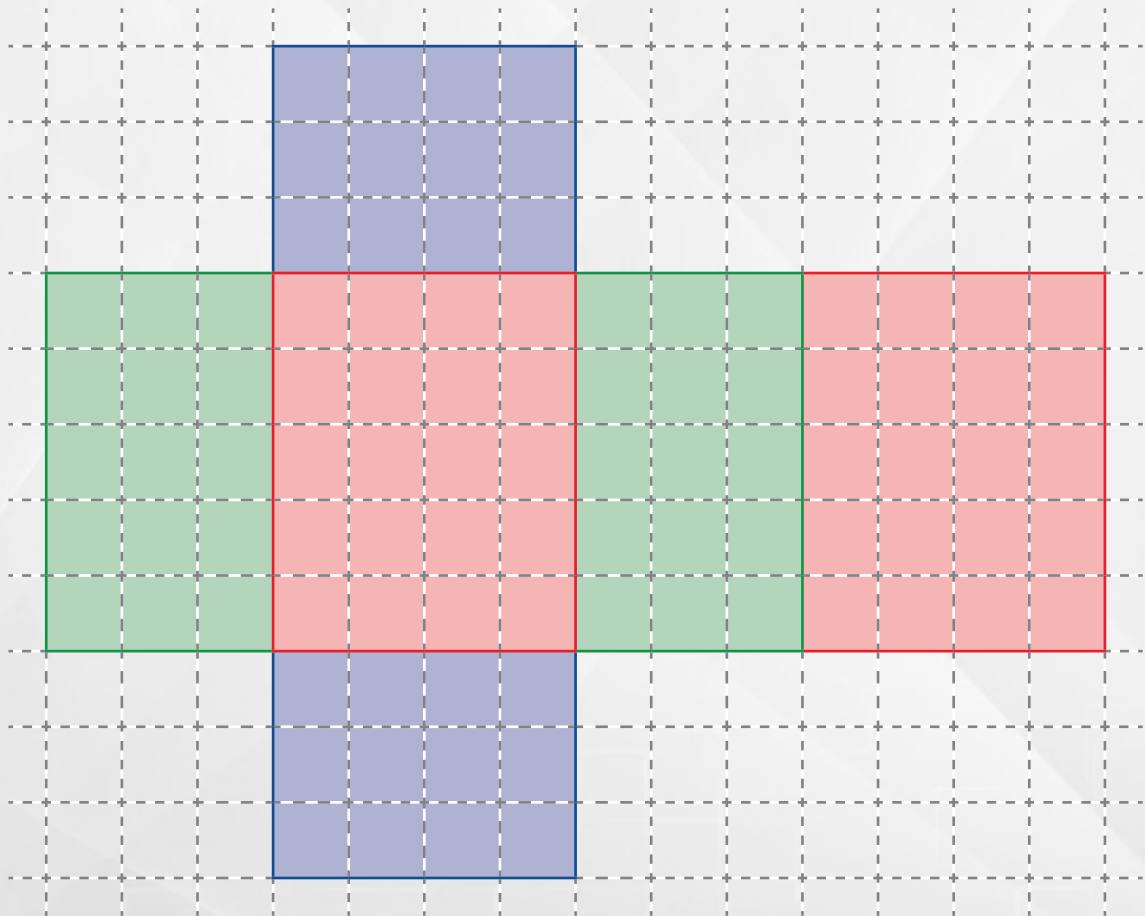




WRAPPING A PRISM



Wrapping a Prism

What's the point of this task?

There are different strategies students can use to figure out the surface area of a rectangular prism. Some might draw nets; others might visualise the faces in three dimensions. No matter how the problem is approached, students will need to recognise that rectangular prisms have 3 pairs of congruent opposite rectangular faces.

The total area selected was 75 square units, rather than 70 square units, for example, since if students use whole-number dimensions the surface area is an even number, not an odd number. The use of 75 forces students to think about the phrase "close to." Some students, no doubt, will use decimal or fractional dimensions, though.

Although some students will use formulas for the area of a rectangle, students who are uncomfortable with the formulas can use the grid background to help them.

Questions to facilitate the learning

- How many separate areas do you have to calculate to figure out the surface area?
- Could the dimensions have been whole numbers or did they have to be fractions or decimals?
- If you increase the length by 1 and width by 1, do you keep the same surface area or not?
- How do you know your results are correct?

Curriculum connections

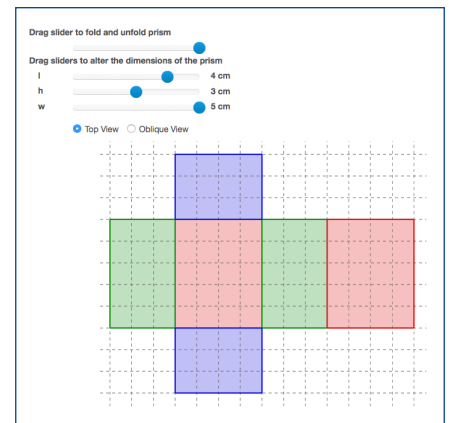
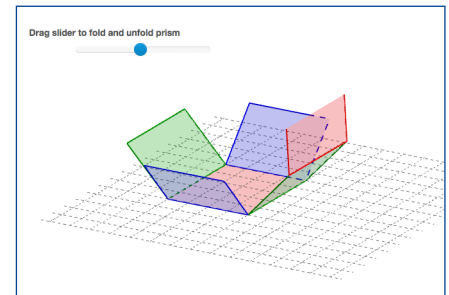
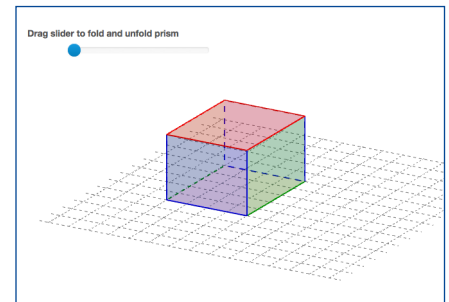
This activity relates to finding the surface area of a rectangular prism. Addition, doubling and multiplication are also practised. Fractions and decimals may be explored, depending on the dimensions selected by the student.

Scaffolding the learning

- How many faces does the prism have? What do they look like?
- Why do some of the faces have to have the same dimensions? Do all of them?
- Suppose you made the height a big number. What does that mean about the length and width?
- Suppose you interchanged what you called the length and what you call the width. Would you have the same prism with the same surface area or a different one?

Extending the learning

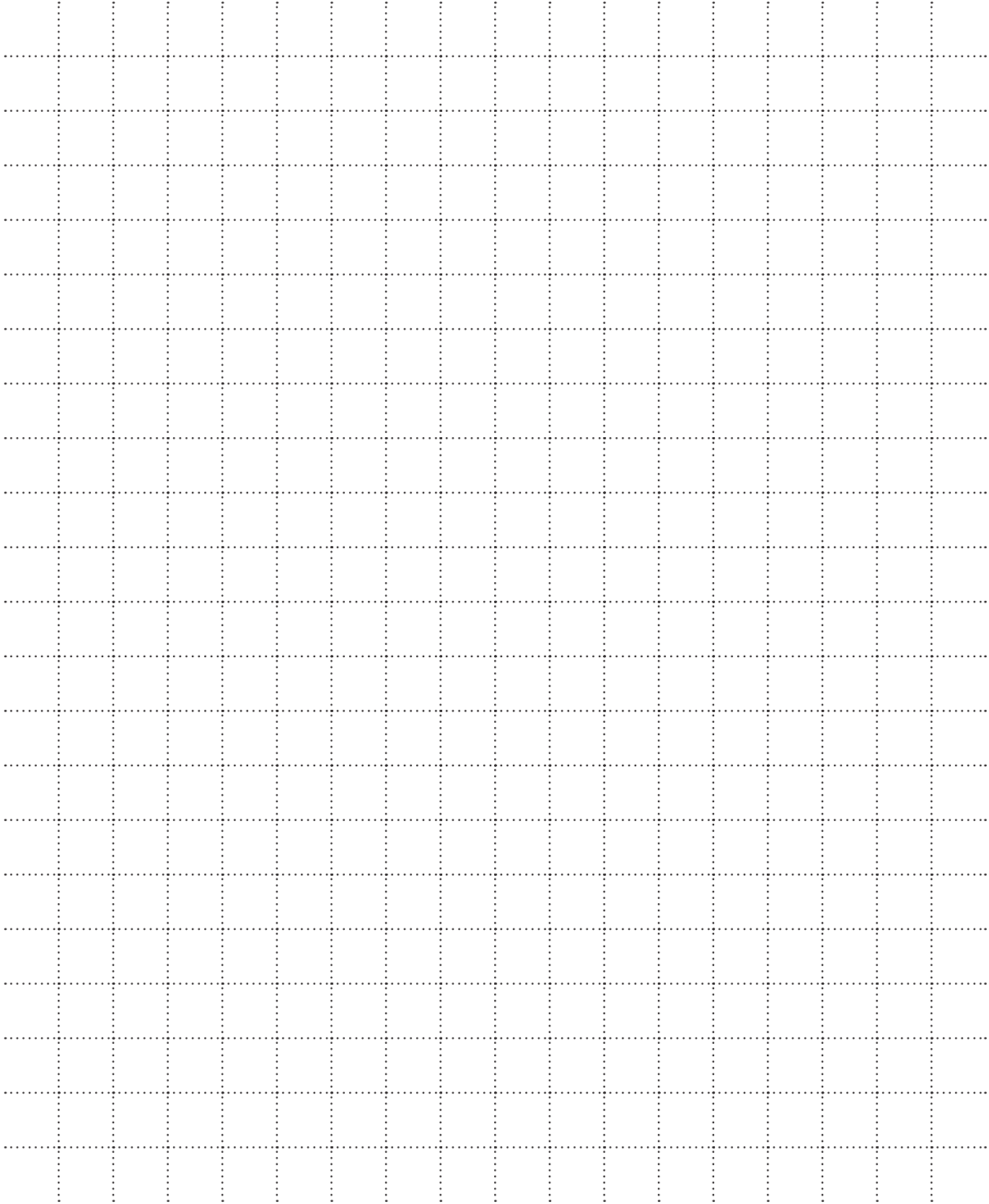
Students might use a triangular prism instead, or the surface area could have been 30 cm² instead.



Wrapping a Prism

The surface area of a rectangular prism is close to 75 cm^2 .

What could the length, width, and height be?



Name _____