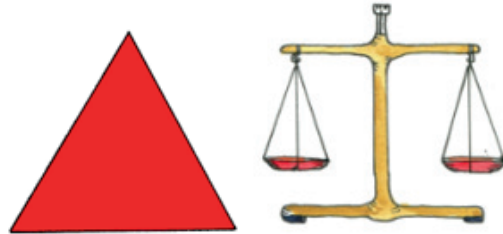


Contents – Shapes and measurements

In this section you will cover the following language and concepts:



1. Common shapes	<p>Vocabulary: Triangle; rectangle; circle; sides; circular; triangular; rectangular</p> <p>Structures: This/That is a ...; It is circular/ rectangular/triangular; How many sides does it have?; A triangle/rectangle has three/four (straight) sides; A circle has no sides.</p>
2. Four-sided shapes	<p>Vocabulary: Quadrilateral; rectangle; square; parallelogram; rhombus; trapezium; opposite; parallel; 90 degrees; four-sided; sides</p> <p>Structures: This is a...; All/none of the sides are/aren't the same length; Two of the four sides are longer/shorter; The angles measure/don't measure 90 degrees.</p>
3. Three-sided shapes	<p>Vocabulary: Triangle; scalene; isosceles; equilateral; same length; different lengths</p> <p>Structures: What type of triangle is this/that?; This/that is a... triangle; How many of these shapes are (scalene/isosceles/ equilateral)?; One/two/three/four...of these shapes are...</p>
4. Angles	<p>Vocabulary: Angle; acute; right; obtuse; degrees; rotate; exactly</p> <p>Structures: The larger/smaller angle is...; What kind of angle is that?; It's a...; Smaller/bigger/greater than; Between... and...</p>
5. Circular shapes	<p>Vocabulary: Circle; circular; diameter; radius; circumference; label; distance; centre; edge; pi</p> <p>Structures: This/that is a circle; Show the diameter / radius / circumference of ...; What is the radius / diameter / circumference of a circle?</p>

Topic 5: Shapes and measurements

6. Instruments for measuring	<p>Vocabulary: Measuring; instrument; tape measure; beam balance; spring balance; ruler; clock; weight; height; width; depth; time; mass; measuring cylinder</p> <p>Structures: What is this/that?; This is a...; - What do you use it for?; A... is used to measure...</p>
7. Measuring time	<p>Vocabulary: Clock; half past; quarter past; quarter to; nearly; exactly; a.m.; p.m.; in the morning; in the afternoon; cell phone; sundial; the sun; watch</p> <p>Structures: How can you tell time?; What is the time?; The time is...; It is... a.m.; It is...p.m.</p>
8. Measuring length	<p>Vocabulary: Millimetre, centimetre, metre, ruler, metre rule, tape measure</p> <p>Structures: How long/tall/high/wide is the...?; It is... long/tall/high/wide; Which/who is the shortest/tallest? How many... in a...? How far from... to...?</p>
9. Measuring mass	<p>Vocabulary: Mass; kilogram (kg); gram (g); milligram (mg); weight; weigh</p> <p>Structures: Which has the biggest mass?; The... has a bigger mass than the...; The mass of the... is more than the mass of the...</p>
10. Measuring volume	<p>Vocabulary: Volume; meniscus; litres; millilitres; liquid; container; measuring cylinder</p> <p>Structures: How much liquid is in the...?; How many litres/millilitres are there?; There are... litres/millilitres.</p>

Lesson 1: Common shapes

Activity 1



Read and complete the gaps in the following table.

1. The desktop... sides.	It is a rectangle.	It is rectangular.
2. A two hundred shilling coin has no sides.	It is a...	It is...
3. A set square... three sides.	It is a triangle.	It is...
4. The window has four sides.	It is a...	It is rectangular.
5. The door has...	It is a rectangle.	It is...
6. A plate has...	It is a...	It is...
7. A ruler has...	It is a...	It is...

Activity 2



Describe what you can see in each square.

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






Name one shape that is the odd one out in the groups.

Lesson 2: Four-sided shapes

Activity 1



Add in the words and write the correct sentences.

- a)  This is a... It is called a... It has four... All four sides are... It has four...
- b)  This is a... It is called a... It has... sides. Two of the sides are... It has four...
- c)  This is a... It is called a... It has... sides. The opposite sides...
- d)  This is a... It is called a...
- e)  This is a... it is called a...

Activity 2



Think of everyday objects that have the shape of a square, rectangle, parallelogram, trapezium, rhombus or kite. You have two minutes to make a list of objects.



Homework – Find scrap paper. If you can, use coloured paper but an old magazine will be fine if you do not have any coloured paper. Cut out lots of different four-sided shapes and make a collage from the shapes by sticking the shapes onto a piece of paper in an interesting way.

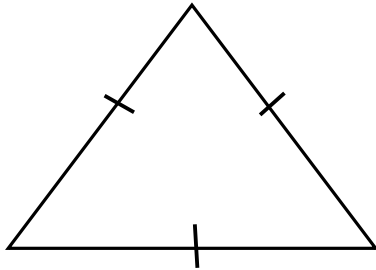
Lesson 3: Three-sided shapes

Activity 1



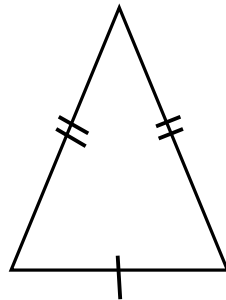
Match each triangle with its name.

1.



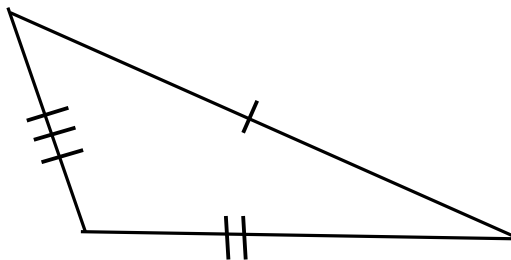
a) isosceles triangle

2.



b) scalene triangle

3.



c) equilateral triangle

Activity 2



Look at these shapes.

How many of these shapes are scalene triangles?

How many of these shapes are isosceles triangles?

How many of these shapes are equilateral triangles?

a) 	b) 	c)
d) 	e) 	f)
g) 	h) 	i)



Reflect –How are you choosing to record your vocabulary? Are you doing it alphabetically or by topic? How will you find what you need again?



Homework – Draw each type of triangle in your notebook. Write notes about each type of triangle.

Lesson 4: Angles

Activity 1



Identify right, obtuse and acute angles

a)		b)		c)	
d)		e)		f)	

Now draw:

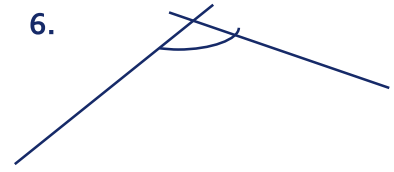
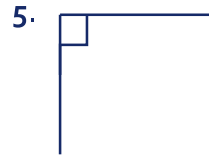
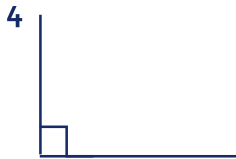
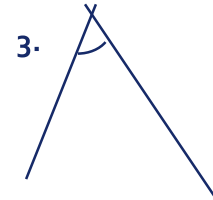
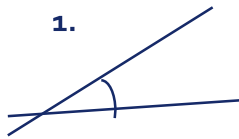
- a) a right angle
- b) an acute angle
- c) an obtuse angle

Activity 2



Look at the angles and complete the sentence for each one.

It is a/an... angle. The angle is... because it is... 90 degrees.



Activity 3



Choose the correct answer (A, B, C or D) and write the complete sentence.

1. A right angle is:
 - A. more than 90 degrees
 - B. exactly 90 degrees
 - C. exactly 180 degrees
 - D. larger than 90 degrees.

2. An obtuse angle is:
 - A. between 50 degrees and 90 degrees
 - B. between 0 degrees and 180 degrees
 - C. equal to 90 degrees
 - D. greater than 90 degrees and less than 180 degrees.

Topic 5: Shapes and measurements

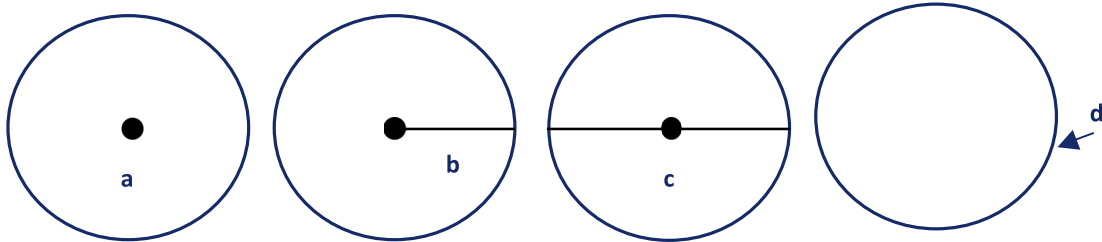
3. The angle 85 degrees is: A. an example of an acute angle
B. one of the obtuse angles
C. greater than a right angle
D. between a right angle and 180 degrees.
4. If X is 98 degrees, and Y is 89 degrees, A. the larger angle is Y
B. the smaller angle is X
C. Y is more than X
D. X is more than Y.
5. An acute angle is: A. always larger than 180 degrees
B. smaller than an obtuse angle
C. greater than 90 degrees
D. not exactly 180 degrees.
6. The angle which is: A. small is known as obtuse
B. large is known as acute
C. more than 90 degrees and less than 180 is obtuse
D. less than 90 degrees is always large.

Lesson 5: Circular shapes

Activity 1



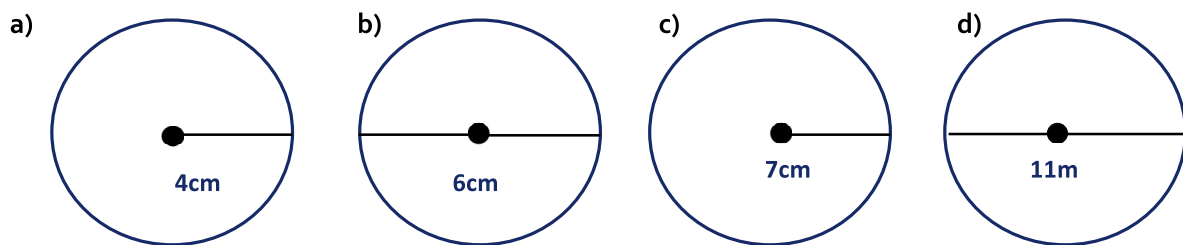
Give the names of the parts labeled a, b, c and d.



Activity 2



Work out the circumference of each of these circles.



Activity 3



Complete and write the sentences below using the correct words from the box.

$\pi \times r^2$ circle centre circular circumference radius

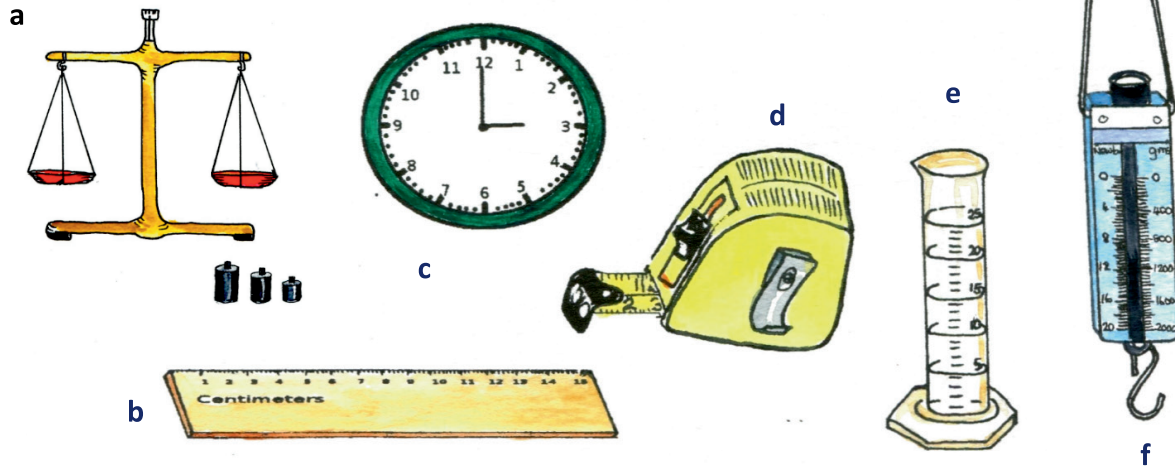
- The... is the distance around the...
- The diameter is longer than the...
- The middle of the circle is called the...
- A circle is...
- The formula for finding the area of a circle is...

Lesson 6: Instruments for measuring

Activity 1



Name the following instruments used for measuring.



Activity 2



Match the instruments to what they are used to measure.

measuring instruments	used to measure	question
Clock	weight/pull of gravity	How long is it?
Ruler	mass	How heavy is it?
Tape measure	time	How much material is there?
Beam balance	length	What time is it?
Spring balance	length (height, width, depth)	How tall/long/wide/deep is it?
Measuring cylinder	volume	How much liquid is there?

Activity 3



Match the instruments to the unit they measure.

seconds millilitres millimetres milligrams minutes grams litres
centimetres hours metres centilitres kilograms newtons

A... measures... using...

Now write the units of measurement in order, putting the smallest first.



Reflect – For homework you will be asked to think about all the language and vocabulary you have learned in this lesson and arrange it into a visual diagram that helps you to learn it. Discuss how you will do this with a partner.



Homework – Arrange all of the language and vocabulary of this lesson into a visual diagram that will be easier for you to learn.

Lesson 7: Measuring time

Activity 1



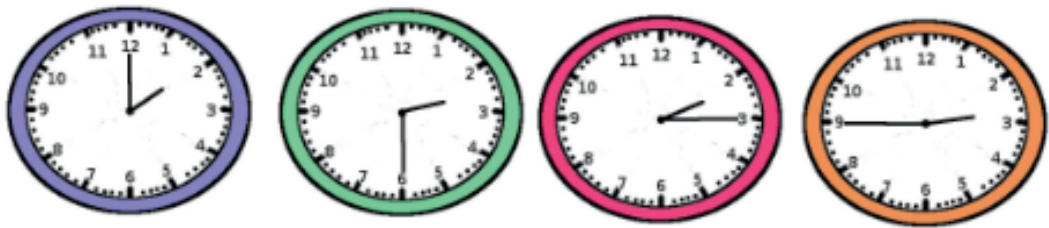
Work with a partner and answer the questions.

- What items can we use to measure the time of day?
- What do we use to measure the months of the year?
- What do we use to measure time in a race?
- What do we use to measure the position of the sun?
- How many seconds are in a minute?
- How many days are in a leap year?

Activity 2



What time is it?



Match a digital time to its matching time in words.

Time in numerals	Time in words
07:00	quarter to ten
10:15	seven o'clock
15:45	twelve o'clock
09.45	half past eleven
12:00	quarter past ten
23:30	quarter to four

Activity 3



Complete the sentences with the time when you usually do these things.

1. I wake up at...
2. I start classes at...
3. I finish classes at...
4. I do my chores at...
5. I have dinner at...
6. I go to sleep at...

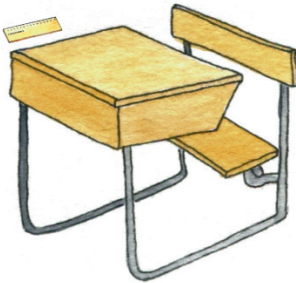
Lesson 8: Measuring length

Activity 1

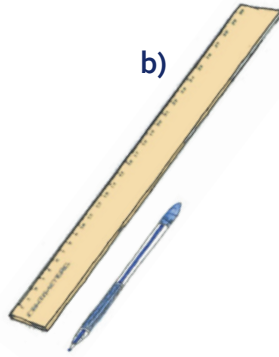


Look at the pictures of common things and answer the questions which follow.

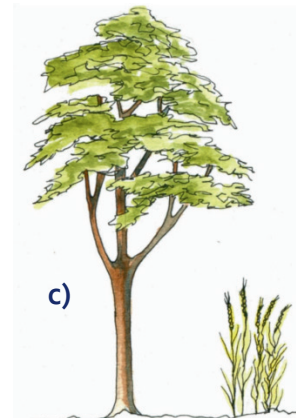
a)



b)



c)



In 'a' we can see a... and a... Which is longer/taller/bigger?

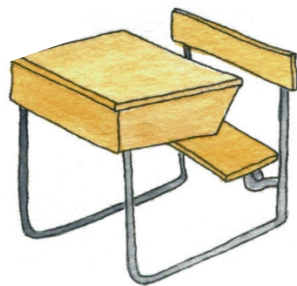
The... is longer/taller/bigger than the...

Activity 2

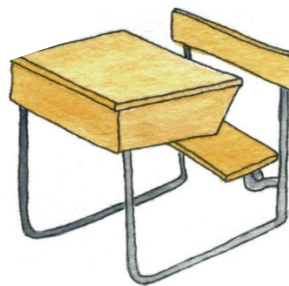


Think about the distance between two objects in your classroom. Choose the two objects and measure the distance between them.

Dodi's desk



Stephen's desk.



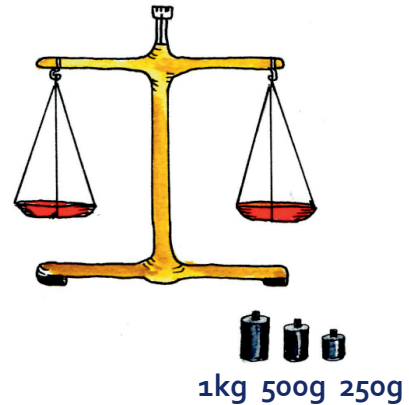
The distance between Dodi's desk and Stephen's desk is...

Lesson 9: Measuring mass

Activity 1



Your teacher has some objects for you to measure the mass. What is the mass of each object?



Activity 2



Read the questions and write down the answers.

1. Which is heavier, 900 grams or 1 kg?
2. Which has the greatest mass, a ruler or a pencil?
3. Which has the greatest mass, the marbles or a piece of chalk?
4. Which has the greatest mass, 100mg or 3g?
5. Which has the greatest mass, the book or the pen?



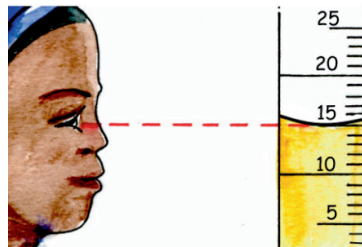
Homework – Look around your home for objects that have a different mass and write five sentences comparing those objects.

Lesson 10: Measuring volume

Activity 1



Read the text below. See how many words you can remember.



Measuring volume

Measurement is very important in science. When we measure volume we are measuring how much space something takes up. Volume is measured in different ways depending on whether we are talking about a liquid or a solid.

A solid is usually measured in cubic millimetres (mm^3), cubic centimetres (cm^3) or cubic metres (m^3). A liquid can be measured the same way or it is often measured in millilitres (ml) or litres (l). A litre is the same as 1000 cm^3 .

A measuring cylinder is an important piece of laboratory equipment for accurately measuring volumes of liquids. You must learn to read a measuring cylinder accurately. Put your eye at the same level as the top of the liquid and measure the reading from the bottom of the meniscus.

Activity 2



Read the amount of liquid in each of these measuring cylinders.

