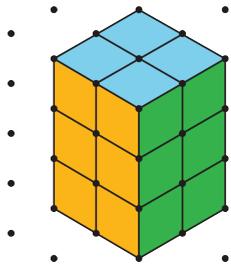




## 12.3: Building with Snap Cubes

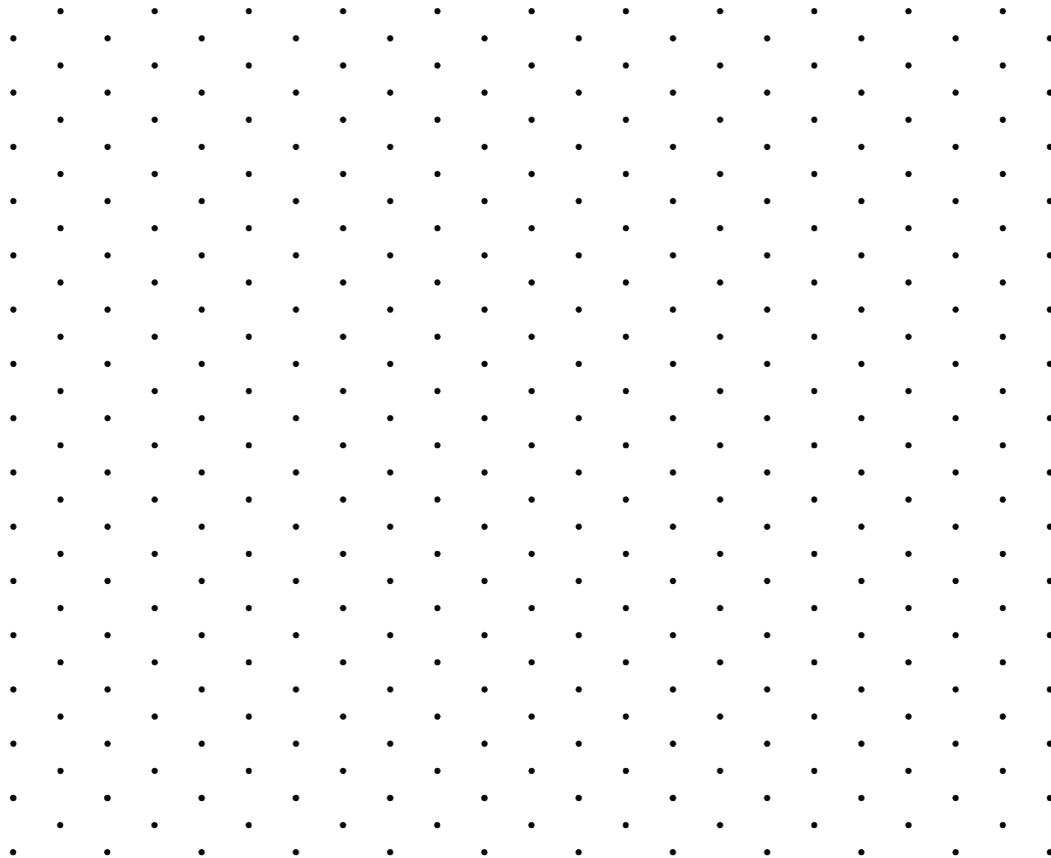
Here is a sketch of a rectangular prism built from 12 cubes:



It has six **faces**, but you can only see three of them in the sketch. It has a **surface area** of 32 square units.

Your teacher will give you 12 snap cubes. Use all of your snap cubes to build a different rectangular prism (with different edge lengths than the prism shown here).

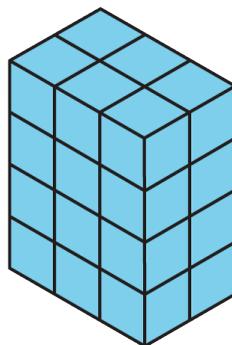
1. How many faces does your figure have?
2. What is the surface area of your figure in square units?
3. Draw your figure on isometric dot paper. Color each face a different color.



## Lesson 12 Summary

- The **surface area** of a figure (in square units) is the number of unit squares it takes to cover the entire surface without gaps or overlaps.
- If a three-dimensional figure has flat sides, the sides are called **faces**.
- The surface area is the total of the areas of the faces.

For example, a rectangular prism has six faces. The surface area of the prism is the total of the areas of the six rectangular faces.



So the surface area of a rectangular prism that has edge-lengths 2 cm, 3 cm, and 4 cm has a surface area of

$$(2 \cdot 3) + (2 \cdot 3) + (2 \cdot 4) + (2 \cdot 4) + (3 \cdot 4) + (3 \cdot 4)$$

or 52 square centimeters.