

# Luna's Space Adventure

Grade 3 · Building with cubes · OK.3.GM.1.2

Name \_\_\_\_\_

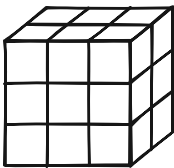
Date \_\_\_\_\_



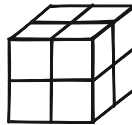
*Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!*

## How many cubes to build it?

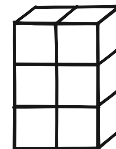
Count the cubes in the top layer, then count the layers. Some cubes are hidden behind.



cubes



cubes



cubes

## Plan the build

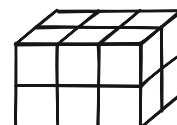
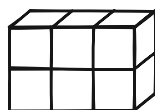
 One layer, then how many layers.

A layer 2 cubes long and 3 wide, stacked 4 layers high. How many cubes? \_\_\_\_\_

A layer 2 cubes long and 3 wide, stacked 2 layers high. How many cubes? \_\_\_\_\_

A layer 3 cubes long and 3 wide, stacked 3 layers high. How many cubes? \_\_\_\_\_

## Which takes more cubes?

 Circle the one built from more cubes.

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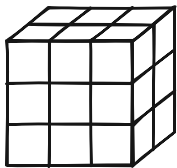
ANSWER KEY



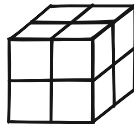
Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!

## How many cubes to build it?

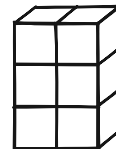
Count the cubes in the top layer, then count the layers. Some cubes are hidden behind.



18 cubes



8 cubes



6 cubes

## Plan the build

One layer, then how many layers.

A layer 2 cubes long and 3 wide, stacked 4 layers high. How many cubes?

24

A layer 2 cubes long and 3 wide, stacked 2 layers high. How many cubes?

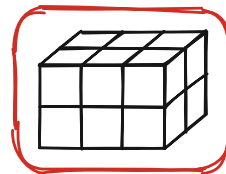
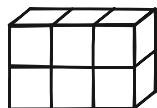
12

A layer 3 cubes long and 3 wide, stacked 3 layers high. How many cubes?

27

## Which takes more cubes?

Circle the one built from more cubes.



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GUIDE

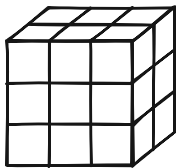
## 1 What this sheet practises

Counting the unit cubes in a building, including the hidden ones, by counting one layer and then the layers.

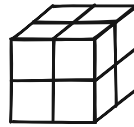
## 2 A problem from the sheet, worked out

### How many cubes to build it?

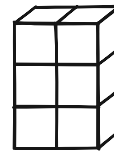
Count the cubes in the top layer, then count the layers. Some cubes are hidden behind.



18 cubes



8 cubes



6 cubes

**How:** Count the cubes in the top layer (rows  $\times$  cubes in a row), then multiply by how many layers tall it is.

## 3 Words to know

**unit cube** a cube 1 unit on every side

**layer** one flat level of cubes

**solid figure** a shape that takes up space

**hidden** behind or under, not seen in the picture

## 4 Watch for

- Counting only the cubes you can see and missing the ones behind.
- Counting a cube twice where two faces show.
- Adding the layers' sizes instead of multiplying.

## 5 Where it fits

BEFORE

**3.MD.C.5**

Understand area as how many unit squares cover a shape.

THIS SHEET

**3.GM.1.2**

Build a solid figure from unit cubes to match a picture.

NEXT

**5.MD.C.3**

Understand volume as how many unit cubes fill a solid.

## 6 Helping at home

Build a block with sugar cubes or building bricks and count them. Then guess how many a block twice as tall needs.

