

Prime and Composite Number Mini Lab

Overview

Students will be able to identify prime and composite numbers.

Benchmarks

3-4th grade

Number, Number Sense and Operations

E. Recognize and classify numbers as prime or composite and list factors.

5-7th

G. Apply and explain the use of prime factorization, common factors, and common multiples in problem situations.

Vocabulary

Factor, prime number, composite number, prime factorization

Time

Approximately 1 hour

Materials

Square tiles (20 per student group), Prime Number Mini Lab worksheet (1 per student)

Procedure

1. Have students work in groups of two.
2. Give each group 20 square tiles and two worksheets. Instruct students that they can work with a partner to model the rectangles, but each student must complete their own table.
3. Inform students that any given number of squares can be arranged into one or more rectangles. Model how to form a rectangle using 2 squares. (You may need to review the definition of a rectangle.) Note a 1 x 2 rectangle is the same as a 2 x 1 rectangle. Sketch the rectangle in the center column and list the factors of 2 in the column to the right as 1 x 2.
4. Continue this process by modeling a rectangle using 3 squares. Ask students if they can make any other rectangle using 3 squares. Sketch the rectangle in the center column and list the factors 1 x 3 in the column on the right. Next ask the students to model a rectangle using 4 squares. Can they make more than 1? Sketch the rectangles and list the factors: 1 x 4 and 2 x 2.
5. Have students work their partners to continue this process for the numbers 5 through 20. Walk about the room observing and asking questions such as are you sure that is the only rectangle you can form?
6. Allow sufficient time for students to finish the activity. Have something for those who work faster to do while the others finish.