Blue paint needed: 1 cup at a cost of \$1.30

Red paint needed: 1 cup at a cost of \$1.30

Yellow paint needed: 1 pint at a cost of \$2.60

Total paint cost = \$5.20

Task 5: Write a quilt description card. Be sure to explain the pattern including the name of the pattern, the shapes used in the pattern, and the colors you chose. Include the fractional part represented by each color. Include the area covered by each color. Explain the cost calculations that you did. How much does each color of paint cost? Include the total cost of paint.

Task 5 Scoring Guide

Meeting

Barn Quilt Description Card includes:

- quilt pattern name
- shapes used in the pattern
- the colors used
- fractional part of whole for each color
- area covered by each color
- amount of paint needed for each color
- cost of each type of paint
- total paint cost calculations
- attached diagram

Developing

- Meets 7 out of 9 proficient criteria

Beginning

- Meets fewer than 7 of the proficient criteria
- Task to be repeated after re-teaching

Comments:

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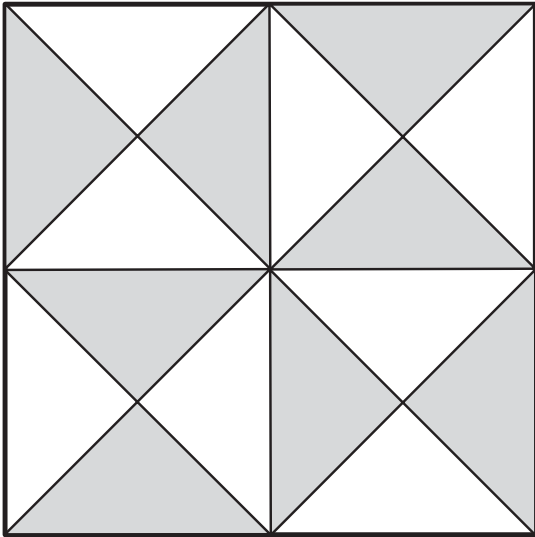
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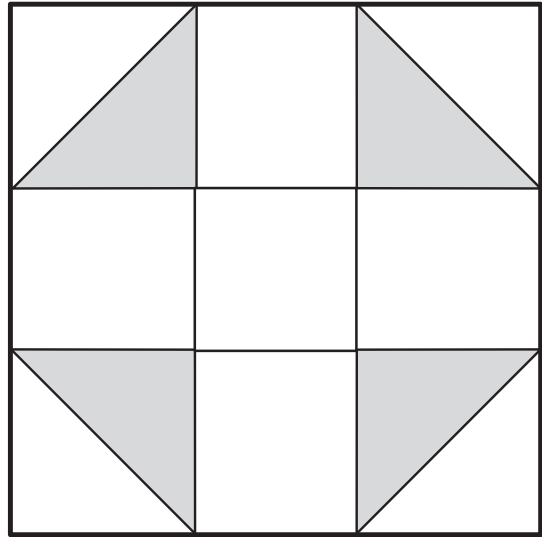
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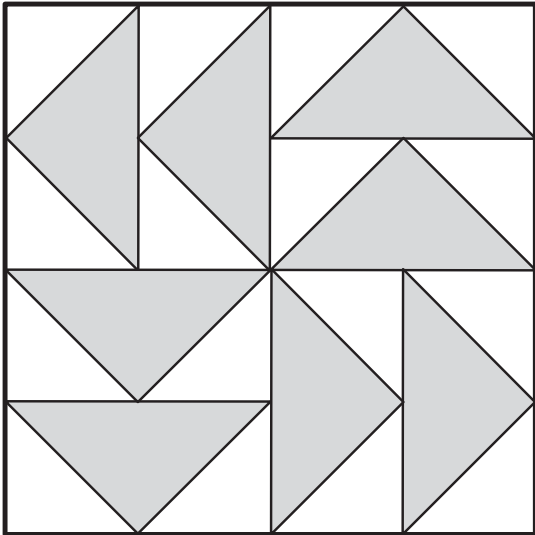
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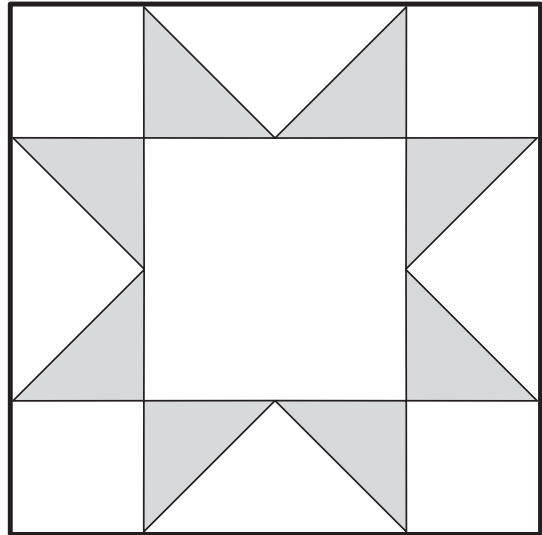
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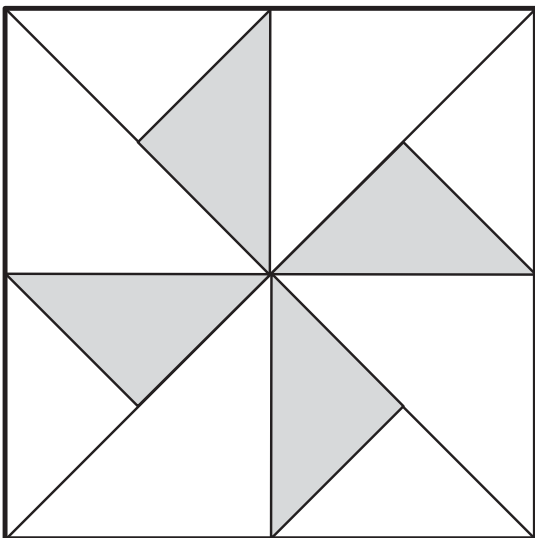
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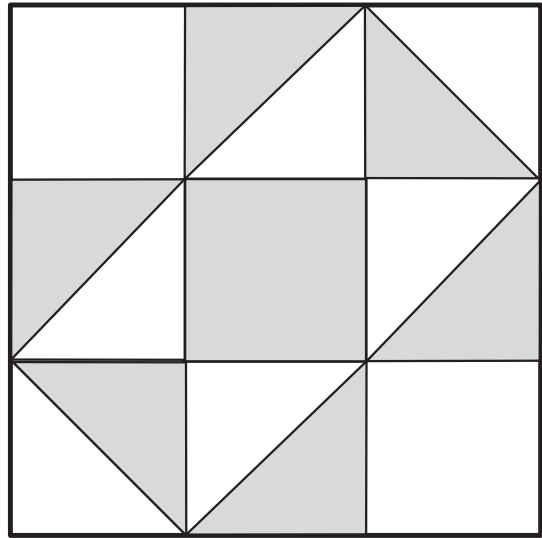
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