

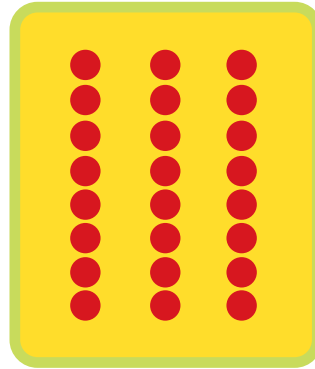
Multiples and Factors

- You need** 2 dice (one labelled 1–6, the other labelled 4–9)
 transparent counters in 2 colours a classmate

Activity One

To play the Multiples and Factors game, you need to know what multiples and factors are.

Multiples are groups of a number. When you divide any of the multiples by the number, there is no remainder.

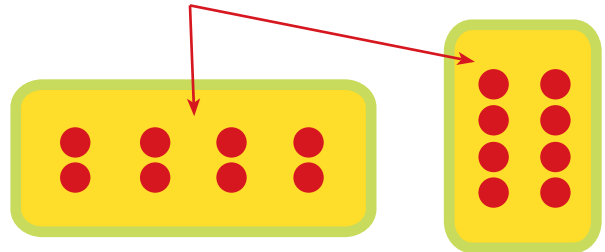


For example, counting in groups of 8 gives you these multiples: 8, 16, 24, 32, and so on. If you divide a multiple of 8 by 8, there is no remainder. For example, $24 \div 8 = 3$.

Factors: A factor is a number that is multiplied by another number to create a product. If you divide a product by one of its factors, there will be no remainder.



For example, $2 \times 4 = 8$ and $4 \times 2 = 8$, so 2 and 4 are both factors of 8.



1. List some multiples of 7.
2. There are 8 factors of 24. List them.



Game



I've thrown 2 and 4.
 $2 \times 4 = 8$. 8 is a factor of ...

Instructions

- Take turns to throw the two dice and multiply the numbers together. Use one of your counters to cover a square on the game board that is true for your multiplication answer (the product). (You cannot put your counter on a covered square.)
- The winner is the first player to get four of their coloured counters in a row: across, down, or diagonally.
- If you throw a double, take off any one of your opponent's counters. Then cover a square if you can.
- If you can't cover a square after your throw, you miss that turn.

The product of the two dice is:

A number with more than two factors

A factor of 24

A multiple of 7

A multiple of 2

A multiple of 3

A multiple of 9

A factor of 16

A prime number (only two factors)

An odd number

A multiple of 4

A multiple of 5

A factor of 12

A multiple of 8

An even number

A factor of 60

A multiple of 6

7 has only two factors, 7 and 1. So 7 is a prime number.



Activity Two

1. a. What's the highest possible product you could get from throwing your two dice that would let you cover either "a factor of 16" or "a factor of 24"? Explain your answer.
b. What's the highest possible product you could get that would let you choose between "a factor of 12", "a factor of 16", or "a factor of 60"?
2. a. What's the lowest possible product you could get that would let you cover either "a multiple of 3" or "a multiple of 7"?
b. What's the lowest possible product you could get that would let you choose between "a multiple of 2", "a multiple of 3", and "a multiple of 5"?

