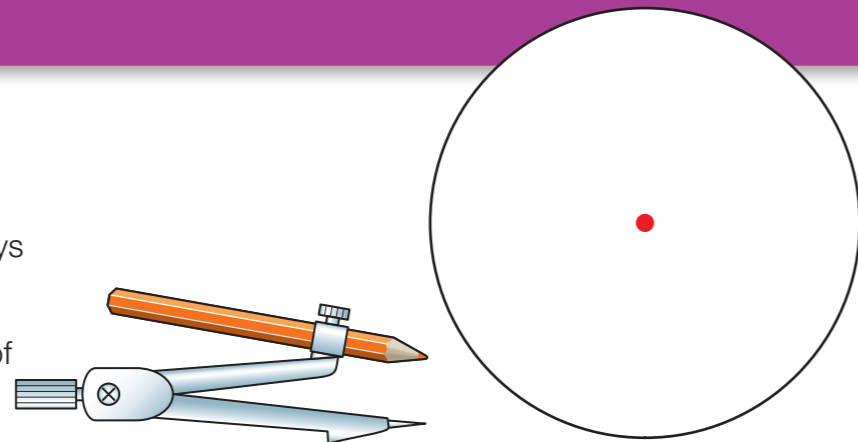


Circles

Learn

A circle is a single line that is always the same distance from its centre.

We can draw circles using a pair of compasses.



The edge of a circle is called the **circumference**.

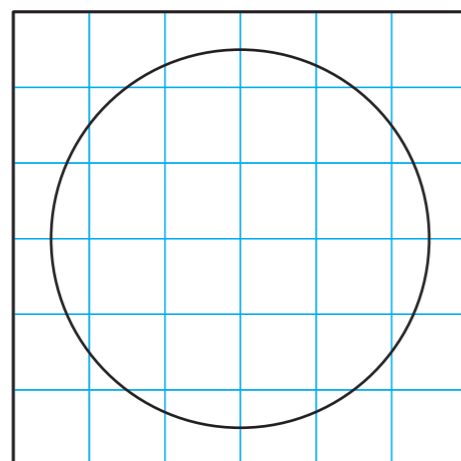
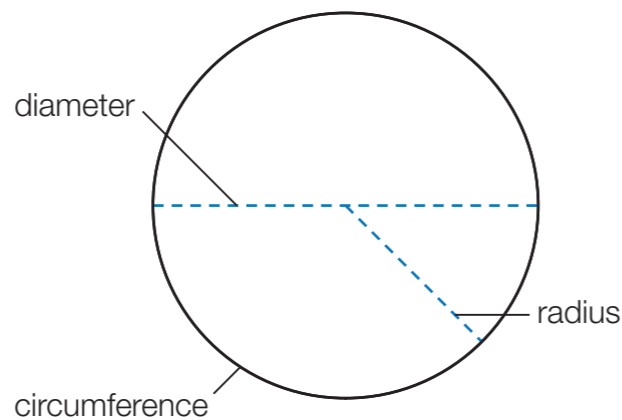
The distance across the centre of a circle is called the **diameter**.

The distance from the circumference to the centre is called the **radius**.

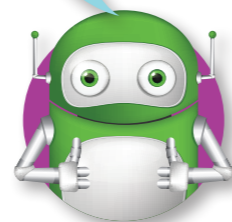
The diameter is twice the length the radius.

We write this using the formula: $d = 2r$

You can estimate the circumference of a circle using thread or string, and you can estimate area by counting squares and parts of squares.



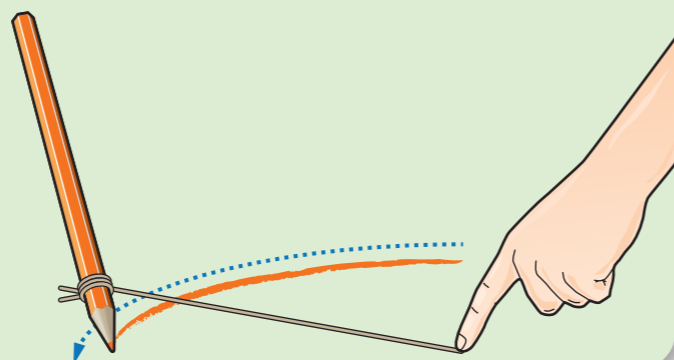
Remember, circles are 2D shapes, and spheres are 3D.



✓ Tips

- You can draw a circle using only string and a pencil. Tie the pencil to the string and hold the string tightly where you want the centre of the circle to be.

Try drawing different-sized circles just using string.



Talk maths

You will need some string, a ruler, a compass and a pencil.

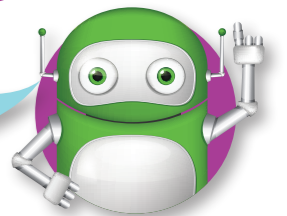
Working with a partner, find a selection of approximately ten circular objects. Using your equipment, find the radius, diameter and circumference for each one. Make sure you agree on each measurement before you add it to a table.



Object	Radius	Diameter	Circumference
10p	1.25cm	2.5cm	7.78cm
DVD	6cm	12cm	37.5cm
Bike wheel	25cm	50cm	157cm

Discuss the connection between the size of the circumference and the size of the diameter or the radius?

The string might help you measure the circumference.



Activities



- Explain these terms.
 - Radius
 - Diameter
 - Circumference
- If a circle has a radius of 3.5m, what is its diameter?
- A circular field has a diameter of 1.5km. What is its radius?

Problems



Brain-teaser

Aaron says that the circumference of any circle is just over five times its diameter. Looking at this circle, would you say he is right? Explain your answer

Brain-buster

Meena says that the area of any circle is approximately three times the radius squared, or $3r^2$. Looking at this circle, would you say she is right? Explain your answer, using calculations if necessary.

