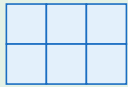


COUNT THE CUBES IN A SMALL TOWER

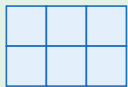
- 1 Look at the tower built from unit cubes. The bottom layer has 2 cubes side by side.
- 2 A second layer sits on top with another 2 cubes.
- 3 Add the layers: $2 + 2 = 4$. The volume is 4 unit cubes.

WARM-UP

Use the cuboid of unit cubes drawn below.



layer 1

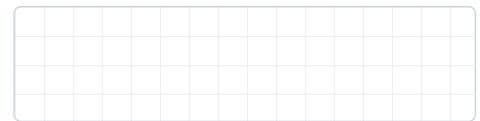
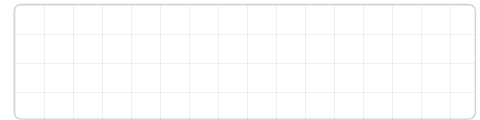


layer 2

1. Count every unit cube in the $3 \times 2 \times 2$ building to find its full volume
2. Mark a $2 \times 2 \times 2$ block of 8 cubes inside the same drawing
3. Shade one front row that holds 4 cubes

PRACTICE

- 1 You build a little tower for a model house using 3 building cubes stacked up. What is its volume in unit cubes?
- 2 On the making table you lay 2 rows of 2 cubes to start a base. How many unit cubes fill that solid?
- 3 You have built a tower from 4 cubes and left 1 cube loose. Count only the tower: what volume does it have?
- 4 You pack a small gift box that is 2 cubes wide, 2 deep and 2 high. How many unit cubes fill the whole solid?
- 5 You stack a second layer of 3 building cubes on top of a first layer of 3. Count every cube, even the hidden ones.



? ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

- | | |
|---|--|
| a. Volume is found by counting the unit cubes that fit inside a solid. ☐ | c. You only count the cubes you can see from the front. ☐ |
| b. Cubes hidden under the top layer are still counted in the volume. ☐ | d. Two different shapes made of cubes have the same volume. ☐ |

REFLECT

How is counting cubes for volume like counting squares for area?