Friday 26th February 2021

Computing: Algorithms

What Is an Algorithm?

An algorithm is a precise set of instructions that you follow to solve a problem or complete a task.

We use algorithms all the time without even realising it.

Recipes

When you follow a recipe, you follow instructions to complete a task.

The instructions are a step-by-step procedure that need to be followed for your recipe to be successful.

Getting Dressed

You follow a step-by-step procedure to get dressed in your school uniform every morning.

For example:
1. Put on underwear and socks.
2. Put on trousers.
3. Put on shirt, followed by tie.
4. Put on jumper.
5. Put on shoes.

The Order of Algorithms

Algorithms need to happen in the correct order.

What would happen if you put your coat on before your school shirt?

Or you put your shoes on before your socks?

Can you discuss these questions with someone in your Family?

Algorithms in Technology

Digital devices all follow algorithms in order for them to work.

You use an algorithm to tell a computer what to do.

Everything you can do on a computer is able to happen because an algorithm has been written for it.

Clicking a mouse, opening a word document and playing a game are all examples of things that have algorithms.

Challenge: Can you create a short algorithm by directing a family member from one place to another in your home or garden?
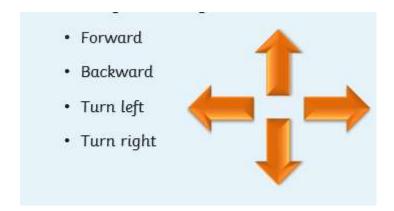
For example from the sofa to the television or from the sink to the fridge.

Who will you choose to be your robot?

You can only use the directions below.

Top Tip: Walk through the directions first then involve your family member (robot).

Remember, program them accurately as they can only do as you say!

- Forward
- Backward
- Turn left
- Turn right

THINK: How will you know how far to walk forwards or backwards? What measurement are you going to use? Could you use steps? How can you make this accurate?