

# Engineering

## Grid sheet for use with area and perimeter

### Purpose

This resource is designed to be used with [Engineering: Area and perimeter](#). By providing learners with the grid below, they can begin to explore the connections between the perimeter and the area of a shape or object.

### Instructions

There are many ways of using grids to develop knowledge about the perimeter and area. The instructions below align with the learning sequence presented in.

1. Hand out grid paper to each learner.
2. Inform learners that each square represents one square metre ( $1\text{m}^2$ ) and that each side represents one metre.
3. Give learners the following challenge: "What is the largest area that can be made, using a perimeter of 24 metres?"
4. Learners then use the grid paper to explore the different areas that can be made with this perimeter (See Engineering: Area and perimeter for a scenario and explanation).
5. Once learners have marked out several perimeters, engage them in a class discussion regarding the different areas that can be made.
6. Ask learners to identify a pattern: Which shapes result in the smallest areas and which result in the largest? Is there a trend?
7. Have the learners express this pattern in a sentence. For example, a learner may say, "The more even the sides, the larger the area."

### Follow-up

1. A useful tool for facilitating the whole class discussion in step 5 above, is to project the grid onto a whiteboard. This enables you, or the learners, to draw their area onto the grid so the whole class can see it.
2. If learners are comfortable with the pattern, the more even the sides the larger the area, it may be a good time to introduce the concept of a circle. Does a circle with a 24m. perimeter (circumference) have a greater or lesser area than a square? Why?



## Grid: Area and perimeter

