

OPTION C 24.4.20



L.O. To know the properties of a circle and the relationship between them.
S.C. I can identify the radius, diameter, centre, and circumference of a circle.

Key vocabulary: Try to use these words in your discussion today.
 Circumference, diameter, radius, centre (mid-point), pi

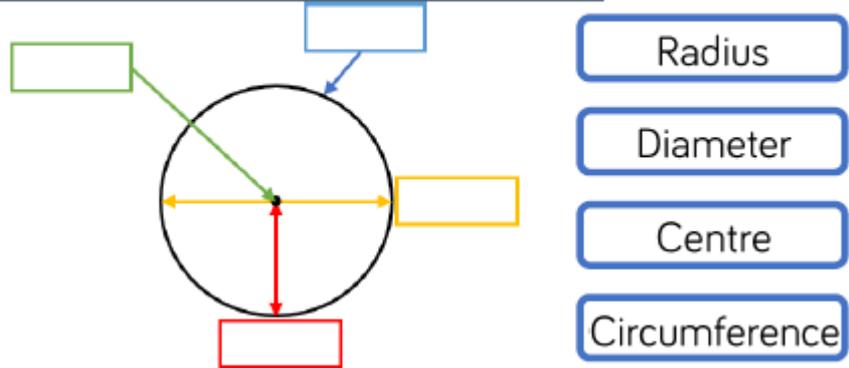
Hello Year 6! Today we are going to study **CIRCLES!**
 How much do you know already about circles? Are circles polygons? Do circles have symmetry? How many sides does a circle have? Think about these questions before your start. Have fun. **Good luck!**



Task 1

Research the parts of a circle to complete the diagram below.
 Draw a circle in your book using a compass or a round object and label all its parts. If you can - watch these VERY useful video links:
<https://www.bbc.co.uk/bitesize/topics/zvmxsbk/articles/z8c7qtv>
<https://www.piday.org/calculators/circumference-calculator/>

Using the labels complete the diagram:



Copy these sentences into your book and fill in all the missing words from the list below.

Radius Polygon Circle (x2) Circumference Centre (mid-point) Diameter (x2) Symmetry

A _____ is a 2D shape that is not a _____. The _____ of a _____ is the straight line distance from one side of the circle to the other making sure it passes through the very _____ of the circle. The _____ is the distance from one side of the circle to the very centre (mid-point). It is exactly half the length of the _____. The _____ is the distance around the circle. In other words, its perimeter. A circle has infinite lines of _____.

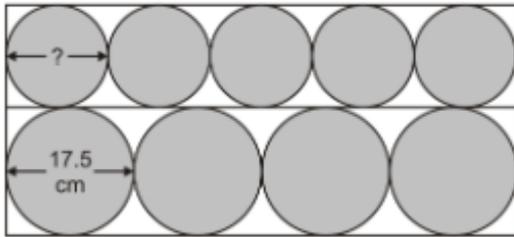
Task 2

Fill in the missing information on this table.

Circle	Diameter	Radius
1		378 cm
2	727 mm	
3	149 m	
4		3.61 cm
5	199 cm	
6		38.84 cm
7		89.28 m
8	4.702m	

Task 3 (Diagram not to scale)

Four large circles and five small circles fit exactly inside this rectangle.

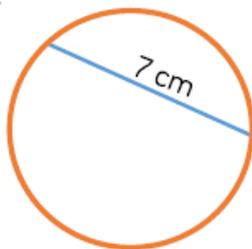


The diameter of a large circle is 17.5 centimetres.

Calculate the diameter of a small circle.

Task 4 Spot the mistake!

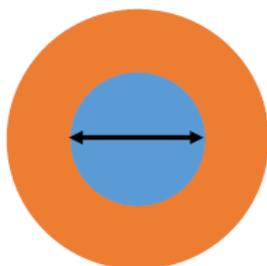
Tommy has measured and labelled the diameter of the circle below. He thinks that the radius of this circle will be 3.5 cm.



Is Tommy right? Explain why.

Task 5

Here are 2 circles. Circle A is blue; Circle B is orange. The diameter of Circle A is $\frac{3}{4}$ the diameter of Circle B.



- If the diameter of Circle B is 12 cm, what is the diameter of Circle A?
- If the diameter of Circle A is 12 cm, what is the radius of Circle B?
- If the diameter of Circle B is 6 cm, what is the diameter of Circle A?
- If the diameter of Circle A is 6 cm, what is the radius of Circle B?

Task 6

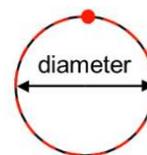
Find 5 circular objects that you can measure the **diameter** of easily to the nearest millimetre. Make sure you mark exactly where you think the **centre (mid-point)** of your object is. Once you have measured the **diameter** of your object, calculate its **radius**. Complete a table like this.

Object e.g. cup	Diameter	Radius

Task 7

Now for measuring the **circumference** of your 5 objects. Unless you have a circular ruler, this will prove difficult!! Instead use string or a tape measure to measure the approximate **circumference**.

Place a piece of string round the circle and then open it out flat:



Measure the length of the line:

What do you notice about the size of the circumference compared to the size of the diameter each time (see previous table)? In the next task you are going to research how you can measure the **exact** circumference of a circle.

Task 8 **pi**

For this task you need to have watched the **second video** link on page 1 and understood what 'pi' is. If not - research 'pi' on the internet. Mathematicians use the Greek symbol to represent 'pi' which is drawn like this: π
Pi to 2 dec places = 3.14. Use it to solve this problem

Homer bought 8 huge Krispy Kreme donuts. He started measuring their different sizes but ate them before finishing the table below. He never finished it. Can you?



C	Diameter	Radius	Circumference
1	8 cm		
2		16 cm	100.48 cm
3	5 cm		
4		9 cm	
5		12 cm	
6		30 cm	
7	30 cm		
8			31.4 cm