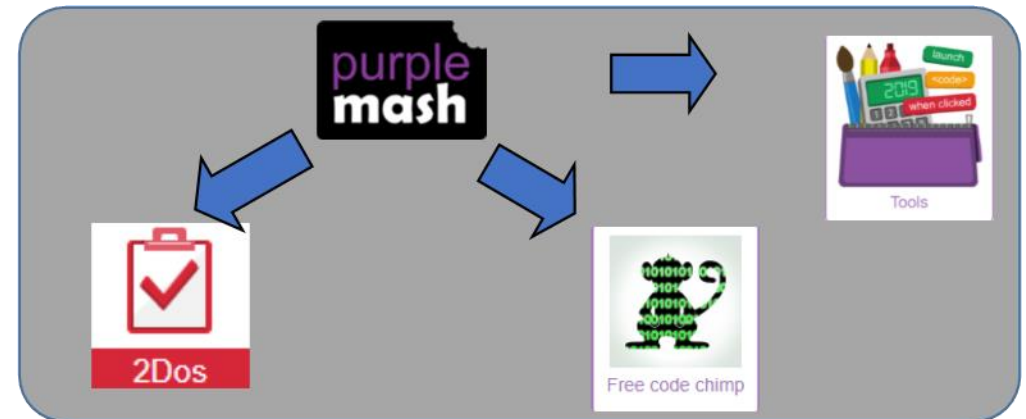


Unit: 2.1 – Coding

Key Learning

- To understand what an algorithm is.
- To design algorithms and then code them.
- To compare different object types.
- To use the repeat command.
- To use the timer command.
- To know what debugging is and debug programs.

Key ResourcesKey Vocabulary

Action - Types of commands, which are run on an object. They could be used to move an object or change a property.

Algorithm - A precise step by step set of instructions used to solve a problem or achieve an objective.

Bug - A problem in a computer program that stops it working the way it was designed.

Character - A type of object in 2Code that can be programmed to change actions or properties.

Code block - A group of commands that are joined together and are run when a specific condition is met or when an event occurs.

Code Design – Design what your program will look like and what it will do.

Command - A single instruction in a computer program.

Debug/Debugging - Looking for any problems in the code, fixing and testing them.

Design Mode - Used to create the look of a 2Code computer program when it is run.

Input - Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.

Object - An element in a computer program that can be changed using actions or properties.

Properties – All objects have properties that can be changed in design or by writing code e.g. image, colour and scale properties.

Repeat - This command can be used to make a block of commands run a set number of times or forever.

Scale - The size of an object in 2Code.

Timer - Use this command to run a block of commands after a timed delay or at regular intervals.

When clicked - An event command. It makes code run when you click on something (or press your finger on a touchscreen).

When Key - An event command. It makes code run when you press the specified key on the keyboard.

Key Images

Open the main menu



Save your work



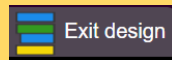
Watch the instruction video



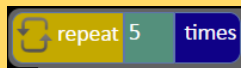
Open design mode in 2Code



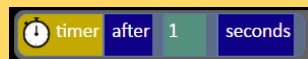
Switch to code mode in 2Code



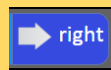
A repeat code block



A timer code block



An object property



Key Questions

What is an algorithm? Why is it useful in coding?

An algorithm is a step-by-step set of instructions used to solve a problem or achieve an objective.

A clear algorithm can help you to create code that does what it is supposed to do.

Can you explain what the repeat command and the timer command do?

A repeat command will repeat actions a specified number of times.

A timer will repeat every time the timer fires this could be **every** 4 seconds or **after** a certain number of seconds.

If you are good at coding, you don't need to debug. Is **this true?**

All coders need to debug to make sure that their program works correctly, and the code does what they intended. As you get better at coding, your programs will get more complex and debugging gets even **more** important.