Factors and Relatively Prime With Color Tiles

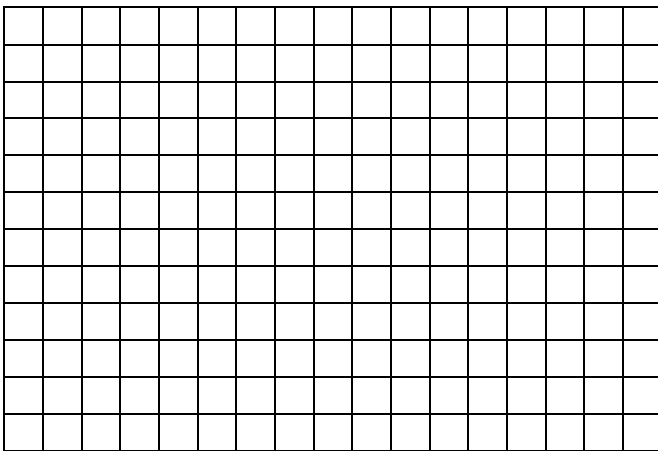Name_____

1. Before beginning this investigation, review the meaning for the following:
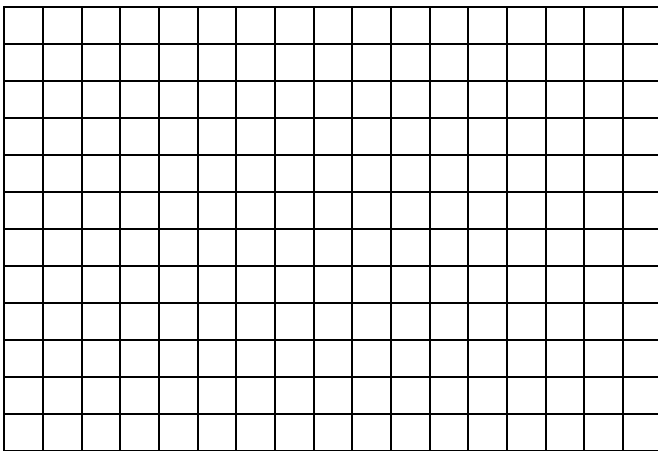
Prime number means

Composite number means

2. Build a rectangle using 8 Color Tiles. How many rows are in your rectangle? ____ Now, using 8 tiles again, build a different rectangle. How many rows in this one? ____ Build, sketch and label all the possible rectangles using 8 Color Tiles. All the possible dimensions are the factors for 8.
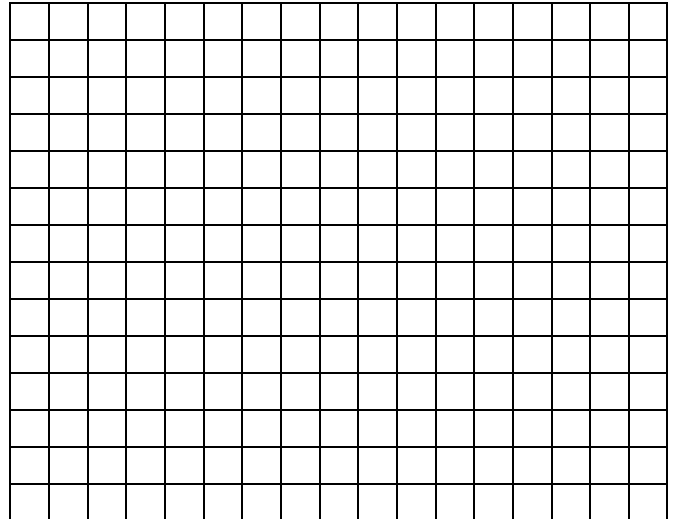
Complete this sentence: All possible factors for 8 are _____.

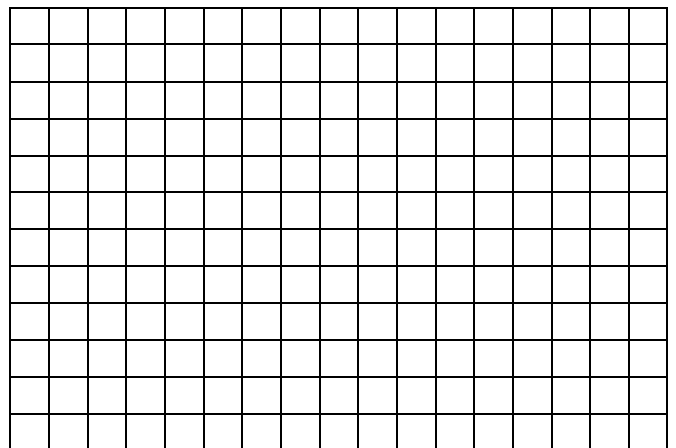**3.** Build as many different rectangles using 15 Color Tiles as you can. Sketch and label the dimensions.

Complete this sentence: All the possible factors for 15 are _____.

4. 8 and 15 are composite numbers. Sketch and label rectangles for three other composite numbers.
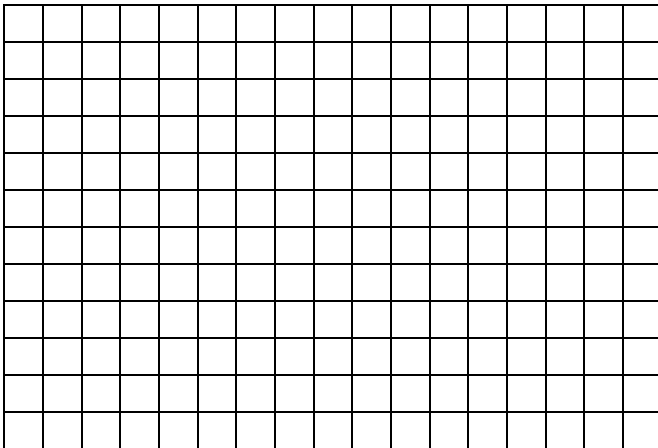
5. Build as many different rectangles using 11 Color Tiles as you can. Sketch and label the dimensions.

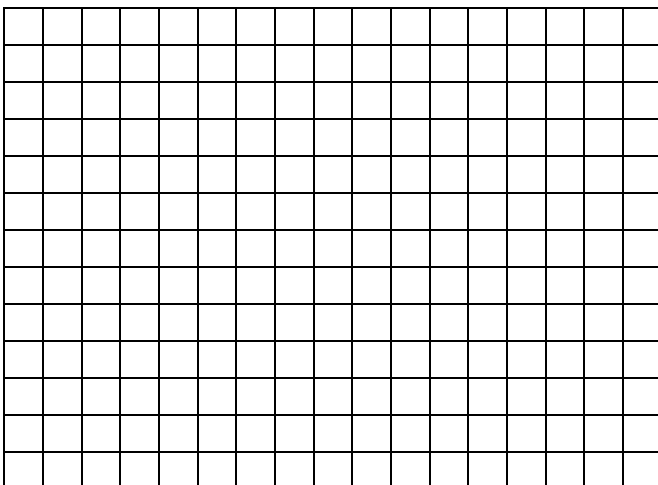Complete this sentence: All the possible factors for 11 are _____.

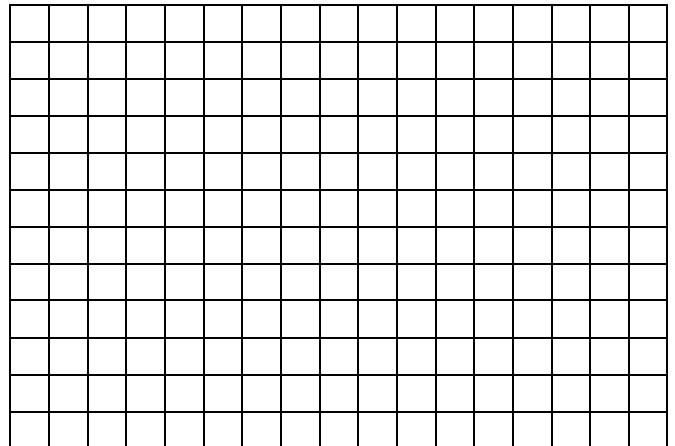**6.** 11 is a prime number. Sketch rectangles for three other prime numbers.

7. Describe how your thinking about prime and composite numbers has changed or grown by using the Color Tiles.
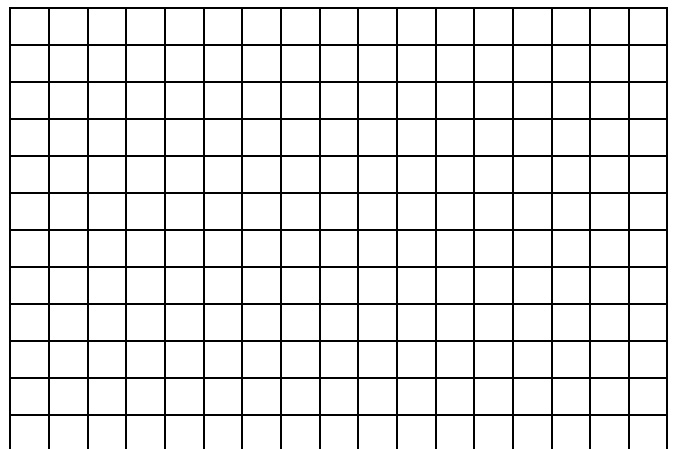
8. Now, build a rectangle using 6 Color Tiles and a second rectangle using 15 Color Tiles so that both rectangles have the same number of rows. Form other rectangles for 6 and 15 Color Tiles showing other possible rows in common? Build, sketch and label these rectangles to show all possible factors 6 and 15 have in common?
Common factors for 6 and 15 are:_____

9. Build one rectangle using 8 Color Tiles and a second rectangle using 12 Color Tiles, so that both rectangles have the same number of rows. Build, sketch and label these rectangles to show all the factors 8 and 12 have in common? Common factors for 8 and 12 are:_____

10. Build a rectangle using 8 Color Tiles and a second rectangle using 15 Color Tiles so that both rectangles have the same number of rows. Build, sketch and label these rectangles to show all the factors they have in common?
Common factors for 8 and 15 are: _____

11. When two numbers have no factors in common other than 1, we say they are relatively prime. Name two more pairs of numbers that are relatively prime and explain how you know they are relatively prime.