

ENGINEERING
CHALLENGE

13

WATER CLOCK



THE
JAMES
DYSON
FOUNDATION

WATER CLOCK

Designed by Sam, Teacher and Design and Technology enthusiast at Malmesbury Primary School

The brief

Create a water clock that times exactly one minute with $\frac{3}{4}$ cup of water.

The method

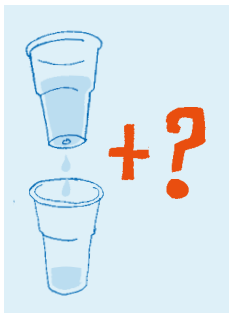
1. A simple water clock could consist of two plastic cups fixed one above the other with a hole in the top cup to allow water to pass from one to the other.
2. Additional cups, string, straws, modeling clay, etc. can also be used to create more elaborate examples or to help slow the water if necessary.

Top tip

You will need to use a timer to observe and measure time accurately and make changes depending on your results. The size and position of the holes, the number of cups the water passes through, the angle of straws and flow rates will all affect your design.

Materials

Plastic cups
Straws
Modeling clay
String
A timer
Wooden dowel or similar to act as a stand
Scissors (with adult supervision)
Tape
Push pins



Design icons

Water clocks are among the most ancient of time pieces, with known examples from Egypt dating to the 16th Century BC. Examples with gears and feedback systems were developed during the Greek and Roman periods.

