Represent Three-Dimensional Figures in Two Dimensions

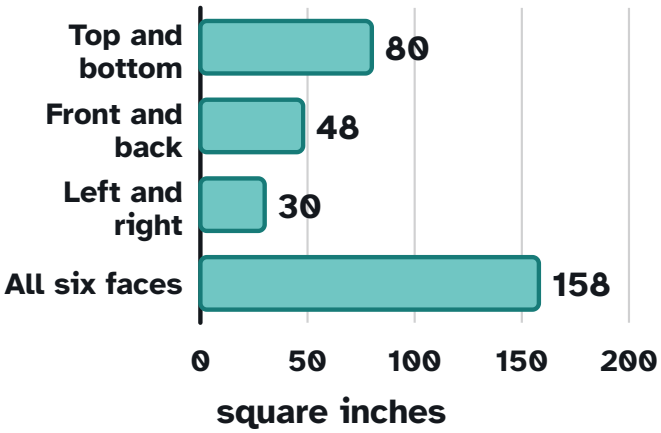
Find the surface area of a box by unfolding it into a net and adding all six faces.

Name _____ **Date** _____

Tonight's spark

A box is 8 inches long, 5 inches wide, and 3 inches tall. You want to wrap it in paper with no gaps and no overlap. How many square inches of paper do you need?

Guess first: more or less than 100 square inches?



Our class model: unfold the box into a net

Try it

Work it out on paper. Write one answer on each line.

1 **How many faces does a rectangular box have?**

A. 4 **B.** 6 **C.** 8 **D.** 12

My answer _____

2 **What is a net?**

A. A flat pattern that folds into a solid **B.** The space inside a solid

C. The sum of all the edges **D.** A picture of a box from the side

My answer _____

3 **One face of a box is 5 cm by 2 cm. What is the area of that face?**

A. 7 cm^2 **B.** 14 cm^2 **C.** 10 cm^2 **D.** 20 cm^2

My answer _____

4 **A box's net has 2 faces of 12 square units, 2 faces of 8 square units and 2 faces of 6 square units. What is the surface area?**

A. 26 square units **B.** 46 square units **C.** 104 square units **D.** 52 square units

My answer _____

5 **A cube has edges of 3 cm. What is its surface area?**

A. 9 cm^2 **B.** 54 cm^2 **C.** 14 square units **D.** 27 cm^2

My answer _____

Talk about it

How many faces does your box have, and which faces match each other?

Home mission

Open an empty cereal box flat along its seams. Count the faces. Which faces match? Can your student fold it back and say why the box has 6 faces?

If we get stuck, ask

- How many faces does the box have? Let's find each one.
- Each face has a matching face. Did we double every pair?
- What units should the answer have — square or cubic?

Do it on a screen

Scan or type the link. Same lesson, with hints.

eduwonderlab.com/lessons/5-6/homework.html

How did it feel? (optional)

Tricky Getting there Got it