

The Flourish Federation—Knowledge Organiser

Brookfield Infant and Junior Schools



Computing Focus:

Computer Science– Algorithms

Year 2

Term 4

What? (Key Knowledge)

I understand what an algorithm is and I am able to express these using symbols, numbers and words.

I understand that computers need precise instructions.

I start to show care and precision to avoid errors.

I understand that algorithms are used on digital devices as programs.

I design simple algorithms using loops and selections.

I use logical reasoning to predict outcomes.

I can detect and correct errors (debugging) in algorithms.

I create and debug simple programs.

Web link

Purple Mash <https://www.purplemash.com/sch/brookfield-infant>

Children have own log in to access resources at home/school

What? (Activities)

I understand what an algorithm is and I am able to express these using symbols, numbers and words.

Children use the air traffic control app on purple mash reading the blocks of code and exploring what the symbols mean while being guided through the stages.

I understand that computers need precise instructions.

Children have practical experiences building things such as lego models, with and without instructions to help them understand that computers cannot function without instructions.

I start to show care and precision to avoid errors.

Children understand that the computer will only do what it is told by the coder and begin to use code chimp (purple mash) with more accuracy.

I understand that algorithms are used on digital devices as programs.

Children can explain and understand how code commands such as 'when clicked' work in a program.

I design simple algorithms using loops and selections.

Children will design their own program to help 'Florence Nightingale clean the hospital (2 code). They can select objects and change the characters using repeat to create loops

I use logical reasoning to predict outcomes

Children are shown code using a walkthrough line by line and predict what the object will do based on the code.

I can detect and correct errors (debugging) in algorithms

In Purple Mash air traffic children are taught to find and fix errors in the program

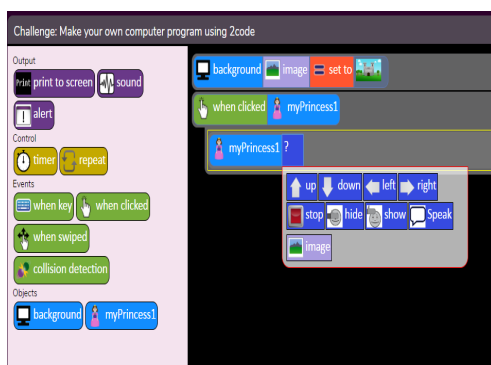
I create and debug simple programs.

In Purple Mash children create code and taught to debug and fix more complex problems as they progress through code activities.

What? (Key Vocabulary)	
Spelling	Definition
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 instruction used to solve a problem or reach an objective.
Bug	A problem in a computer program that stops it working the way it was designed.
Character	A type of object 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	Look for problems in code and fix them
Design mode	Used to create the look of the program when it is run.

What? (Key Vocabulary)	
Spelling	Definition
Input	Information going into the computer
Object	An element in the 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
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.

Visuals



Air Traffic Control



Free code chimp

