

Metres and centimetres

There are 100 cm in 1 m.
5 m and 31 cm is the same
as 531 cm or 5.31 m.

1 Would you use metres (m), centimetres (cm) or millimetres (mm) to measure each length or distance?



Height of a diving board

m



Height of a trophy

cm



Width of a golf tee

mm



Width of a dartboard

cm



Width of a skate blade

mm



Distance a ball is kicked

m



Length of a tennis racquet

cm



Distance of a sprint race

m

2 Use a tape measure, a ruler or a trundle wheel to measure these lengths or distances. Estimate first.

Items to measure	Estimate	Measure		
		Metres and centimetres	Centimetres	Decimal notation
Length of a desk				
Height of a door				
Width of a classroom				
Distance to the school office				

3 Convert the units to complete the table of world records.

Event		Metres and centimetres	Centimetres	Decimal notation
Long jump	men	8 m 95 cm	895cm	8.95m
	women	7m 52cm	752cm	7.52 m
High jump	men	2 m 45 cm	245cm	2.45m
	women	2m 9cm	209 cm	2.09m
Pole vault	men	6m 14cm	614cm	6.14 m
	women	5 m 6 cm	506cm	5.06m

Research Do these records still stand today or have they been broken?

Which instrument is the best one to use for each measurement?

MiB 2
Cards
95 & 96

60 Using Units of Measurement

Centimetres and millimetres

There are 10 mm in 1 cm.
5 cm and 7 mm is the same as 57 mm or 5.7 cm.



- 1 a Complete the table. The first one has been done for you.

Spider	Length (mm)	Length (cm and mm)
St Andrew's Cross	39 mm	3 cm 9 mm
Redback	11 mm	1 cm 1 mm
Funnel-web	45 mm	4 cm 5 mm
Orb-weaving	23 mm	2 cm 3 mm
Trapdoor	28 mm	2 cm 8 mm

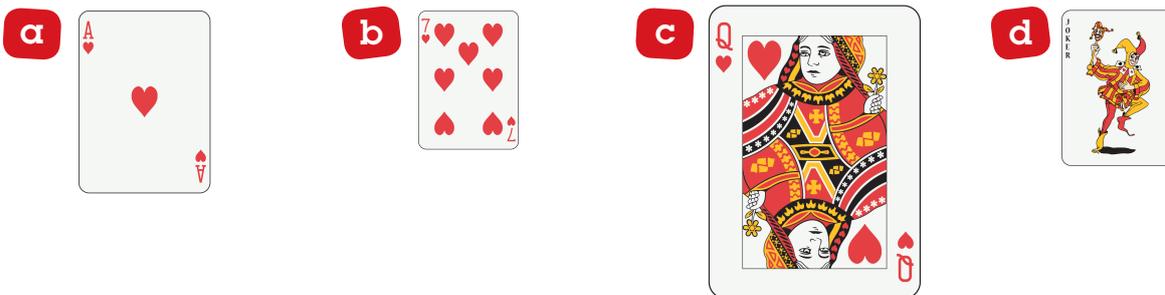
- b Order the spiders' lengths from shortest to longest.

Redback, Orb-weaving, Trapdoor, St Andrew's Cross, Funnel-web

- 2 Write these lengths in decimal notation.

- a 2 cm 8 mm = 2.8 cm b 7 cm 3 mm = 7.3 cm
 c 12 cm 1 mm = 12.1 cm d 14 mm = 14.0 cm
 e 55 mm = 5.5 cm f 135 mm = 13.5 cm

- 3 Estimate the width of each card. Then use a ruler to measure it, and fill out the table below.



Estimate (mm)	Measure		
	mm	cm and mm	decimal
a	17 mm	1 cm 7 mm	1.7 cm
b	12 mm	1 cm 2 mm	1.2 cm
c	28 mm	2 cm 8 mm	2.8 cm
d	15 mm	1 cm 5 mm	1.5 cm

- 4 Add these measurements.

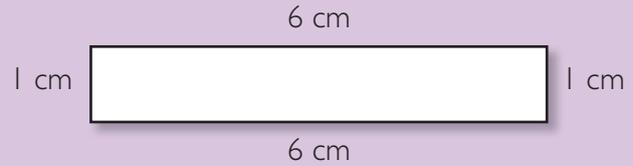
$$\begin{array}{r}
 6.1 \text{ cm} \\
 + 3.4 \text{ cm} \\
 \hline
 9.5 \text{ cm}
 \end{array}
 \quad
 \begin{array}{r}
 2.7 \text{ cm} \\
 + 3.2 \text{ cm} \\
 \hline
 5.9 \text{ cm}
 \end{array}
 \quad
 \begin{array}{r}
 4.5 \text{ cm} \\
 + 3.9 \text{ cm} \\
 \hline
 8.4 \text{ cm}
 \end{array}
 \quad
 \begin{array}{r}
 4.7 \text{ cm} \\
 + 1.7 \text{ cm} \\
 \hline
 6.4 \text{ cm}
 \end{array}$$

MIB 2
Card 100

Perimeter

Perimeter is the distance around the outside of a shape. To find the perimeter, add the lengths of all the sides.

E.g.



$$\begin{aligned} \text{Perimeter} &= 6 + 1 + 6 + 1 \\ &= 14 \text{ cm} \end{aligned}$$

1

Choose small items in your classroom – for example, a book cover, eraser, pencil box. Estimate then measure the perimeter of each item to the nearest centimetre. Record your findings in the table.

Item	Estimate	Measure
	<i>Answers will vary</i>	

2

a Explain how you estimated and measured each perimeter.

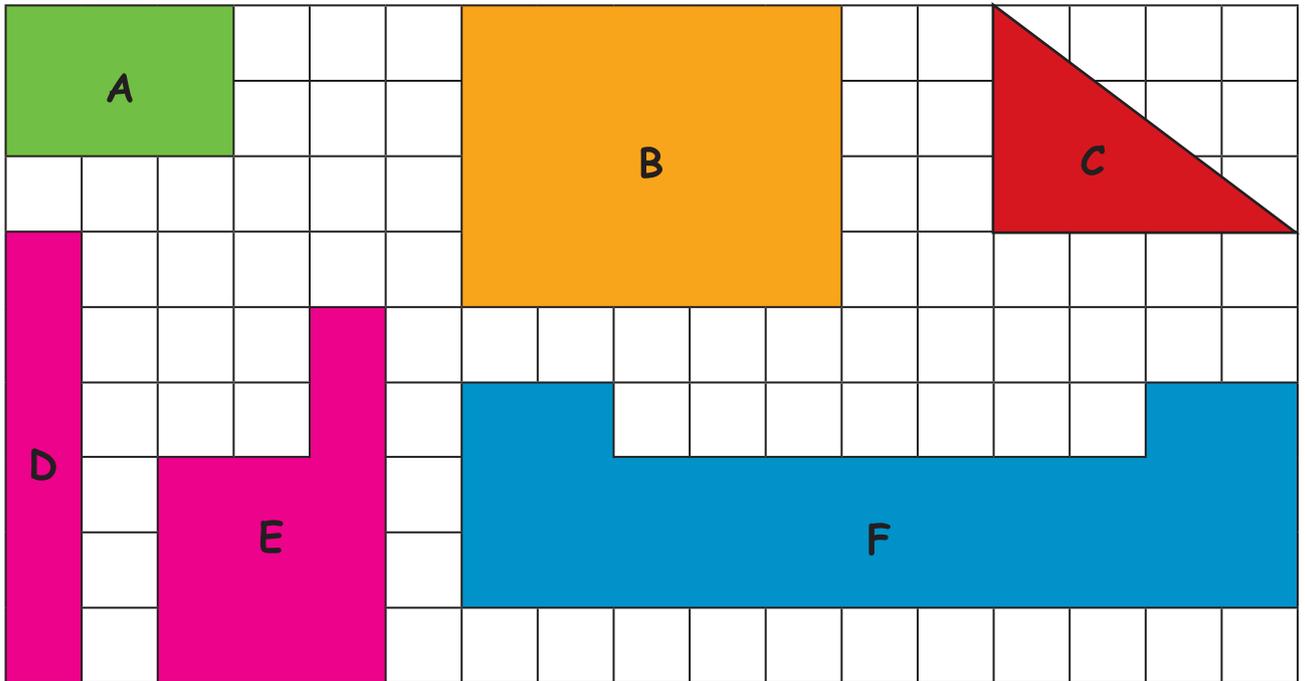
Answers will vary

b Which item has the longest perimeter? _____

c Which item has the shortest perimeter? _____

Comparing perimeters

1 Measure the perimeter of each shape on the centimetre grid below.

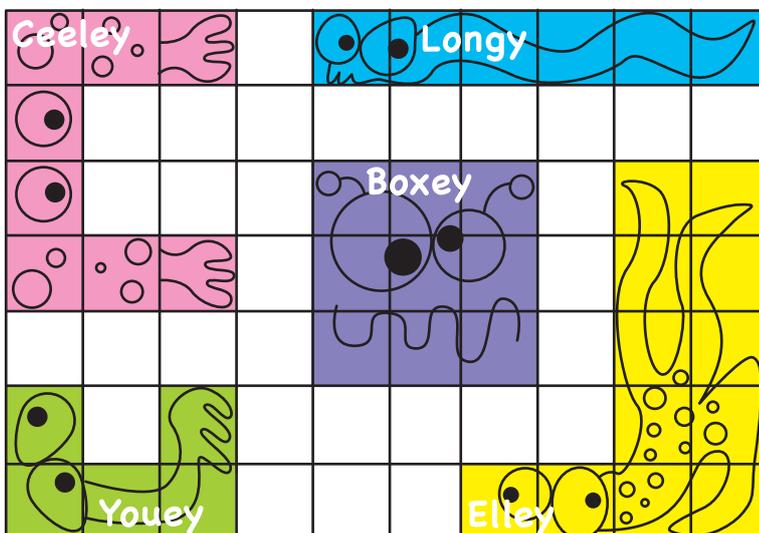


Shape	A	B	C	D	E	F
Perimeter (cm)	10cm	18cm	12cm	14cm	16cm	30cm

2 Order the letters of the shapes from the shortest to the longest perimeter.

A, C, D, E, B, F

3 'Squares' are strange shapes that travel through space in UFOs. The longer their perimeter, the richer they are. Each centimetre represents \$100.



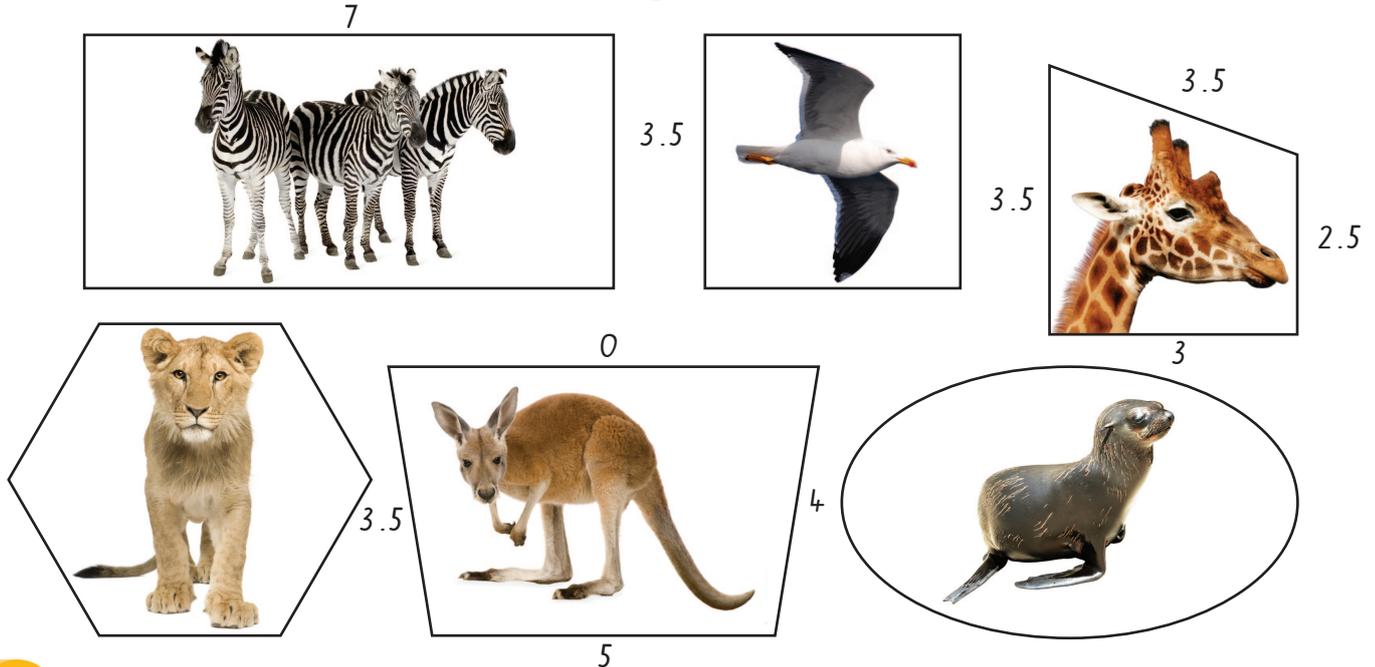
a Complete the table to find how rich each Squarea is.

Name	Perimeter (cm)	Value (\$)
Ceeley	18cm	1800
Boxey	12cm	1200
Youey	12cm	1200
Longy	14cm	1400
Elley	18cm	1800

b Which Squarea is the: **i** richest? Elley and Ceeley **ii** poorest? Boxey and Youey

Perimeters of different shapes

Aiden went to the zoo and drew a picture of some animal enclosures.



- Estimate the perimeter of each enclosure and then use a ruler or a piece of string to measure the perimeter to the nearest centimetre. The first one has been done for you.

Note: Every centimetre that you measure represents 1 m in real life, e.g. 5 cm = 5 m.

Animal	Estimate (cm)	Measure (cm)	Actual perimeter (m)
Birds	14 cm	16 cm	16 m
Giraffe		12.5 cm	12.5 m
Kangaroo		18.5 cm	18.5 m
Lion		15 cm	15 m
Seal		16 cm	16 m
Zebra		21 cm	21 m

2 a Which animal's enclosure has the shortest perimeter? Giraffe

b Which animal's enclosure has the longest perimeter? Zebra

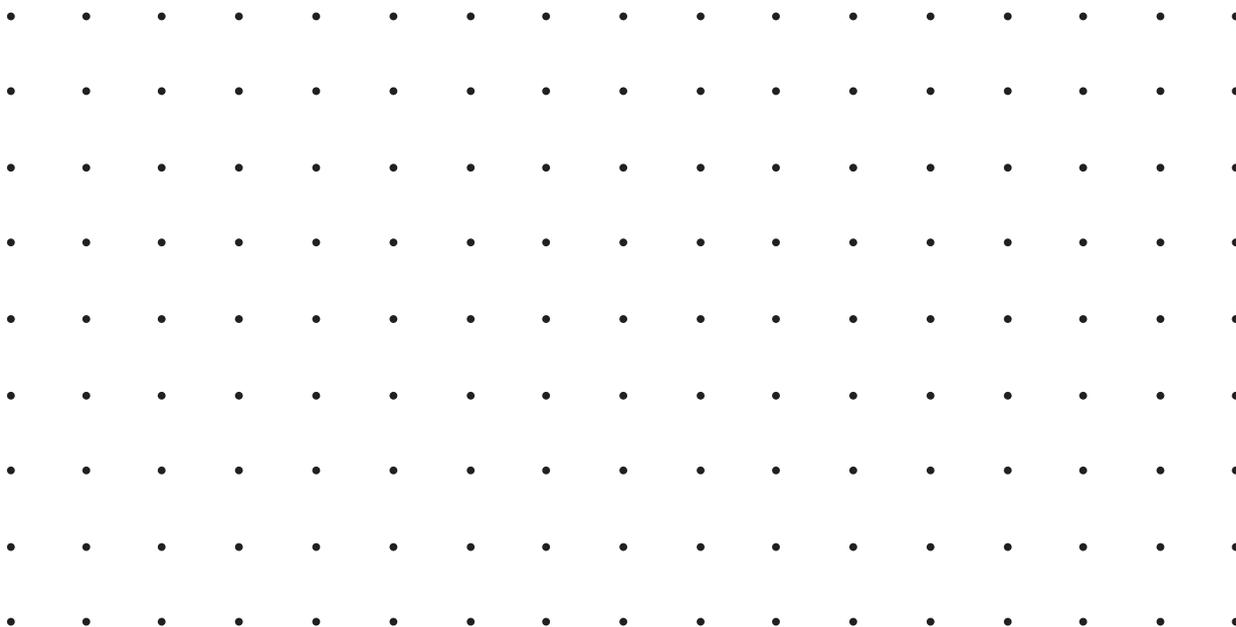
3 If it costs \$55 per metre to fence each enclosure, what is the total cost of fencing all the enclosures? Use a calculator to help you.



\$5445

Perimeter and area

1 How many different 4-sided shapes with a perimeter of 20 cm can you construct?



2 What is the area of each shape you made?

Answers will vary

3 Solve these problems.

a The perimeter of a regular hexagon is 30 cm. What is the length of each side?

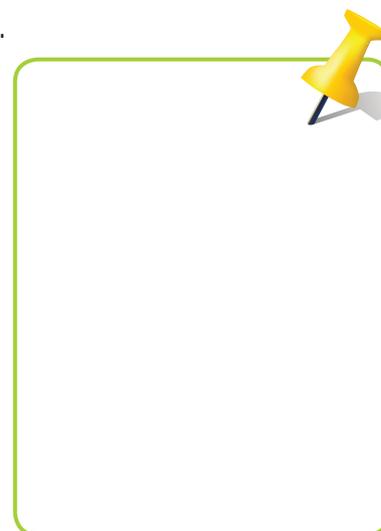
5 cm

b The flag that flies above Capital Hill in Canberra is 12.8 m long and 6.4 m wide. What is the perimeter of this flag?

38.4 m

c Farmer Simpson has a small rectangular paddock with a perimeter of 60 m. The length of the paddock is 18 m. What is the width? Draw a sketch to help you.

12 m



 The area of a square is 36 m^2 . What is the perimeter?

The square metre

- Construct a square metre using newspaper, so that it is 1 m wide and 1 m long.
- Use your square metre to find surfaces in your classroom that have the areas listed in the table.

Greater than 1 m ²	Less than 1 m ²	About 1 m ²
	<i>Answers will vary</i>	

- How many students fit inside 1 square metre:

- standing? Answers will vary
- sitting? _____
- lying down? _____



If you cut your square metre in half and joined it end to end, would it still measure 1 m²?

-  Complete the table. Look for a pattern. A calculator might help you.

	1 m ²	2 m ²	3 m ²	4 m ²	5 m ²
Number of students standing					
Number of students sitting					
Number of students lying down					

- A dance floor at a disco has an area of 10 m². Use the table in Question 3b to help you mentally calculate how many people can fit on the dance floor. Explain your thinking.

Answers will vary



How many square centimetres are there in 1 m²?

Measuring in square metres

1 Is the area of each surface greater than, less than or about 1 m^2 ?

about
 1 m^2



a Area of sand pit



b Area of CD case



c Area of keyboard



d Area of rug

about 1 m^2

greater
than



e Area of classroom floor



f Area of shower floor
about 1 m^2



g Area of driveway
greater than



h Area inside toy train track

about 1 m^2

2 Estimate the area of your classroom floor. Use your square metre to help you measure the area.

3 This table shows the area of different playing courts.

a Which court has the largest area? Netball court

b Which court has the smallest area? Squash court

c Order the courts from smallest to largest in area.

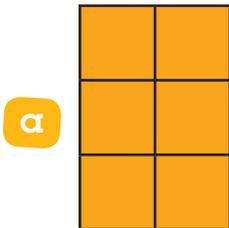
Squash, handball, tennis, basketball, netball

Estimate (m^2)	Measure (m^2)

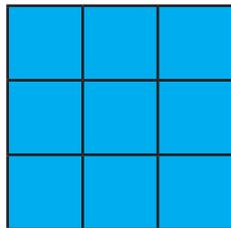
Court	Area (m^2)
Basketball court	436
Handball court	60
Netball court	465
Squash court	52
Tennis court	260

Calculating area

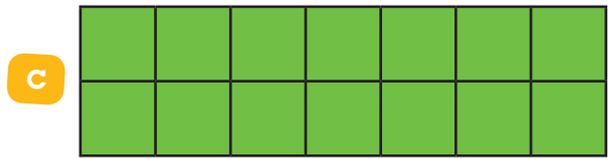
1 Calculate the areas of these squares and rectangles.
The first one has been done for you.



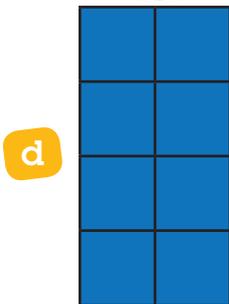
$$\begin{aligned} &= 4 + 4 \\ &= 2 \times 4 \\ &= 8 \text{ cm}^2 \end{aligned}$$



$$\begin{aligned} &= 3 + 3 + 3 \\ &= 3 \times 3 \\ &= 9 \text{ cm}^2 \end{aligned}$$



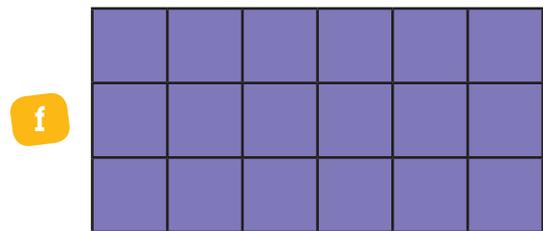
$$\begin{aligned} &= 7 + 7 \\ &= 7 \times 2 \\ &= 14 \text{ cm}^2 \end{aligned}$$



$$\begin{aligned} &= 4 + 4 \\ &= 2 \times 4 \\ &= 8 \text{ cm}^2 \end{aligned}$$



$$\begin{aligned} &= 2 + 2 \\ &= 2 \times 2 \\ &= 4 \text{ cm}^2 \end{aligned}$$



$$\begin{aligned} &= 6 + 6 + 6 \\ &= 6 \times 3 \\ &= 18 \text{ cm}^2 \end{aligned}$$

2 Calculate the areas of these square and rectangular quilts.
Each small square is 1 m^2 . The first one has been done for you.



$$\begin{aligned} &= 4 + 4 + 4 + 4 \\ &= 4 \times 4 \\ &= 16 \text{ m}^2 \end{aligned}$$



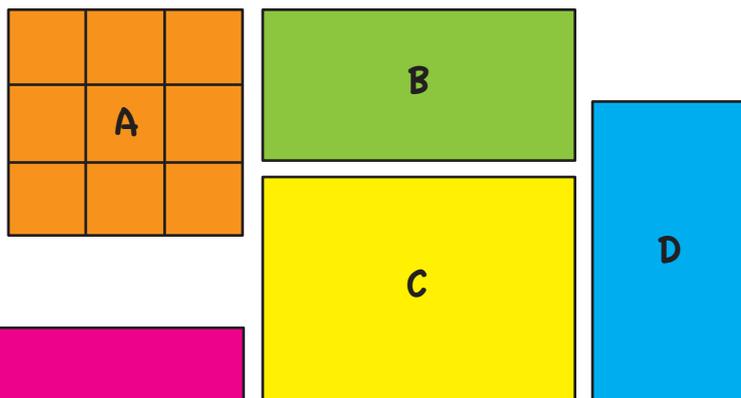
$$\begin{aligned} &= 7 + 7 + 7 + 7 + 7 + 7 \\ &= 7 \times 6 \\ &= 42 \text{ m}^2 \end{aligned}$$



$$\begin{aligned} &= 6 + 6 + 6 + 6 + 6 + 6 \\ &= 6 \times 6 \\ &= 36 \end{aligned}$$

Measuring area

- 1 Use a ruler to draw grid lines 1 cm apart on each rectangle. The first one has been done for you.



- 2 Complete the table then calculate the area of each shape.

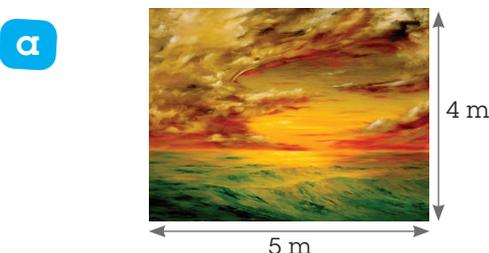
Shape	Length (cm)	Width (cm)	Area (cm ²)
A	3	3	9
B	4	2	8
C	4	3	12
D	4	2	8
E	9	1	9

- a Which shape has the largest area? C
- b Which shape has the smallest area? B, D
- c Order the shapes from smallest area to largest area.

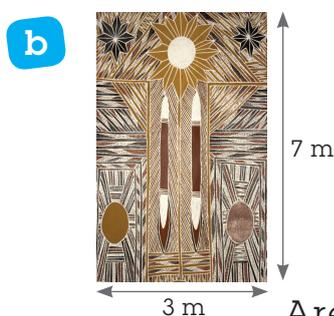
B or D, A or E, C

- d What is the total area of all the shapes? 46 cm²

- 3 The length and breadth for each of these large paintings is shown. Calculate the area of each painting. Show your working.



Area = $5 \times 4 = 20\text{m}^2$



Area = $3 \times 7 = 21\text{m}^2$

- 4 The area of a large painting canvas is 24 m². What could the length and breadth of the canvas be? List all the different answers.

3 × 8, 8 × 3, 4 × 6, 6 × 4, 12 × 2, 2 × 12, 24 × 1, 1 × 24

Using area

1 Draw and label each horse's stable on the grid. Let each square = 1 m².

				Mr Star		
Hazeem						
			Forgotten		Freda	

Horse's name	Stable length (m)	Stable width (m)
Hazeem	2	4
Forgotten	3	2
Mr Star	5	1
Freda	3	3

a Which horse has the largest stable? Freda

b Which horse has the smallest stable? Mr Star

2 Be a detective. In which room is the diamond hidden? Read the clues to help you solve the case. Each square is 1 m².

- The area of the room is not an even number.
- The area of the room is divisible by 3.
- The diamond is hidden in room number 3.

Room 1			Room 2		
Room 3			Room 4		
Room 5					
			Room 6		

3 Graffiti removal costs \$9 per square metre. Calculate the cost to remove the graffiti from each wall.
Hint: Calculate the area of each wall first.

Wall 1	Wall 2	Wall 3
Length = 2 m	Length = 6 m	Length = 10 m
Height = 5 m	Height = 2 m	Height = 3 m
Area = 10m ² Cost = \$90	Area = 12m ² Cost = \$108	Area = 30m ² Cost = \$270

MiB 2
Card 104

The millilitre

Millilitres are used to measure small amounts of liquid.
The short way to write millilitres is mL.

- 1 Would you use litres (L) or millilitres (mL) to measure the capacity of each item? Write L or mL under each picture.

a 	b 	c 	d 	e 
Water in a fish tank	Drink in a can	Oil in a container	Juice in a glass	Medicine in a teaspoon
L	mL	L	mL	mL

Discuss why containers are usually sold in standard sizes; for example, cans of drink are usually 375 mL.

- 2 Find and list containers of different capacities.

Less than 100 mL	Between 100 mL & 300 mL	Between 300 mL & 500 mL	More than 500 mL
<i>Answers will vary</i>			

- 3 Colour the best measurement. The first one has been done for you.

a 	b 	c 	d 	e 
30 mL	2 mL	25 mL	5 mL	10 mL
300 mL	20 mL	250 mL	50 mL	100 mL
3 L	200 mL	2 L	500 mL	1 L

- 4 Solve these problems.

- a** Mehmet's water bottle holds 300 mL. If he drinks half of the water, how much water is left? 150 mL
- b** Tasha took 15 mL of medicine from a 90 mL bottle. How much medicine remains? 75 mL

Making a measuring device

1 Make a measuring device by using a large plastic bottle.



- a** Pour 100 mL of water into the bottle.
- b** Mark the level with a felt pen.
- c** Write 100 mL next to the mark.
- d** Keep adding 100 mL and mark each new level until you reach 1000 mL.



Marking equal quantities of 100 mL means that you are calibrating or accurately marking the container.

2 Find and list five different containers that hold less than 1000 mL of liquid. Estimate how much each container will hold. Use your measuring device (from Question 1) to measure the capacity in millilitres.

Discuss why the bottle should be on a flat surface.

Container	Estimate	Measure
a <i>Answers will vary</i>		
b		
c		
d		
e		

3 Order the containers from smallest to largest in terms of their capacity.

Answers will vary



You need to measure out 500 mL. You only have 2 containers – one holds 300 mL and the other holds 700 mL. How can you use these 2 containers to measure out 500 mL of water? Show all your working.

Litres and millilitres

There are 1000 millilitres in 1 litre.
1 L = 1000 mL.

1 Convert from litres to millilitres.

a 5 L = 3000 mL

b 9 L = 9000 mL

2 Convert from millilitres to litres.

a 7000 mL = 7 L

b 6000 mL = 6 L

3 Convert from millilitres to litres and millilitres.

a 1600 mL = 1 L 600 mL

b 2900 mL = 2 L 900 mL

c 1840 mL = 1 L 840 mL

4 How many millilitres does each container hold?

a  500 mL

b  1750 mL

c  4500 mL

			1 L
	500 mL		1000 mL
250 mL	500 mL	750 mL	1000 mL

5 Look at the table above. What fraction of 1 L is:

a 500 mL? $\frac{1}{2}$

b 250 mL? $\frac{1}{4}$

c 750 mL? $\frac{3}{4}$

6 a Colour the correct label for the amount needed in the recipe.

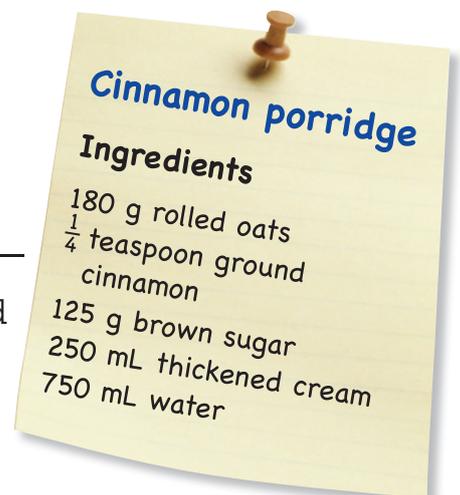
i Cream $\frac{1}{4}$ L $\frac{1}{2}$ L $\frac{3}{4}$ L

ii Water $\frac{1}{4}$ L $\frac{1}{2}$ L $\frac{3}{4}$ L

b What is the total amount of liquid needed to make the porridge? 1 L

c Cream comes in a 300 mL container and water comes in a 1 L bottle. How much cream and water will be left after making the porridge?

Cream: 50 mL Water: 250 mL



Submerging objects in water

An object displaces its own volume when it is fully submerged in a liquid.

- 1** Compare the volume of 3 objects. The objects could be pebbles, toy cars or marbles. They need to be objects that do not float.

- a** Use a partially-filled container and record the change in the level of the liquid when each object is submerged.

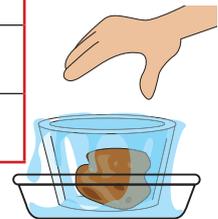


Object	Water level before object is submerged	Water level after object is submerged	Change in water level
1	<i>Answers will vary</i>		
2			
3			

- i** Which object increased the water level the most? _____
- ii** Which object increased the water level the least? _____

- b** Using the same 3 objects, submerge each object into a container filled to the brim with water and measure the overflow.

Object	Overflow in mL
1	<i>Answers will vary</i>
2	
3	



- i** Which object caused the most overflow? _____
- ii** Which object caused the least overflow? _____

- 2** Which method do you think gave the most accurate measure of volume? Explain why.

Answers will vary



How could you work out the volume of smaller objects such as nuts and bolts?

MiB 2
Card 117

Grams

1 Would you use kilograms (kg) or grams (g) to measure the mass of each item? Write kg or g under each picture.

a 	b 	c 	d 
TV _____ kg	mp3 player _____ g	camera _____ kg	remote control _____ g
e 	f 	g 	h 
coffee machine _____ kg	microwave oven _____ kg	computer mouse _____ g	washing machine _____ kg

2 Nicci collects dolls from around the world.

Doll					
Country	Germany	Italy	Japan	Russia	Thailand
Mass	450 g	370 g	220 g	600 g	525 g

- a** Which doll is the heaviest? Russia
- b** Which doll is the lightest? Japan
- c** Order the dolls from heaviest to lightest (use the name of the country).
Japan, Italy, Germany, Thailand, Russia
- d** How much would two identical dolls from Germany weigh?
900g
- e** Which two dolls have a total mass of 820 g?
Germany and Italy
- f** Circle the equal arm balances which are correct.

i



ii



iii



Measuring in grams

- 1 Use an equal arm balance to find items in your room that have a mass of 10 g, 50 g, 100 g or 500 g.



10 g	50 g	100 g	500 g
<i>Answers will vary</i>			

- 2 Collect 5 different pieces of fruit. Estimate and then measure the mass of each in grams, using an equal arm balance.

Fruit	Estimate (g)	Measure (g)
<i>Answers will vary</i>		

- a Which piece of fruit is the heaviest? _____
- b Which piece of fruit is the lightest? _____
- c Order the fruit from lightest to heaviest.
- _____

- 3 Work out the mass of each vegetable.

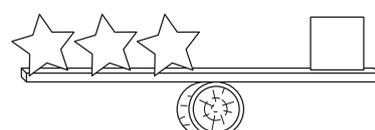
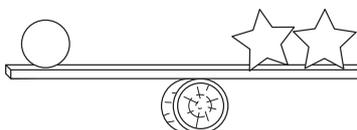
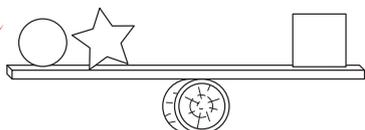
		
carrot + eggplant = 600 g	corn + eggplant = 700 g	carrot + corn = 500 g

Carrot = 200 g

Corn = 300 g

Eggplant = 400 g

Draw in the stars  that are needed to balance the last set of scales.



MiB 2
Card 123

Small masses

- 1 Complete the table to work out the mass of a lolly snake. It may help if you get a packet of lolly snakes to do this question.

Mass of a packet of snakes (g)	<i>Answers will vary</i>
Number of snakes in 1 packet	
Calculate mass of 1 snake (g)	
Measure the mass of 1 snake (g)	

- a Was your calculation and measurement the same? _____
- b Use your measurement to calculate the mass of:
- i 5 snakes _____
 - ii 8 snakes _____
 - iii 10 snakes _____



- 2 Six different types of monster lollies come in a packet.

- a Round the mass of each monster lolly to the nearest 10 g.



Monster name	Mass (g)	Round to the nearest 10 g
Bardo	72	70g
Franki	59	60g
Ghosty	65	70g
Hoot	128	130g
Jingo	91	90g
Zurp	104	100g

- b Which 2 monsters round to 70 g? Bardo Ghosty
- c Which monster is the heaviest? Hoot
- d Which monster is the lightest? Franki
- e What is the rounded difference between these 2?
_____ 70g _____
- f Use a calculator to find the total mass of the packet of the monster lollies. 519g



MIB 2
Card 125

Kilograms and grams

There are 1000 grams in 1 kilogram.
1 kg = 1000 g

1 Convert from kilograms to grams.

a 5 kg = 5000 g

b 7 kg = 7000 g

c 6 kg = 6000 g

d 2 kg = 2000 g

2 Convert from grams to kilograms.

a 4000 g = 4 kg

b 9000 g = 9 kg

c 8000 g = 8 kg

d 3000 g = 3 kg

3 Convert from grams to kilograms and grams.
The first one has been done for you.

a 1600 g = 1 kg 600 g

b 2700 g = 2 kg 700 g

c 1750 g = 1 kg 750 g

d 1890 g = 1 kg 890 g

4 Use scales to find three items with a mass between 1 kg and 2 kg. Measure the mass of each object. Record each mass in kilograms and grams and then convert each measurement to grams.

	Item 1	Item 2	Item 3
Name of item	<i>Answers will vary</i>		
Mass in kilograms and grams			
Mass in grams			

5 The Australian Egg Corporation uses the following sizes in its labelling of eggs. Use a calculator to find the total mass of each carton of eggs. Show your answer in grams.



Carton	Size	Mass per egg (g)	Mass per carton (g)
	Jumbo	68 g	408g
	Extra large	60 g	720g
	Large	52 g	1560g

MiB 2
Card 121

How heavy?

1



350 g



600 g



100 g



150 g



300 g

a Which 2 presents have a mass of 500 g?

purple yellow

b Which 3 presents have a mass of 1 kg?

blue green red

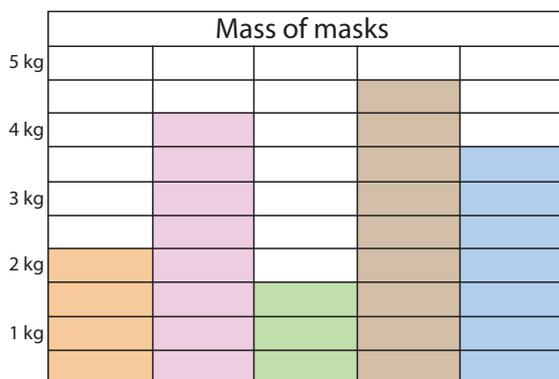
c What is the total mass of all the presents? 1.5kg

d How many more grams must be added to each present to make it 1 kg in mass?

i Purple 650g **ii** Blue 400g **iii** Green 900g

2

Use the graph and the postage cost information to complete the table.



POSTAGE COST	
Mass	Cost
Up to 500 g	\$10.15
Over 500 g up to 1000 g	\$17.65
Over 1000 g up to 1500 g	\$25.15
Over 1500 g up to 2000 g	\$32.65
Over 2000 g up to 3000 g	\$38.10
Over 3000 g up to 4000 g	\$42.70
Over 4000 g up to 5000 g	\$46.25

Mask	Mass (g)	Postage cost
	2000	\$32.65
	4000	\$42.70
	1500	\$25.15
	4500	\$46.25
	3500	\$42.70

Fractions of a kilogram

Look at the chart and answer the questions.

			1 kg
		500 g	1000 g
250 g	500 g	750 g	1000 g

1 How many grams in:

a $\frac{1}{2}$ kg? 500 g

b $\frac{1}{4}$ kg? 250 g

c $\frac{3}{4}$ kg? 750 g

d $1\frac{1}{2}$ kg? 1500 g

e $1\frac{3}{4}$ kg? 1750 g

f $2\frac{1}{4}$ kg? 2250 g

g $3\frac{3}{4}$ kg? 3750 g



2 Order the bags from lightest to heaviest.

red, white, black, blue

3

White Christmas

Ingredients

- $\frac{1}{4}$ kg powdered milk
- $\frac{1}{2}$ kg icing sugar
- $1\frac{1}{2}$ kg coconut
- $\frac{3}{4}$ kg crisped rice
- $\frac{1}{4}$ kg sultanas
- $\frac{1}{4}$ kg coconut fat

a Colour the correct label for the amount needed in the recipe for White Christmas. The first one has been done for you.

i	Sultanas	250 g	500 g	750 g
ii	Icing sugar	100 g	200 g	500 g
iii	Crisped rice	250 g	500 g	750 g
iv	Coconut fat	250 g	400 g	500 g
v	Coconut	500 g	1000 g	1500 g

b What is the total mass (in kilograms and grams) of all ingredients needed?

3 kg 500g

c Each of the above ingredients comes in a 2 kg package. How much of each ingredient will be left after making the White Christmas?

i Powdered milk $1\frac{3}{4}$ kg

ii Icing sugar $1\frac{1}{2}$ kg

iii Coconut $\frac{1}{2}$ kg

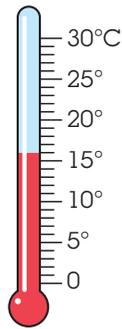
iv Crisped rice $1\frac{1}{4}$ kg

v Sultanas $1\frac{3}{4}$ kg

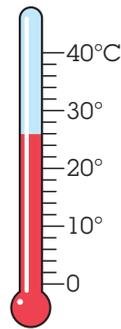
vi Coconut fat $1\frac{3}{4}$ kg

Measuring temperature

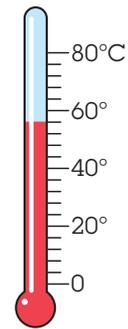
- 1** Read the thermometers shown on the right, and record your answers in the spaces provided.



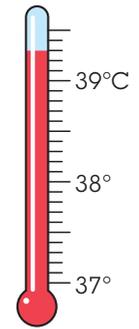
a 16 °C



b 26 °C

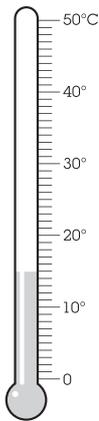


c 56 °C

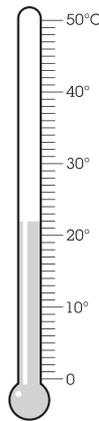


d 39.3 °C

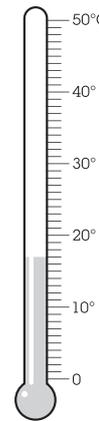
- 2** Colour the thermometers shown on the right to indicate the temperature given.



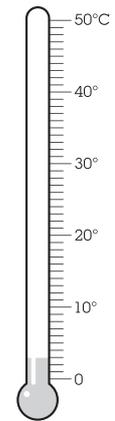
a 15°C



b 22°C

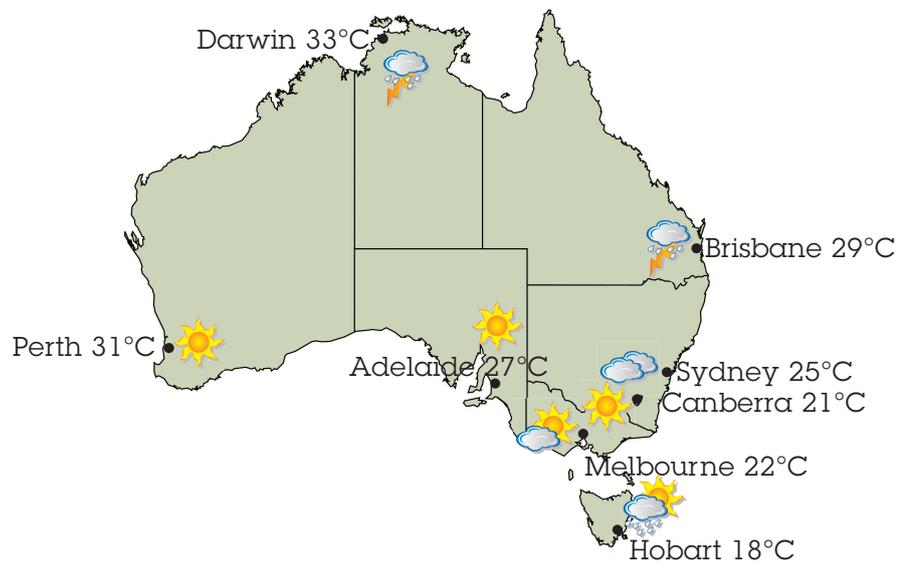


c 17°C



d 3°C

- 3** Look at the weather map of Australia, then answer the questions.



- a** Which city has the highest maximum temperature?

Darwin

- b** Which city has the lowest maximum temperature?

Hobart

Find out the highest and lowest temperatures ever recorded in Australia.

Analog and digital time

1 Complete the table.

	Words	Digital	Analog
a	Twelve minutes past three	3:12	
b	Twenty four minutes past five	5:24	
c	Seven minutes to four	3:53	
d	Three minutes past six	6:03	

2 Draw the time 10 minutes before and after these times.

10 minutes before	Time	10 minutes after
		
3:35	3:45	3:55
		
5:51	6:01	6:11

3 Show the time on each clock.

6:00	6:40	7:10	7:25	8:20
Mrs Tan got up at 6 o'clock.	She took 40 minutes to shower and get dressed.	She finished her breakfast 30 minutes later.	It took 15 minutes to wash up.	She drove to work and it took 55 minutes.

Mrs Tan starts work at 8:30 a.m.

Did she make it to work on time? Yes

Reading analog time

1 Record in digital time the time on each clock. The first one has been done for you.



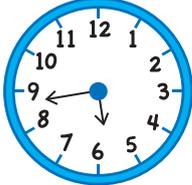
12:23	03:50	03:31
04:58	05:53	08:05
03:05	02:05	08:30

An analog clock has a minute hand and an hour hand.

The minute hand (the long hand) shows minutes past or to the hour.

The hour hand (the short hand) shows the hours.

2 Solve these time problems. Show your answer on the clock.

	Problem	Working	Answer
a	Trang woke up at 5:25 and started eating breakfast. He took 18 minutes to eat his breakfast. What time did he finish eating?		 5:43
b	Edwina had a hair appointment at 4:45. The hairdresser took 37 minutes to cut her hair. What time did she finish?		 5:22
c	Connor got out of the pool at 3:25 after a 1 hour and 5 minute swim. What time did he start swimming?		2:20
d	Lachlan woke up at 1:08 after a 43-minute sleep. What time did he go to sleep?		12:25

MIB 2
Card 55

Hours and minutes

1 What time is shown on each alarm clock?



6:00



11:41

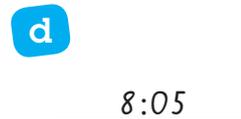


8:17



7:55

2 If you press the snooze button, the alarm will ring 10 minutes later. What time will each alarm sound again?



There are 60 minutes in 1 hour. So, 85 minutes = 1 hour and 25 minutes.

3 Each movie begins at 6 o'clock. Draw the finish time on the analog and digital clocks.

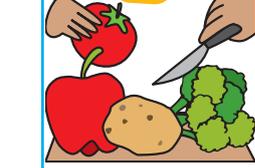
Movie	Movie length (in hours & minutes)	Finish time
	1 hr 25 mins	<u>7:25</u>
	1 hr 31 mins	<u>7:31</u>
	1 hr 49 mins	<u>7:49</u>

a Which movie finishes at twenty-five past seven? Surf's up

b Which movie finishes at eleven minutes to eight? Happy Toes

Units of time

1 Does the activity take about a second, a minute or an hour?

a 	b 	c 	d 	e 	f 
A game of soccer	Popping a balloon	Cleaning your teeth	Swallowing a tablet	Preparing and cooking dinner	Putting your shoes and socks on
<i>hour</i>	<i>second</i>	<i>minute</i>	<i>second</i>	<i>hour</i>	<i>minute</i>

2 Choose the best unit from the word bank to measure:

- a** How long it is until you turn 16. years
- b** The time it takes to boil an egg. minutes
- c** The length of the school holidays. weeks
- d** The time it takes to run 100 m. seconds
- e** How long you sleep at night. hours
- f** The length of summer. months
- g** The length of a weekend. days

Word bank

seconds minutes
hours days
weeks months
years

3 Answer the following time conversion questions.

- a** How many seconds in 2 minutes? 120
- b** How many days in 3 weeks? 21
- c** How many hours in 2 days? 48
- d** How many minutes in 3 hours? 180
- e** How many seconds in 10 minutes? 600
- f** How many weeks is 28 days? 4
- g** How many hours is 120 minutes? 2
- h** How many minutes is 300 seconds? 5
- i** How many days is 240 hours? 10

Converting time

60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day
7 days = 1 week
2 weeks = 1 fortnight
365 days = 1 year

Converting time

1 Colour the longer time in each pair.



a	1 week	4 days	b	60 seconds	2 minutes
c	500 days	1 year	d	2 minutes	$\frac{1}{2}$ hour
e	48 hours	3 days	f	20 days	3 weeks

Chocolate mud cake

Method

- Preheat oven to 160°C.
- Place butter, chocolate and hot water in a bowl. Microwave for 3 mins.
- Add cocoa, caster sugar, flour and egg. Stir gently to combine.
- Pour the batter into cake pan. Bake cake for 10 mins.
- Allow cake to cool for 2 hours.
- Eat within 2 days.



Converting time

60 seconds = 1 minute
 60 minutes = 1 hour
 24 hours = 1 day
 7 days = 1 week
 2 weeks = 1 fortnight
 365 days = 1 year

2 Convert the units of time in the recipe.

- a The butter, chocolate and water are microwaved for 180 seconds.
- b The cake is baked for 600 seconds.
- c Allow the cake to cool for 120 minutes.
- d Eat the cake within 48 hours.

3 Thus is a 10-year-old boy. In one week he spends:

- 42 minutes brushing his teeth
- 28 hours sleeping
- 1 hour and 10 minutes eating breakfast
- 35 minutes in the shower.



Do you believe these statements about Thus? Which ones are reasonable and which ones are not reasonable? Explain your answers.

Reasonable: 1 hour 10mins eating breakfast.

35mins in shower, 42mins brushing teeth

Unreasonable: 28hours sleeping

If someone has lived for 78888 hours, are they older or younger than you? Use a calculator to help you work it out.



Reading timetables

1

Olympic Park services Central to Olympic Park weekdays				
Station	a.m.	a.m.	a.m.	p.m.
Central	9:25	10:26	11:26	12:26
Strathfield	9:40	10:40	11:39	12:39
Olympic Park	9:49	10:48	11:47	12:47

- a What is the earliest time you can catch a train from Central? 9.25am
- b What time does the second train arrive at Olympic Park? 10.48am
- c How long does the 11:26 from Central take to get to Olympic Park? 21 minutes
- d Can you use this Olympic Park service on a Sunday? Explain your answer.

No, week days only

2

Activities at Olympic Park	Time	Duration
Hockey clinic	10:15	1 hour
Kite flying	11:00	30 mins
Bird watching	12:20	2 hours
Bike tour	1:45	45 mins

- a What time does the bike tour begin? 1:45
- b What time does the bike tour finish? 2:30
- c Which activity goes for the longest amount of time? Bird watching
- d If you went to the hockey clinic, would you be finished in time for the kite flying? No Explain your answer.

Hockey finishes at 11:15

- e Use the train timetable in Question 1. What time must you leave Central to be at Olympic Park in time for the bird watching? 11:26am

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Timetables and timelines

CHANNEL 5 – SUNDAY 31 JULY		CHANNEL 2 – SUNDAY 31 JULY	
4:00 p.m.	Barry's Practice Lifestyle	7:00 a.m.	Crazy Circus Animation
4:30 p.m.	Married ... with Pets Comedy	7:24 a.m.	Snerky Turkey Children
5:15 p.m.	According to Tim Comedy	7:48 a.m.	Sport the Astronaut Children
6:00 p.m.	Five News TV News	8:10 a.m.	Submarine Rescue Reality
6:30 p.m.	Meal or No Meal Game Show	8:37 a.m.	Alien Battles Animation
7:30 p.m.	The Amazing Pace Game Show	9:02 a.m.	Confidential Current Affairs
8:30 p.m.	Chicago Legal Drama	10:02 a.m.	Inside Money Finance
9:30 p.m.	The Love in Their Eyes Romance Movie		
11:45 p.m.	Golf: The Qatar Open Sport		

1 At what time do the following TV shows begin?

- a** *Five News* **b** *Meal or No Meal* **c** *Chicago Legal*
6:00pm 6:30pm 8:30pm

2 At what time do the following TV shows finish?

- a** *Barry's Practice* **b** *The Love in Their Eyes* **c** *The Amazing Pace*
4:30pm 11:45pm 8:30pm

3 How long do the following TV shows go for?

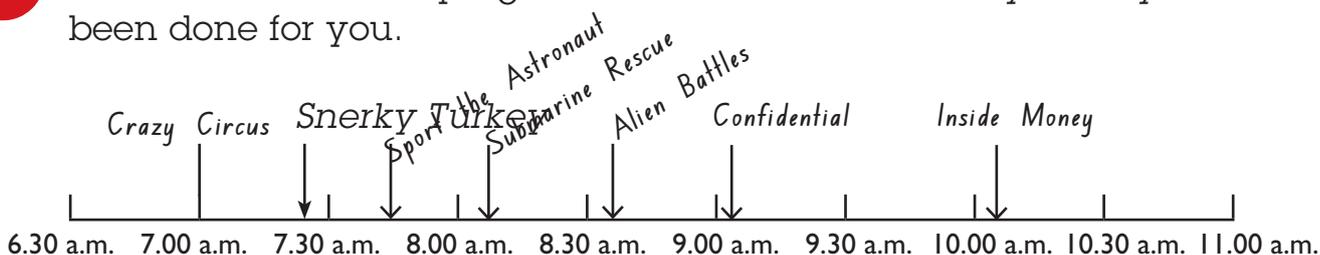
- a** *Meal or No Meal* 1 hour **b** *According to Tim* 45mins
c *Five News* 30mins **d** *The Love in Their Eyes* 2hrs 15mins

4 **a** How many animation programs show between 7:00 a.m. and 10:00 a.m.? 2

b Which program is on at 8:00 a.m.? Sport the astronaut

c Which show screens for the longest time? The love in their eyes

5 Place the Channel 2 programs on the timeline. *Snerky Turkey* has been done for you.



Calendar events

1 How many days in March? 31

2 What days are these dates?

9 March Sunday

21 March Friday

31 March Monday

3 What is the date of these days?

a first Tuesday 4th

b second Sunday 9th

c third Friday 21th

d second last Monday 24th

4 a What day will be the first day of April? Tuesday

b What day and date was before Saturday 1 March? Friday, 28th Feb

5 Mark these events onto the calendar.

2 March Clean Up Australia Day	3 March Hina Matsuri	10 March Canberra Day
14 March Pi Day	17 March St Patrick's Day	30 March Neighbour Day

6 a What day of the week is Hina Matsuri? Monday

b What event is one week after Canberra Day? St Patrick's Day

c How many days between Pi Day and Neighbour Day? 16 days

d Which events fall on a weekend?

Neighbour Day, Clean Up Australia Day

MARCH						
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
					1	2 Clean up Australia Day
3 Hina Matsuri	4	5	6	7	8	9
10 Canberra Day	11	12	13	14 Pi Day	15	16
17 St Patrick's Day	18	19	20	21	22	23
24 31	25	26	27	28	29	30 Neighbour Day

What's the significance of each event in Question 5?

MIB 2
Card 127

Calendars



1 Monday is 29 October. Write the date next to each day in the diary.



2 Fill in the diary using the information in the table below.

Haircut: Monday afternoon at 4:30	31st: Trick or Treat with Dayat	1st: Michelle's Birthday	Soccer at 8:30 on the first day of the weekend
Movies: Friday night at 8:15	Swimming: Tuesday morning before school	Meeting with Greg 2 hours before haircut	Picnic on the fourth day of November

3 5 June is World Environment Day. What is the day and date:



a 1 week after World Environment Day? Sunday, 12th June

b 10 days after World Environment Day? Wednesday, 15th June

c 1 week before World Environment Day? Sunday, 29th May

4 Which three months are shown in the photo of a calendar on the right?

December, January, February

Explain how you know this.

December and January = 31 days

February = 29 days

