The Intelligent Piece Of Paper: Algorithms

LESSON OVERVIEW

This activity introduces the topic of what a computer program is and how everything computers do involves follows instructions written by (creative) computer programmers.

It also aims to start a discussion about what **intelligence** is and whether something that just blindly follows rules can be considered intelligent.

LESSON OBJECTIVES

Students will:

- Understand what programs are
- Understand Artificial Intelligence and it's limitations

MATERIALS, RESOURCES AND PREPARATION

- L6-intelligient paper mind map
- Pens/ Pencils and a partner (similar age or older) to play the game with
- L6- Intelligent Paper Algorithm Sheet

LESSON SEQUENCE

Someone to announce to the their partner/ grown up that they are holding the most intelligent object in the room- the sheet of paper (see L6- Intelligent Paper Algorithm Sheet). Note: Do not read anything off there at this stage.

Activity 1

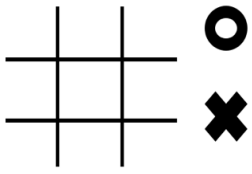
Both of you need to mind map as many reasons as to why it is intelligent (See L6- Intelligent Paper Mind Map)

Throw in 'wild cards' and 'sensible reasons' (5 minutes)

Activity 2

Play a game of noughts and crosses.

1) Player 1 (role of intelligent paper- L6- Intelligent Paper Algorithm Sheet) and can only read the algorithms on sheet in set order. Player 1 to annotate the grid for the paper.
2) Player 2- plays as themselves and tries to beat the paper fairly.
3) Swap roles and see if this makes a difference to who wins



Can the intelligent paper be beaten? Why/ Why not?

EXTRA COMPUTER SCIENCE UNDERSTANDING

In computer science we talk about artificial intelligence. Artificial intelligence comes from sets of instructions that people write. These instructions are called programs. Computers use programs to analyse, or study, large amounts of information quickly. Then they pick answers or actions from among many choices. Computer programs can be used for playing games, making medical decisions, translating languages, and even designing computers.

But analysing information is not the same as understanding a problem as humans do. Computers can only use logic, or the relationships among facts, to figure out problems. Humans use many skills besides logic when making decisions. They use such things as imagination, awareness, emotion, and values. No one knows yet whether these abilities can be programmed into a computer.

CONCLUSION

The intelligent paper is simply a program or code that a human has written. Now see if you can find ways to overcome the instructions or algorithm by interpreting them a little differently.

Happy Playing!