



Colin and Coco's Deliberate Practice

Year 5 Unit 12

Answers

Measurement: Area and Volume





Contents

This pack of deliberate practice is designed to be used flexibly to secure the manageable steps of this unit.

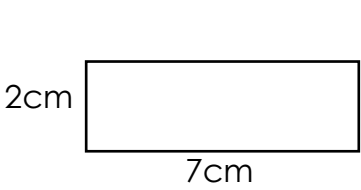
The table below indicates which activities are linked to which manageable steps.

	Do It	Challenge It	Play It
Make connections between arrays and calculating the area of rectangles			1
Calculate the area of rectangles (not squares)	1		
Calculate the area of squares	1		
Find an estimate for the area of shapes that are not rectangles		1	
Find an estimate for the volume of a 3D shape		2	2
Estimate capacity			

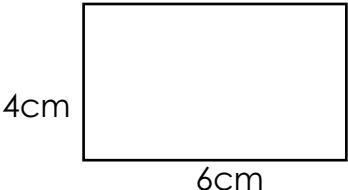


Do It 1

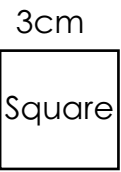
Calculate the area of the rectangles



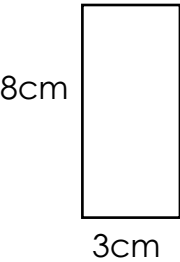
Area = 14cm^2



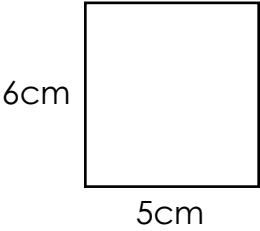
Area = 24cm^2



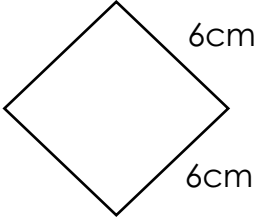
Area = 9cm^2



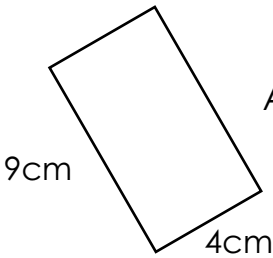
Area = 24cm^2



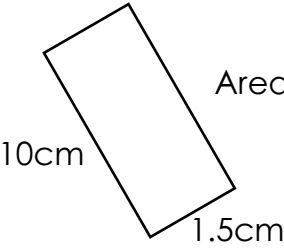
Area = 30cm^2



Area = 36cm^2



Area = 36cm^2



Area = 15cm^2

Draw shapes with an area of $5\frac{1}{2}\text{cm}^2$

Challenge It 1

A grid of 20 rows and 20 columns of dots for drawing shapes.



Area Game

Play It 1

You need:

Two 1- 6 dice

Area Grid (next paper)

To play:

Players take it in turns to roll the two dice and multiply the two numbers together.

The answer is the area of their rectangle.

Players draw and shade a rectangle with that area on their grid.

Players keep rolling the dice and drawing rectangles until they have an area that they can not draw on their grid.

At this point the game stops for that player.

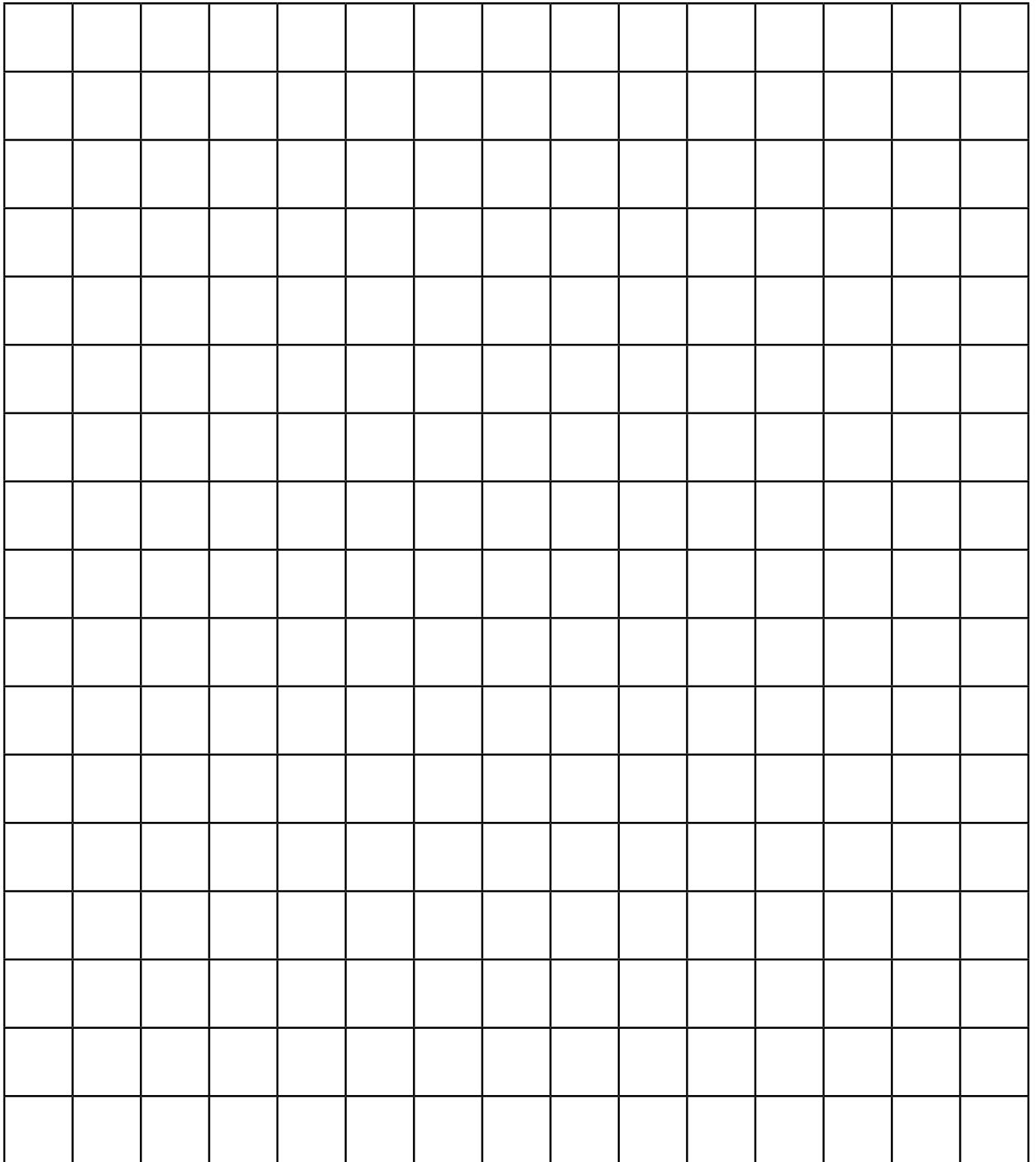
The number of unshaded squares left on their grid is their score.

To win:

The winner is the player with the lowest score after three games.



Area Grid





Do It 2

Estimate the capacity using millilitres or litres

Accept any sensible estimations

Mug

350 ml

Teaspoon

5 ml

Bucket

10 litres

Cup

250 ml

Can of Drink

330 ml

Paddling pool

150 litres

Bottle of lemonade

1 litre

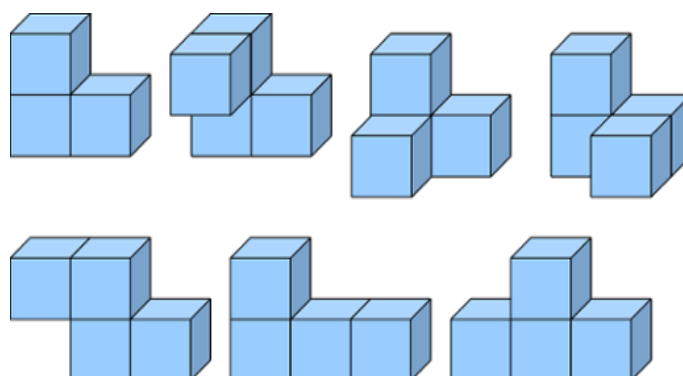
Bath

300 litres

Cube Challenge

Challenge It 2

Use multilink cubes to make these seven pieces.



The seven pieces make a cube.

Make a prediction about the dimensions of the cube.

Use the seven pieces to make a cube and check your prediction.



Volume Activity

Play It 2

You need:

Two 1- 6 dice

1cm³ multilink cubes

To play:

Players take it in turns to roll the dice and multiply the two numbers together.

The answer is the volume of their cuboid.

Players use their multilink cubes to make as many different cuboids with that volume.

The player scores one point for each different cuboid.

To win:

The winner is the first player to score 10 points.