

ENGINEERING  
CHALLENGE

13

# WATER CLOCK



THE  
JAMES  
DYSON  
FOUNDATION

# WATER CLOCK

## ENGINEERING CHALLENGE 13

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 200ml 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, plasticine, 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  
Plasticine  
String  
A timer  
Wooden doweling or  
similar to act as a stand  
Scissors  
(with adult supervision)  
Tape  
Drawing 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.

