

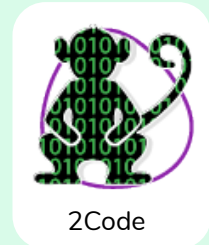


Year 3 Coding

Key Learning

- To understand what a flowchart is and how flowcharts are used in computer programming.
- To understand that there are different types of timers.
- To understand how to use the repeat command.
- To understand the importance of nesting when coding, testing and debugging.
- To design a program.
- To use design documentation to code a program.

Key Resources



2Code

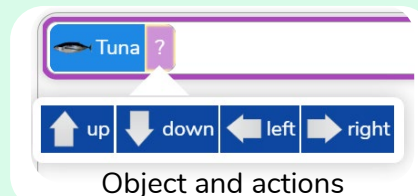
Key Images



Open Design view



Open Code view



Object and actions



Timer after



Timer every



Repeat

Key Questions

How have you used sequencing and repetition in programming?

When a program runs commands step by step, it is a sequence.
Repetition causes part of the program to repeat; this can be done using repeat blocks or timer every blocks.

What process do you follow when debugging?

Refer to design documents that explain how the program should run. Run the code to find where this is not happening correctly. Read the code systematically line by line to identify where errors might have happened and then debug those parts of the code.

Explain why exploring the way code is nested is a good place to investigate bugs.

It can be easy to incorrectly nest commands so that the code does not run in the intended order. Checking that all code is nested correctly can help to work out where there are bugs in the program.



Year 3 Coding

Key Vocabulary

Action

The way that objects change when programmed to do so. For example, move.

Alert

This is a type of output. It shows a pop up of text on the screen.

Algorithm

A set of detailed, step by step instructions.

Attribute

A detail about an object in a program that can be changed. For example, its name, scale or position.

Button Object

A type of object in 2Code that responds only to click events.

Collision Detection

An event command that detects whether two objects have touched each other.

Debug\ Debugging

Fixing code that has errors so that the code will run the way it was designed to.

Design

Planning how a computer program should look and work before building it.

Event

Something that happens in a program that causes a block of code to be run. Events include 'When Clicked', 'When Key' and 'When Swiped'.

Flowchart

A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm.

Interval

In a timer, this is the length of time between the timer code running and the next time it runs e.g. every 1 second.

Nesting

When coding commands are put inside other commands. These commands only run when the outer command runs.

Object

An item in a program that can be given instructions to move or change in some way (carry out an action).

Repeat

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

Sequence

When a computer program runs commands in order.

Timer

In coding, use a timer command to run a block of commands after a timed delay or at regular intervals.

Turtle Object

A type of object in 2Code that moves by coding angles of rotation and distance to move.