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Book 4 - Ages 8/9

Measurement in Mathematics Series

Practical measuring activities for the
classroom.

Written by Leonie Westernberg. Illustrated by Rod Jefferson.

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Name

Length: Measurement in arbitrary units.

How did they measure?

You will need:
long lengths of rope
or paper.

In ancient times, people used a number of ways to measure things. They could use hand spans to see how long something was.



They could use footsteps to see how long something was.



They could measure with long lengths of rope (or paper or other materials).



Choose 2 of these units of measure.

Choose 6 objects around your room or school to measure. Record your results.

Compare your results to your partner's results.

How are they the same? How do they differ?

Unit of measure

Items	1.	2.
1.		
2.		
3.		
4.		
5.		
6.		

My partner and I measured these items:

.....

We used these units to measure with:

.....

Our results are the same/different because:

.....

.....

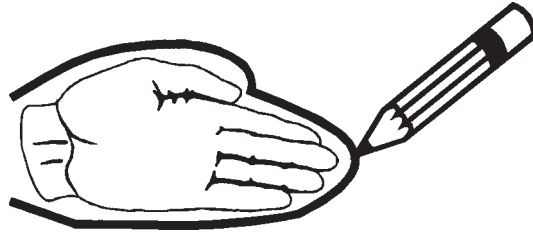
Name

Area: *Covering and comparing area with arbitrary units.*

Activities with area

You will need:
2 cm cubes, graph paper,
coloured pencils.

1. Trace around your hand with your fingers together to make a mitten shape.



Guess how many cubes it will take to cover the shape of your hand.

Check your guess. How many were needed?

2. Guess how many cubes will cover each of the following objects:

a piece of paper

a magazine

your favourite book

Now check your guesses. How many cubes were needed to cover:

a piece of paper?

a magazine?

your favourite book?



The amount of surface space an object takes up is called its **area**.

Put the objects you measured in order by area:

.....

Least In-between Greatest

3. You will need a large sheet of graph paper and some coloured pencils.

Colour a design with an area of 36 squares on the sheet of graph paper.

Make several more designs with 36 squares.

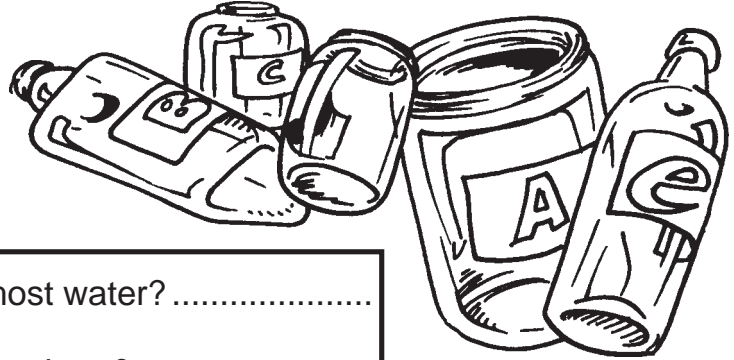
Compare your designs with a partner.

Remember, they all have to have the same area - 36 squares.

Name

VOLUME AND CAPACITY

You will need: five different bottles or jars
funnels
water



Label each bottle a, b, c, d and e.

Estimate: which bottle will hold the most water?
Which bottle will hold less than all the others?

Fill the **smallest** bottle and then pour all the water into a bigger bottle or jar.

Fill the **smallest** bottle again and then pour all the water into a different bigger bottle or jar.

Is the **water-level** the same in both big bottles?

Mark the level with a felt pen.

Is the **amount** of water the same in both big bottles?

Fill up the **smallest** bottle again.

Empty this into the **biggest** bottle. Do this again and again until the biggest bottle overflows a little bit.

How many times did you have to empty the smallest bottle before the biggest bottle overflowed?

.....

Guess how many times the smallest bottle could be filled from the biggest bottle when the biggest bottle is full.

Your guess or estimate

Check, using the funnel.



Name

Mass: Measure mass of objects in grams and kilograms.

HOW MUCH DOES IT WEIGH?

You will need: 5 or 6 small plastic containers labelled as shown, materials to fill the containers, kitchen scales.



Fill each container with a different material such as sand, water, salt, flour, gravel.

Hold each in your hand. Estimate which is the heaviest.

Estimate which is the lightest.

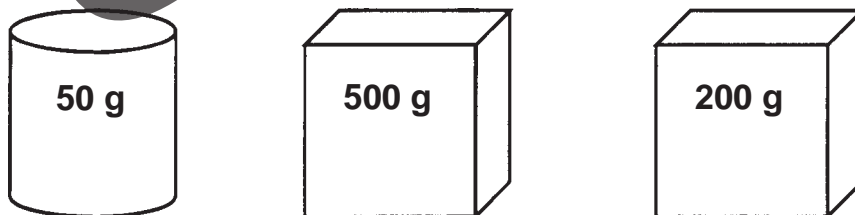
Use some scales to measure and record the mass of each container.

Mass of containers	
a	grams
b	
c	
d	
e	

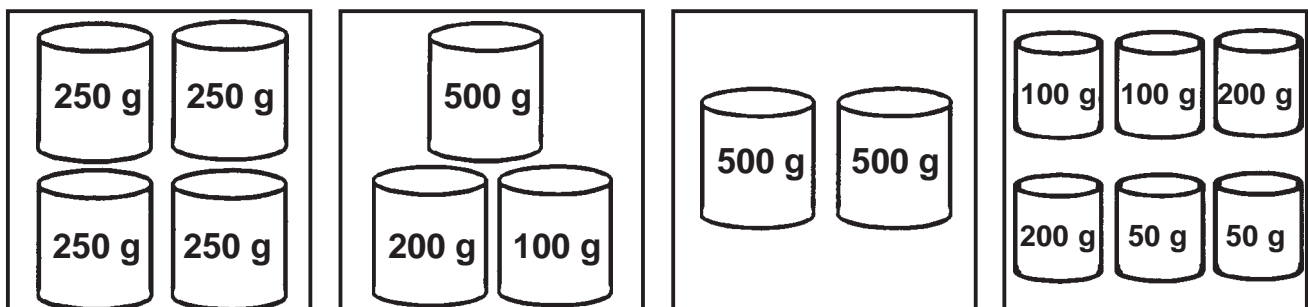
Which one was the heaviest?
.....

Which one was the lightest?
.....

What is the **total** mass of these parcels below? grams (g)



Colour the pictures which show masses that total **one kilogram**.

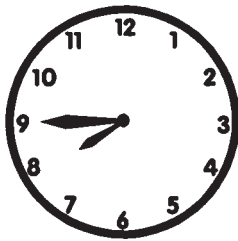
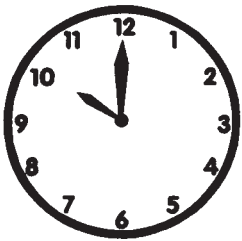
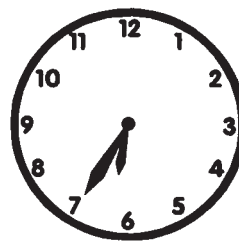
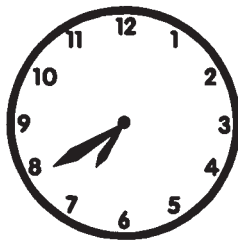
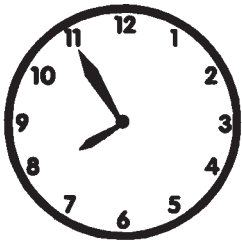


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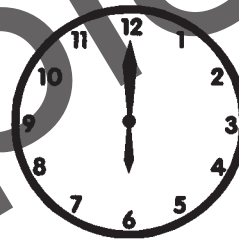
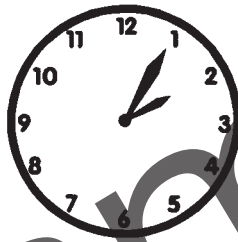
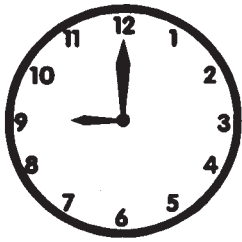
Time: Read and write time to the nearest 5 minutes.

Telling time

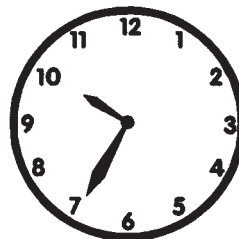
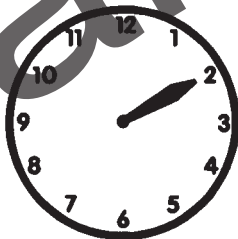
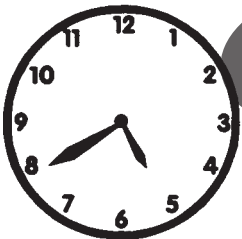
What time is it?



Write the time it will be five minutes later.



Write the time it will be 1 hour later.



Draw an X through each incorrect clock.

