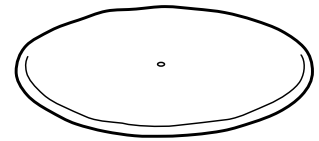


# Make a water clock

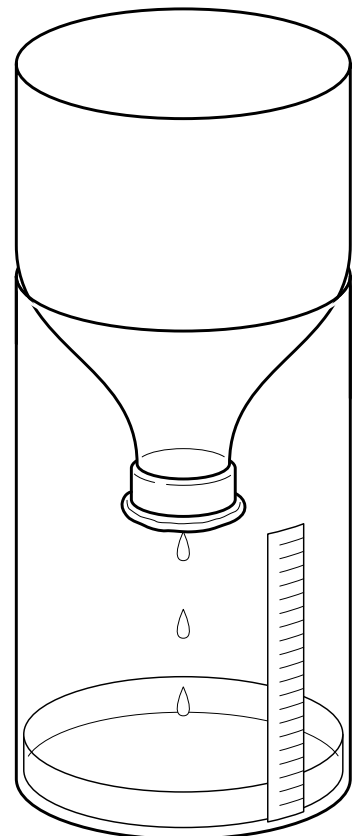
The Egyptians used water clocks to measure time. A simple water clock has a reservoir of water and a collecting vessel and a scale for telling the time. You can make a simple water clock from a plastic bottle which has been cut in two, a piece of Plasticine and a strip of paper and sticky paper.

1. Take the piece of Plasticine and flatten it into a disc. Make a tiny hole in the centre of the disc as diagram 1 shows and stick in to the bottle top.
2. Turn the bottle top upside down and place it in the other part of the bottle as diagram 2 shows.
3. Stick a piece of paper to the side of the bottle as diagram 2 shows.
4. Fill the reservoir with water quickly then time how long it takes to empty. Put a line on the strip of paper to mark the water level in the collecting vessel and write the time such as two minutes.
5. Put other markings on the paper strip. For example, a mark half way between the first mark and the bottom of the vessel could represent one minute.
6. Check any mark you put on the scale records the time accurately by filling the reservoir again and letting the water run through.

**Diagram 1**



**Diagram 2**



# Make a water clock

## Age range

- Years 3/4 (SP4/5).
- Years 5/6 (SP6/7).

## Resources

Copies of the worksheet. A plastic bottle with thin walls, an old bread knife, a piece of Plasticine, a strip of paper, sticky paper, clock.

## Using the worksheet

You may introduce this activity in the following way if you have done the previous activity. Remind the students about them making the discovery of the items in the school. Now tell them that when archaeologists make discoveries they sometimes come across objects that they have not seen before and have to guess at how they worked. For example, the Egyptians did not have mechanisms to make clocks as we have today so they used the flow of water to measure time. Introduce the worksheet and tell the students that they are going to make a water clock. Before the lesson cut the bottles that you need. The top third of the bottle should be cut off so it can be inverted to make the clock. When the students have finished, you could try the following exercise. The clocks could be taken on trays into another class where the students have not studied Egyptians and this second class is asked to suggest what the items on the trays are. Your students can watch while the others try to offer explanations. Alternatively, you may take the trays into the second class and a helper can video the responses for your class to watch on their whiteboard later.

## Younger students

The students should be allowed to try and make the clocks on their own or in groups. You may need a team of teacher helpers when the clocks are to be filled with water. This is best done by a helper pouring from a jug at the student's table. The students will need help calibrating the scale. You may find it more appropriate just to have clocks which measure one time – such as two and a half minutes, and not to make a scale.

## Outcomes

The students can:

- Assemble a simple piece of equipment and make it work.
- Appreciate that people in the past used objects we no longer use today.

## Older students

The students can work in pairs and try and calibrate their clocks.

## Outcomes

The students can:

- Assemble a simple piece of equipment and make it work.
- Appreciate that people in the past used objects we no longer use today.
- Calibrate a scale.