

The area of rectangles

I am learning to measure the area of rectangles.

Equipment: Dotty arrays

Using materials: Explain that area is the word we use when we are talking about the size of a surface. When we talked about perimeter we said it was like the fence around a paddock. Area is like all the grass which is inside the fence.

Give students a dotty array which is 4 dots wide and 5 dots high. Ask students if there is a quick way to work out how many dots there are. Students should suggest that (4 X 5) or (5 X 4) will find the number of dots.

Now present a dotty array which is 3 boxes wide and 6 boxes long. Cover up all the dots apart from the top row and the far left column. Ask students to work out how many dots there are all together if the other dots were uncovered. Students should state there are 18 and explain that they calculated this answer by working out 6 X 3 or 3 x 6.

Using imaging: Present students with a rectangular shape where all the lengths of all 4 sides are given in metres. The width of the rectangle should be 4 metres and the height of the box should be 5 metres. Ask students how they can use the height and the width to work out the area of the rectangle. If necessary prompt students by asking them to state the similarities between this and the dotty arrays. Give students the opportunity to work out the area of a number of rectangular shapes.

Explain to students that we must always show the units of what we measure. So for our first question our answer was 20m² (pronounced 20 metres squared). Explain that an answer of 20 metres would mean a distance of 20 metres in a straight line, this is not area. The m² tells people we are talking about area. One way to remember this is that we are multiplying 2 distances, height X width. So this is where we get the 2 from in m². Get students to go back and check that all the answers contain the correct units of measurement for area.

Extended mathematical thinking: Present students with a square and the distance of one side. Explain to students that the object is a square (not just a rectangle which is very close to a square). Get students to find the perimeter and the area of the shape. If students struggle get them to explain the properties of a square i.e. all sides are equal in length etc.

Grams

I am learning how heavy a gram is and how many grams are in a Kg.

Equipment:

Using materials: Start by reviewing the unit on kilograms. Now ask students if they can think of any other words that start with kilo. Students may mention kilometre. Explain that a kilometre is 1000 metres. Ask students what they think kilo stands for and therefore how many grams there are in 1 kilogram.

