Human Computers

Age range:	Time needed:	Resources:
6+	20-40 mins	

Computers can help us create new solutions to climate change, but how does their software really work?

You will need:

- Playdough or lego,
- Picture of objects (you could take these from an old catalogue or the cards from a game like 'Creationary' if you can borrow a copy)

These activities have been inspired by Digital Schoolhouse. They offer workshops and more activities on computer science through play for children in KS1 and KS2 - find out more at: www.digitalschoolhouse.org.uk

INSTRUCTIONS

1. Introduce the activity as a way to explore how computers work through instructions and creating images.

2. Divide the group into pairs, and give each pair some playdough or a pile of lego and a selection of images of objects (face down). Explain that one person is going to be the programmer and give instructions and the other will be the computer and act on the instructions. Get them to sit back to back.

3. The programmer should select an image and use instructions to describe the shape to their computer partner. They must not say what the image is of e.g. a cat, but should describe the shapes which make it up e.g. a large cylinder supported by four smaller cylinders etc.

4. After a set amount of time stop the pairs and get them to see how close the object is to the image. Swap roles and try again. You might want to add additional instructions like specifying sizes of shapes in centimetres or in proportion to each other.

GROUP DISCUSSION

Explain that this is the basics of how computer programmes work - programmers will create code (a series of instructions), and the computer then carries out those instructions.

What made the task easy or hard? What did a good instruction look like? (being specific makes for good instructions) What was the effect when there was an unclear instruction?

Ask the group to think about the differences between humans and computers - and how this might relate to finding solutions for climate change.

Answers might include the fact that humans have emotions and intelligence which motivate their behaviours whereas computers have logic (which they have been programmed with by humans) which they use to solve problems and carry out tasks. Computers depend on electricity and can contribute to pollution as a result, but don't need to sleep or eat so can keep working on finding a solution to a problem until they are turned off.

How might we be able to use both human and computer-power to create solutions to climate change?