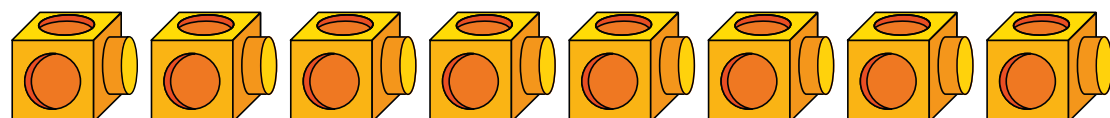


# Cube numbers



- 1 a) Fit 8 multilink cubes together to make a larger cube.



- b) Is it possible to fit 9 multilink cubes together to make a larger cube? \_\_\_\_\_

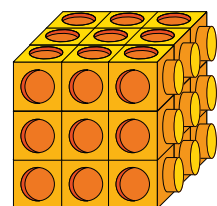
Explain your answer.

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- 2 Filip makes a cube using some smaller cubes.



- a) How many cubes make up this cube?

- b) How did you work out the number of cubes?

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- c) This number is an example of a cube number.

Why do you think it is a cube number?



- 3 a) Complete the table of cube numbers.

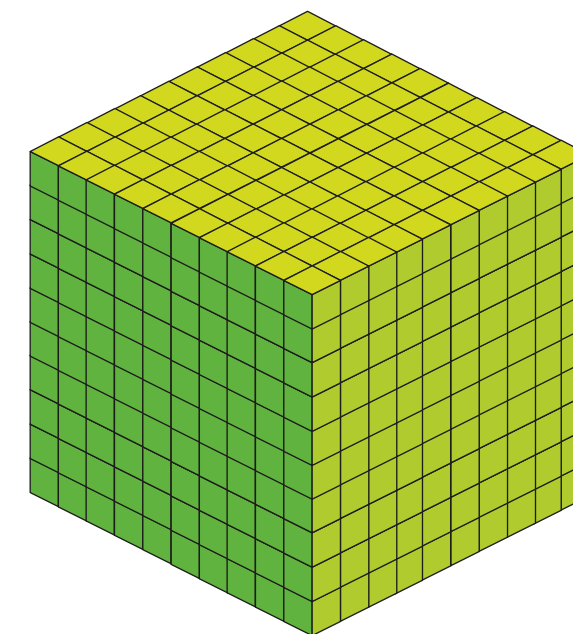
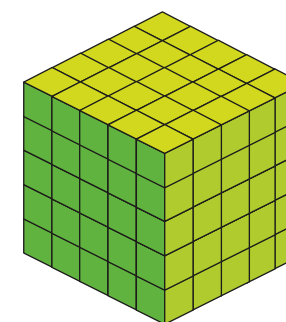
|       |                       |   |
|-------|-----------------------|---|
| $2^3$ | $2 \times 2 \times 2$ | 8 |
| $3^3$ | $3 \times 3 \times 3$ |   |
| $4^3$ | $4 \times 4 \times 4$ |   |

- b) What would the next cube number in the table be?

$$\square^3 = \square \times \square \times \square = \square$$

- 4 Complete the statements.

Use the cubes to help you.



a)  $5^3 =$

5 cubed =

$5 \times 5 \times 5 =$

b)  $10^3 =$

10 cubed =

$10 \times 10 \times 10 =$

5 a) Which calculation is the same as  $6^3$ ?

Tick your answer.

$6 \times 3$

☐

$6 + 6 + 6$

☐

$6 \times 6 \times 6$

☐

b) Kim has worked out  $6^3$  using this method.

$$\begin{aligned} 6^3 &= (6 \times 6) \times 6 \\ &= 36 \times 6 \\ &= 216 \end{aligned}$$

|   |                     |                   |
|---|---------------------|-------------------|
|   | 30                  | 6                 |
| 6 | $30 \times 6 = 180$ | $6 \times 6 = 36$ |
|   | $180 + 36 = 216$    |                   |

Is Kim's method correct? \_\_\_\_\_

How do you know?

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c) Match the cube numbers to the calculations.

One has been done for you.

$4^3$

$4 \times 2$

$5^3$

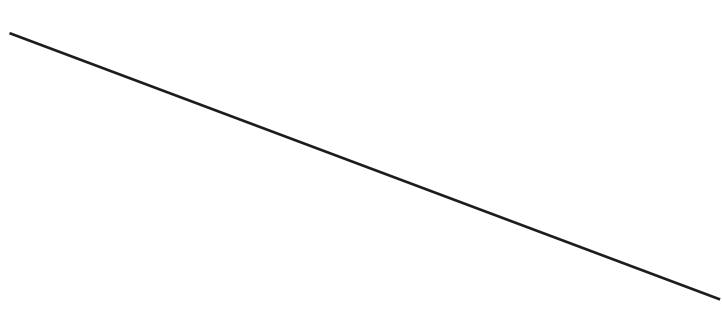
$9 \times 3$

$2^3$

$16 \times 4$

$3^3$

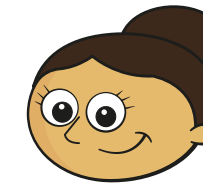
$25 \times 5$



6 Calculate  $7^3$

7

$1^3$  is 1, and  
 $3^3$  is 9



What mistake has Dora made?

Why might she have made this mistake?

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8 Scott's age is a cube number.

His sister is 2 years younger than him.

Her age is a square number.

In 3 years, Scott's age will be a multiple of 10

How old is Scott?

Scott is  years old.

