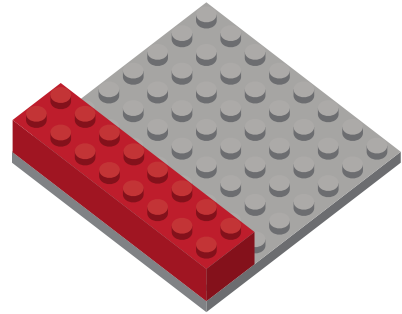


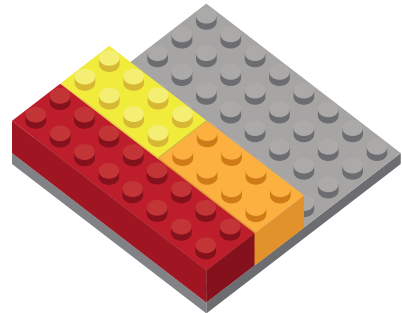
Teacher's Lesson Guide

Model how to find all the factors of 16

1. Place one 2x8 brick or one 1x16 brick on a baseplate. Have students draw this model and write the multiplication fact (*answer: $1 \times 16 = 16$*).



2. Find two bricks that are the same and, when placed next to the 16-stud brick, are equivalent in size and show two halves of the 16-stud brick. Use two 2x4 bricks or two 1x8 bricks. Have students draw this model and write the multiplication fact (*answer: $2 \times 8 = 16$*).

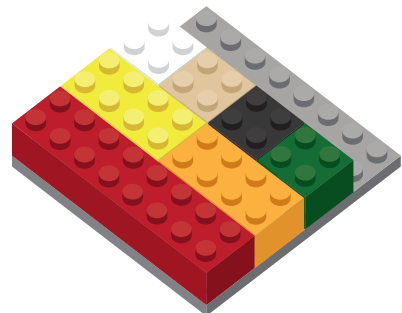


3. Ask students: Can you find three bricks of equal size equivalent to the size of the 16-stud brick?

Let students look and think, and discover that the answer is no.

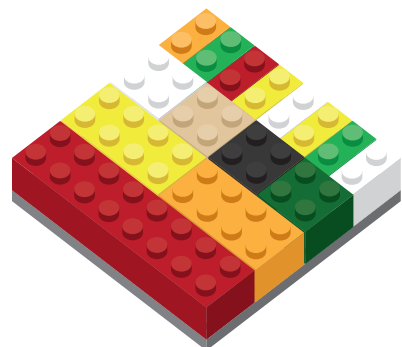
4. Ask students: Can you find four bricks of equal size equivalent to the size of the 16-stud brick?

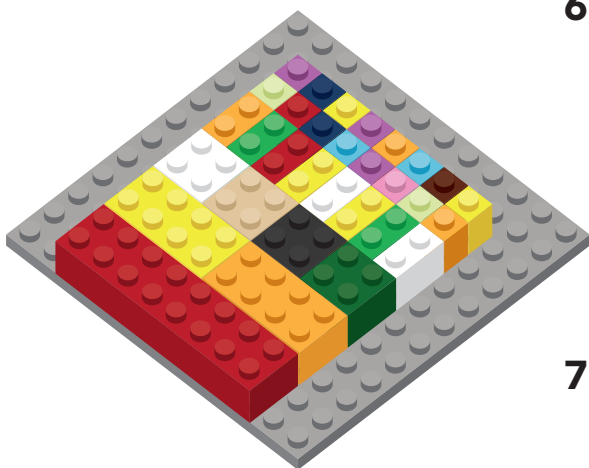
Let students look and think, and discover that the answer is four 2x2 bricks or four 1x4 bricks. Have students draw this part of the model and write the multiplication fact (*answer: $4 \times 4 = 16$*).



5. Ask students: Can you find the next number of equal-sized bricks that are equivalent to the size of the 16-stud brick?

Let students discover that five, six, and seven bricks don't work. Let them discover that the answer is eight 1x2 bricks. Have students draw this part of the model and write the multiplication fact (*answer: $8 \times 2 = 16$*).





6. Ask students: Can you find the next number of equal-sized bricks that are equivalent to the size of the 16-stud brick?

Let students discover that the answer is sixteen 1x1 bricks. Have students draw this part of the model and write the multiplication fact (*answer*: $16 \times 1 = 16$).

7. Name all the factors of 16 by looking at the bricks on the baseplate.

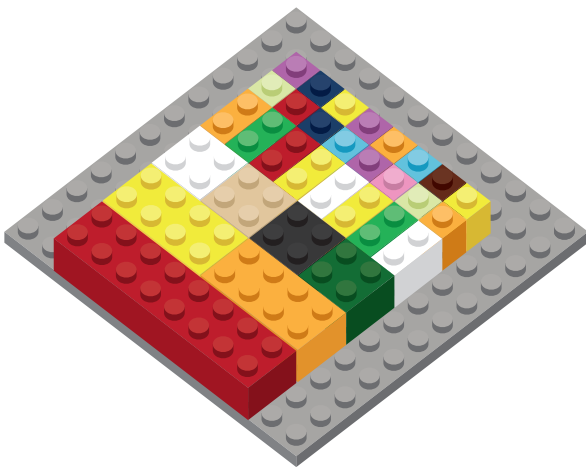
Answer: 16, 8, 4, 2, and 1.

Brick Math Lesson of the Month - March 2021

FACTORS OF 16

From Basic Fractions Using LEGO® Bricks

Student Workbook pages



Part 1

1. Build this model with bricks to show all the factors of 16:

Step 1: Place a 2x8 brick on a baseplate.

Step 2: Find two bricks of equal size that together are equivalent in size to the 16-stud brick, showing two halves of the 16-stud brick. Place them next to the 16-stud brick.

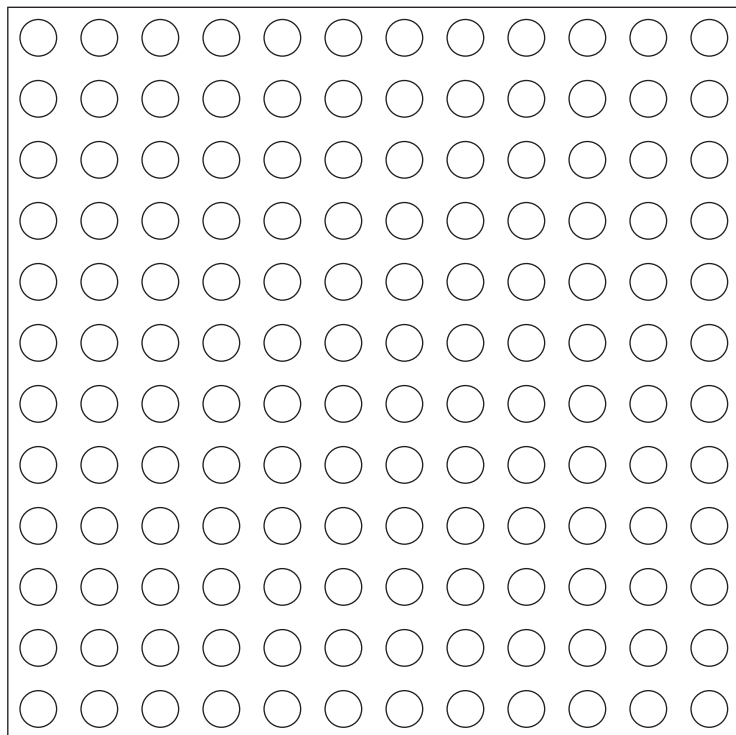
Step 3: Find four bricks of equal size equivalent in size to the 16-stud brick and place them next to the step 2 bricks.

Step 4: Find the next number of equal-sized bricks that are equivalent to the size of the 16-stud brick and place them next to the step 3 bricks.

Step 5: Find the next number of equal-sized bricks that are equivalent to the size of the 16-stud brick and place them next to the step 4 bricks.



Draw your model.



Using the model, list all the factors of 16.
