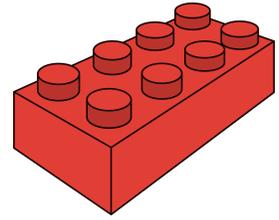
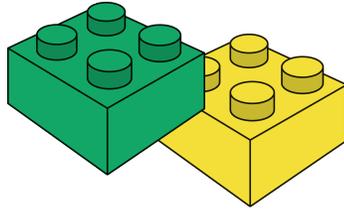


# HELP KIDS DISCOVER THE PRIME NUMBERS... WITH LEGO BRICKS!



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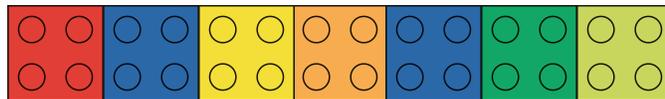
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# DISCOVER PRIME NUMBERS WITH BRICKS

A prime number is a number greater than one whose only factors are itself and one.

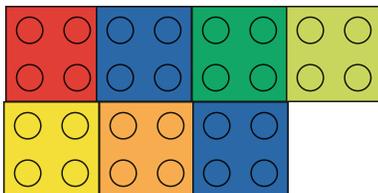
You can determine if a number is prime by testing to see if you can build a rectangle with that number of bricks.

Example: 7

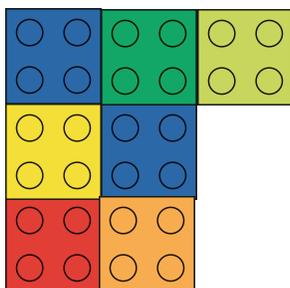


We can make a rectangle like this! This represents  $1 \times 7$ , or the factors 1 and 7.

Can we arrange the bricks in a different way to make a rectangle with sides that are 2 bricks or larger? If 7 is not prime, then it must have factors besides just 1 and 7.

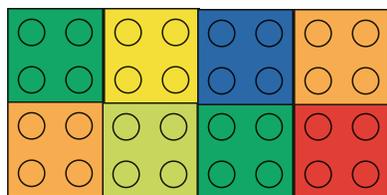


Hmm, this is not a rectangle. We didn't find any factors here.



This is not a rectangle either. There is no way to arrange 7 bricks so that they make a rectangle, other than building a rectangle that is 1 brick  $\times$  7 bricks. Therefore, 7 is a prime number.

Let's try 8.



We can arrange 8 bricks in a long  $1 \times 8$  rectangle, and we can also build a  $2 \times 4$  rectangle. The factors of 8 are 1, 2, 4, and 8. So 8 is NOT a prime number!

Use your bricks to test the whole numbers 2 and greater. Make a chart to record which numbers are prime, and which numbers are composite (not prime).

# PRIME NUMBERS RECORDING SHEET

Use square LEGO bricks to determine which numbers from the set of whole numbers are prime. Start with 2. Record each number on either the prime side or the composite (not prime) side.

Prime Numbers

Composite Numbers  
(Record the factors)

Example: 10 (1, 2, 5, 10)