Broken Tech Roleplay

In this activity, the children will write a simple program for the Beebot or Probot. They will then 'hack' someone else's code and change 2 things. Returning to their own program they must work systematically to debug their code and find what has been changed. This process should teach the children the fundamental skills of debugging.

What do I need?

- Beebots (fully charged)
- Probots (with batteries) - these are trickier than Beebots, so aim for HA Maths children
- Masking tape
- Whiteboard

## Teacher Background Information - Why are we doing this?

From the KS1 National Curriculum:
- create and debug simple programs

Children like to get things right, and to get the right the first time, this isn't how programming works. No one writes a computer program correctly the first time. This activity encourages children to be systematic, working through each line of code one at a time to see what's wrong. It also encourages trial and error testing, to see what the program does in order to be able to find where it went wrong.

What do I do?

5 minutes - introduce the task and explain they will be 'Tech Teammates' and program their friend. Model making up a Beebot program and recording it with masking tape. E.g. tape at the start, move Beebot forward 2, tape that line. The turn and tape again. For example:
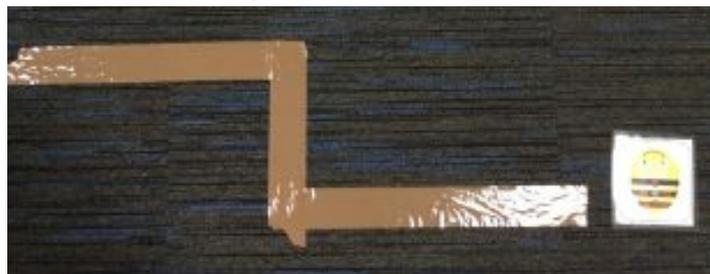
When you've finished the route, put the Beebot at the start again (facing the same way) and run the code you wrote on the whiteboard once more. This will show you put the tape in the right place!

5 minutes - Children create their programs - they don't need to be long, but they should try and make them accurate.

3 minutes - 'Hack' someone's code. You have 2 minutes to change 2 instructions in the code which is written on the whiteboard.

2 minutes - Model trying to find the error in your code (that someone hacked). First, program the instructions as they're written on your w/b and see what happens. Then, go through one at once correcting as you go.

5 minutes - Children return to their original code and try and fix the hack.