

# Luna's Space Adventure

Grade 5 · What is volume? · 5.MD.C.3

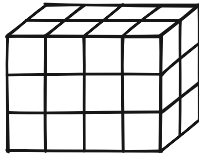
Name \_\_\_\_\_

Date \_\_\_\_\_

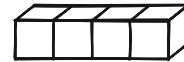


*Astronaut Luna is exploring a far-off corner of space. Solve each problem to help Luna's mission go smoothly!*

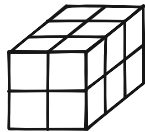
**Count the cubes** Each small cube is 1 cubic unit. Count hidden cubes too.



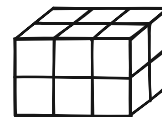
**cubic units**



**cubic units**



**cubic units**



**cubic units**

**True or false?** Circle one.

Volume is measured in square units.

**true**      **false**

A cube 1 unit on each side has a volume of 1 cubic unit.

**true**      **false**

Volume measures how much space a solid takes up.

**true**      **false**

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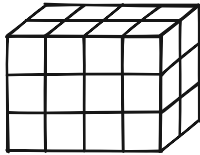
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ANSWER KEY



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

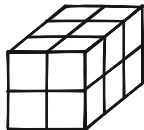
**Count the cubes** Each small cube is 1 cubic unit. Count hidden cubes too.



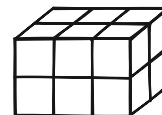
24 cubic units



4 cubic units



12 cubic units



12 cubic units

**True or false?** Circle one.

Volume is measured in square units.

true **false**

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**true** false

Volume measures how much space a solid takes up.

**true** false

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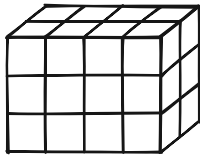
GUIDE

## ① What this sheet practises

What volume is: how many unit cubes fill a solid, with no gaps or overlaps, counted in cubic units.

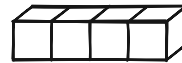
## ② A problem from the sheet, worked out

**Count the cubes** Each small cube is 1 cubic unit. Count hidden cubes too.



24

cubic units



4

cubic units

**How:** Count every cube in the solid exactly once, including the ones hidden at the back and underneath. That count is the volume in cubic units.

## ③ Words to know

**volume** how much space a solid takes up

**unit cube** a cube 1 unit long on every edge

**cubic unit** the unit for volume

**solid** a 3D shape

## ④ Watch for

- Counting only the faces you can see and missing hidden cubes.
- Counting a corner cube twice because it shows on two sides.
- Giving the answer in square units instead of cubic units.

## ⑤ Where it fits

BEFORE

**3.MD.C.5**

Understand area as how many unit squares cover a shape.

THIS SHEET

**5.MD.C.3**

Understand volume as how many unit cubes fill a solid.

NEXT

**5.MD.C.4**

Measure volume by counting unit cubes.

## ⑥ Helping at home

Build shapes from sugar cubes, dice or blocks and count the cubes. Try making two different shapes with the same volume.