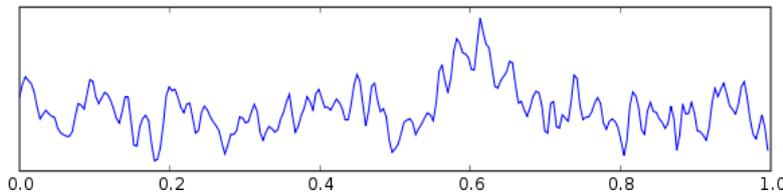


What is EEG?

EEG stands for **electroencephalography**, and it is a way of easily recording certain aspects of brain activity. When nerve cells in our brains are active they produce electrical signals which reach the scalp surface. Therefore by using sensors placed on the scalp we can measure these natural changes in voltage whilst doing an activity or solving a problem, and the pattern that is recorded is what is known as our 'brain waves'.



What happens in an EEG experiment?

If your child decides they want to have a go at doing an EEG session, we will first welcome you to the lab and show you around. We measure their head to choose one of the electrode nets that fits just right, which is soaked in slightly salty water and then put on a bit like a swimming cap.

We spend a bit of time making sure the sensors are all getting a good signal before we start the experiments, which are simple computer tasks similar to ones we have already done with the children. For example they might have to press a button to show which side of the screen has more dots, or whether a pattern matches one that they are trying to keep in their memory.

For the actual experiment your child will sit in a comfy chair in a special sound-proof booth in front of a computer screen, but there is a video link to the family room so you can always see them and you can pop your head in whenever there is a break (which will be every few minutes!) At the end the net can be taken off in about 30 seconds!

We may also wish to track eye movements during some of the experiments, which can give us interesting information about the strategies used to solve different problems. This is done with a special digital camera placed on the table next to the computer screen and we use a chin rest to reduce head movements.

Where?

EEG experiments take place at our lab in the centre of Cambridge (the Downing Site).

How long does it take?

The total time in at the lab will probably be around 1.5 hours, but your child will only be doing the experiments for around 45 minutes. The rest of the time is just needed for showing you all around, getting set up and putting the net on, having breaks and handing out treats!

Are there any risks?

No! EEG is completely safe – the net that is worn on the head is simply a lot of mini sensors that record the naturally occurring electrical signals that happen when our brains are at work, so there is no electricity or anything running through the net. The only possibly uncomfortable part of the procedure is probably just that the net might feel a bit damp from being soaked in water, and we ask children to try and sit very still whilst doing the important parts of the experiment (which may be a challenge for some!), but with plenty of breaks and treats in between.