



DURATION: 30MINS

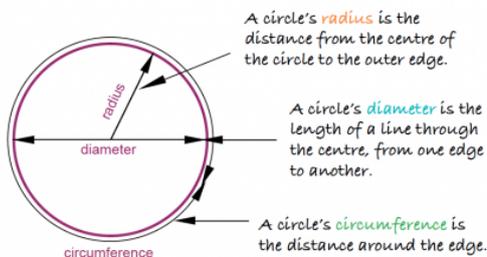


MATERIALS REQUIRED: WHEEL, PEN/CHALK, TAPE MEASURE /RULER, PHONE OR CALCULATOR

Wheel Circumference

Aim:

We are going to be working out the **circumference** of a circle- which is the length of all the way around the outside of a circle. We can use this distance to see how many times your wheel would have to go around to travel different distances, for example all the way to Paris!



There is a sneaky mathematical way to calculate this distance- a formula (mathematical potion!). It uses the **radius** (r for short) of a circle, which is the distance from the middle to the edge.

Instructions:

Using a pen/chalk make a mark on the wheel, or pick a mark already on the wheel!

Using tape or chalk, make a mark on the ground (check with your parents first).

Place the wheel down so that the floor on tyre marks a lined up.

Slowly roll the wheel along the ground until the mark is closest to the ground again. The wheel has completed a full rotation!

Make a mark where the wheel mark is touching the ground.

Measure the distance between the two points using a ruler or tape measure.

Make a note of this number.

Now let's use our mathematical potion (formula) and see how close we are!

From the side, measure distance from middle of wheel to the outside edge. This is called the **radius**.

Magic calculation:

Use a calculator or phone to work out $2 \times 3.14 \times \text{radius}$.

Compare these two numbers. Which method do you think is more accurate? Why?

How could you make this calculation more accurate?

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