# Project 34

## Bricks Are A Factor

**Objective:** Child will be able to construct a fluid multiplication table to determine all of the whole number factored pairs for numbers and identify them as prime or composite numbers

**Essential Question:** How might we determine all the factored pairs for a number 1-100?

**Special Materials:** None
**Bricks Required:** Bricks of all the same sizes for a group of students.

**Project Structure:**
**Engage/Explain:**
1. Provide child with a simple composite number like 4.
2. Ask child for the whole number factors for the number 4.
3. Child should begin trying to figure this out, but they will be confused by the term "factor."
4. Tell child that you will quietly (without speaking) model for them how to find the whole numbered factors for 4. Ask child not to shout out while you are solving the factors—even if they know the answers.
   a. Demonstrate using bricks by lining up 4 bricks in 1 row. These are the first two factors (4, 1).
   b. Write them down.
   c. Proceed to move the bricks to make additional rows with even amounts (2 bricks, 2 rows).
   d. 3rd trial will give 1 brick 4 rows; the factors have just repeated.
5. Once complete, circle the 4 whole factors (1,4,2).

**Explore:**
1. Provide child with another number from 2-10 and ask them to use the bricks to determine all of the factors.
2. Repeat this process and facilitate child's work as they solve the numbers 2-10.
3. Question child as to why some numbers have factors, and others only are factored by themselves and 1.
4. Discuss composite and prime numbers.
5. Child should also catch on that factors are just multiplication of numbers.

**Explain/Elaborate:**
1. Ask child to find all the factors for numbers 1-100, and to identify them as composite or prime numbers.
2. Child may choose to abandon the manipulative table for finding factors and do them mentally.
3. Facilitate child to double check their factors.