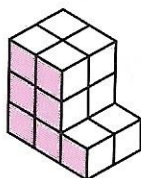**TARGET**   To recognise volume by using 1 cm³ blocks to build and visualise cuboids.
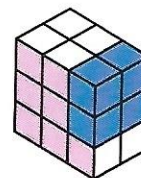
The volume of a shape is the amount of space it fills.
It is measured in cubic units, such as cubic centimetres (cm³).

Examples

Fourteen 1 cm³ blocks are needed to build this shape.
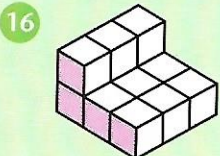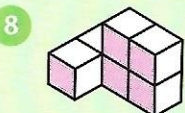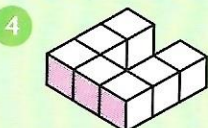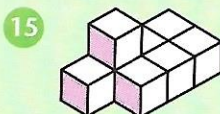The volume of the shape is 14 cm³.

Four 1 cm³ blocks are needed to complete the cuboid.
The volume of the cuboid is 18 cm³.

A

For each of the following shapes write down:

a) how many 1 cm³ blocks are needed to build the shape

b) how many more 1 cm³ blocks are needed to turn the shape into a cube or cuboid

c) the volume of the cube or cuboid.

1
5
9
13

2
6
10
14

3
7
11
15

4
8
12
16
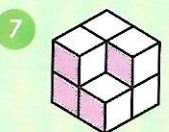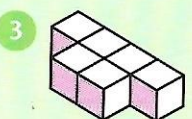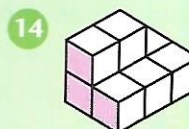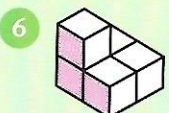
B

For each of the following shapes write down:

a) the volume of the shape

b) the number of 1 cm³ blocks needed to turn the shapes into a cube or cuboid
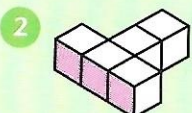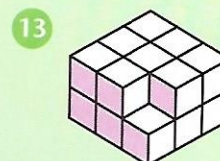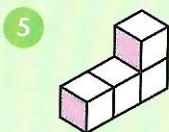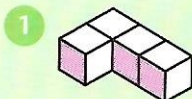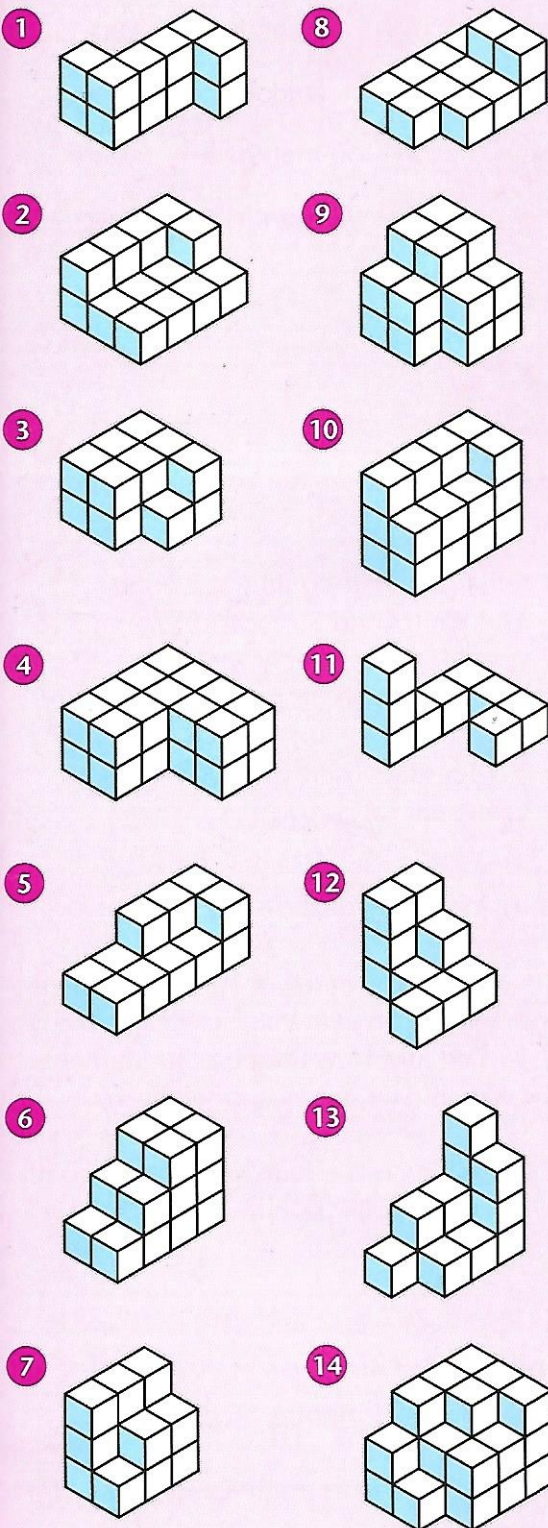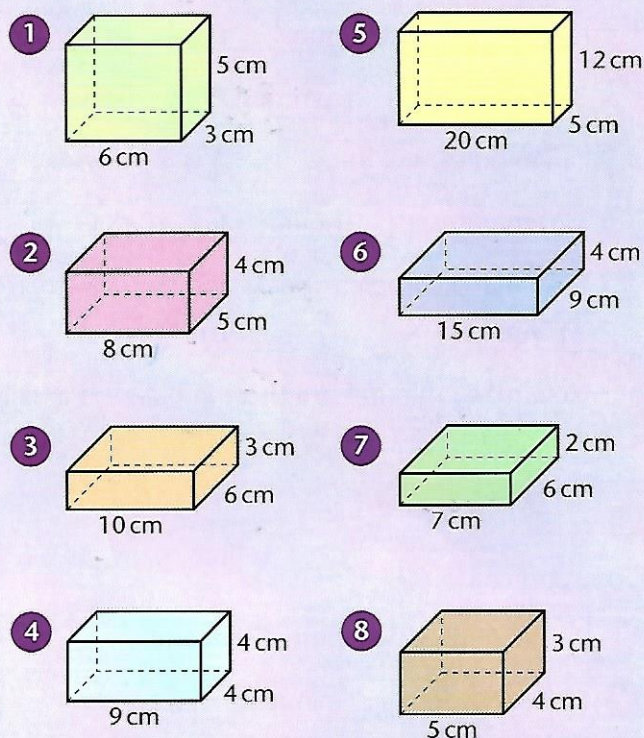
c) the volume of the cube or cuboid.

1

8

2

9

3

10

4

11

5

12

6

13

7

14

C

For each of the following shapes write down:

a) the number of 1 cm³ needed to cover the base of the cuboid

b) the number of layers of 1 cm³ needed to fill the cuboid

c) the volume of the cuboid.

1
5 cm, 3 cm, 6 cm

5
12 cm, 5 cm, 20 cm

2
4 cm, 5 cm, 8 cm

6
4 cm, 9 cm, 15 cm

3
3 cm, 6 cm, 10 cm

7
2 cm, 6 cm, 7 cm

4
4 cm, 4 cm, 9 cm

8
3 cm, 4 cm, 5 cm

9 The formula for the volume of a cuboid is:

VOLUME = LENGTH × WIDTH × HEIGHT

Use this formula to copy and complete the table.

LENGTH	WIDTH	HEIGHT	VOLUME
7 cm	2 cm	3 cm	42 cm³
25 cm	10 cm		3000 cm³
6 cm	4 cm	5 cm	
8 cm		4 cm	96 cm³
	8 cm	5 cm	480 cm³
9 cm	5 cm	6 cm	
15 cm	6 cm		360 cm³
10 cm	7·5 cm		450 cm³

10 What is the volume of a cube with 20 cm edges?