

## Teacher/parent guide

We are so excited that you are going to be taking part in our BIG experiment. The aim of this project is to get children excited about conducting scientific research whilst learning about the scientific method.

In this experiment children will be finding out which biscuit is the best for dunking based on how many dunks they are able to do before the biscuit breaks.

### **To do this experiment you will need:**

- One mug/cup/glass of tap water, wide enough to fit your largest biscuit.
- Any three biscuits of different types.
- Access to Youtube to be able to dunk along with the soundtrack. The video is accessible via [www.fun-science.org.uk/bigexperiment](http://www.fun-science.org.uk/bigexperiment)
- Pen/pencil
- KS1/KS2 worksheet

**We recommend starting the experiment by discussing the following questions with your child/pupils.**

- 1) Have they ever dunked a biscuit in a cup of hot chocolate, milk or another drink?
- 2) Has the biscuit ever broken?

3) Why do they think biscuits break when they are left in water for too long? You could talk about how the biscuit soaks up water which dissolves the sugar in the biscuit. Sugar is needed to hold the biscuit together so when it dissolves, the biscuit breaks.

4) How do they think they could design an experiment to test which biscuit is the best for dunking?

Once you have chatted through these questions, explain the method (below) to the children. You can talk about how this is just one way of testing the dunkability of a biscuit - there are lots of different ways we could have designed the experiment. The important thing is that everyone does the same thing.

## Method

Children will be dunking each biscuit in and out of a cup of tap water temperature water. It is hoped that, whilst there may be slight variations, the tap water temperature will be similar enough across the country to make this a fair test.

Load up the Youtube video and give it a listen. Children will need to dunk the biscuit vertically into the water every time they hear a number. They should dunk so that 50% of the biscuit is in the water and 50% remains outside of the water.

When they hear the word 'out' they should take the biscuit out of the water and hold it horizontally above the glass.

When the biscuit breaks, you should write down the 'dunk number'. This should be the number you heard just before the

biscuit broke. For example, if you dunk the biscuit in on number 7 and it dissolves in the water during the dunk, you should write down 7. If your biscuit breaks whilst you are holding it above the water after dunk number 7, you should still write down the most recent number (7), not the number of the dunk you were just about to do.

After each test, pour out your water and get a fresh cup. This will help to keep the experiment a fair test because sugar dissolved in the water may affect the next biscuit's dunkability.

Now it's time to start experimenting! Help your child/pupils to fill in the first part of their worksheet and then start your experiment. Once you have finished your experiment you can help your child/pupils to complete the second part of the worksheet.

You can then upload your results to

**[www.fun-science.org.uk/bigexperimentresults](http://www.fun-science.org.uk/bigexperimentresults)**

We will be collating results on the 8th July so make sure you send yours in before this date to have your results included in the BIG experiment.

If you have any problems or questions, email [info@fun-science.org.uk](mailto:info@fun-science.org.uk) and we would be very happy to help you.

Happy experimenting!