

Candle Trials

- You need**
- ✓ five jars of different sizes
 - ✓ a teacher to light the candle
 - ✓ a measuring jug
 - ✓ a classmate
 - ✓ a stopwatch
 - ✓ water
 - ✓ a cut-down ice cream container



When you put a jar over a burning candle, the flame will eventually go out.

This is because the flame uses up the oxygen in the jar.

Activity

Do this activity with a classmate. Before you start, draw up a table like this:

Candle Trials					
Trial	Time flame goes out			Average	Capacity in mL
	1	2	3		
Jar 1					
Jar 2					
Jar 3					
Jar 4					
Jar 5					

1. Get five jars of different sizes. Using a stopwatch, time how long the candle flame takes to go out after you put each jar over it. Do this three times for each jar and then record the average time on your table.
2. Measure each jar's capacity by filling it with water and pouring the water into a measuring jug. Record the measurements in your table.
3. Can you predict how long the flame will take to go out if you know the capacity of the jar?



Investigation

Stick the candle in the base of an ice cream container. Put about 2 centimetres of water in the container. Put the jar over the lighted candle. As the oxygen is used up, water rises up into the jar to take its place.

Estimate what fraction of the air in the jar is oxygen.