

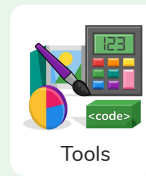
Unit: 3.1

Coding

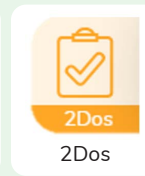
Key Learning

- To understand what a flowchart is and how flowcharts are used in computer programming.
- To understand that there are different types of timers and select the right type for purpose.
- To understand how to use the repeat command.
- To understand the importance of nesting.
- To design and create an interactive scene.
-

Key Resources



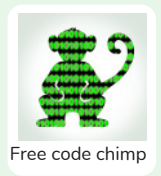
Tools



2Dos



2Chart



Free code chimp

Key Vocabulary

Action

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

Alert

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

Algorithm

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

Background

In 2Code the background is an image in the design that does not change.

Bug

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

Button

A type of object that responds to being clicked on.

Click Event

An event that is triggered when the user clicks on an object.

Code

Writing the code for a computer program.

Collision Detection Event

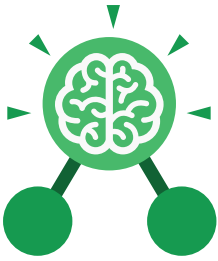
The event of two objects colliding.

Command

A single instruction in a computer program.

Debug/Debugging

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



Unit: 3.1

Coding

Key Vocabulary

Event

An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key (**when Key**) or clicking or swiping the screen (**when Clicked**, **when Swiped**). In 2Code, the event commands are used to create blocks of code that are run when events happen.

Nesting

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

Properties

These determine the look and size of an object. Each object has properties such as the image, scale and position of the object.

Sequence

When a computer program runs commands in order.

Turtle Object

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

Flowchart

A diagram which represents an algorithm.

Input

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

Object

Items in a program that can be given instructions to move or change in some way (action). In 2Code Gibbon, these include character, turtle, button, vehicle, animal, food, shape, number, input and label.

Repeat

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

Test

To run the code and observe what happens to identify where there might be bugs in the program.

Implement

When a design is turned into a program using coding.

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.

Predict

Use your understanding of a situation to say what will happen in the future or will be a consequence of something.

Run

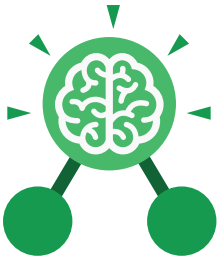
Clicking the Play button to make the computer respond to the code.

Scene

In 2Code, this is the combination of the background and objects in a program.

Timer

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



Unit: 3.1

Coding

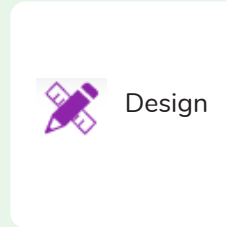
Key Images



Open, close or share a file.

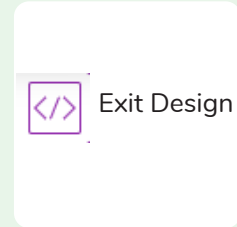


Save your work.



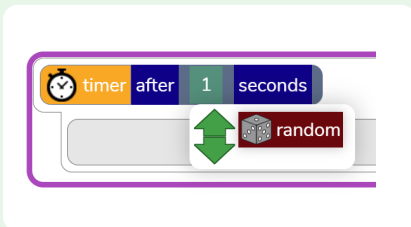
Design

Open design mode in 2Code.

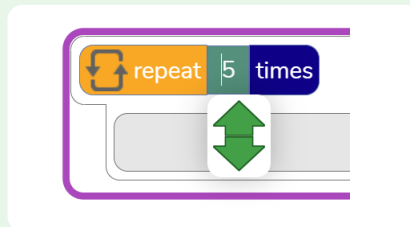


Exit Design

Switch to code mode in 2Code.



A timer code block.



Repeat block.

Key Questions

Why is it useful to use a flowchart to design a computer program?

Using a flowchart to design a computer program is helpful as you can see it in its simplest form as inputs and outputs. You can see where the program is going which will prevent mistakes when creating the code.

What does repeat mean in computer programming?

Using the repeat command will make a block of commands run for a set number of times or forever. This saves rewriting the code many times.

What is the difference between 'timer after' and 'timer every'?

A 'timer after' means after a certain amount of seconds, the action will occur. 'Timer every' means that the action will re-occur every certain amount of seconds on a loop.