



## Computing Vocabulary at Stepgates Community School

Listed below are some of the terms that you may hear your child using when talking about their Computing learning at school.

For a unit specific vocabulary progression, please ask your child's class teacher who will be happy to help!

### Abstraction

In computer science the term abstraction refers to hiding the complexity of tasks to suit the understanding of the user. For example, for you to use a calculator you only have to press buttons in order to receive the correct answer, however the person that built the calculator understands how it works underneath.

### Algorithm

An algorithm is a set of instructions that we complete in order to achieve a task. You could write an algorithm to complete mundane tasks such as making a cup of tea or to complete complex tasks such as calculating the odds that a team will win a football match. In computing an algorithm refers to the set of instructions that a computer follows in the order in which they are given.

### Binary

Binary is the language computers use. It is a series of 1s and 0s and is also used in mathematics.

### Coding

Coding is putting information and commands into a program, making it possible for u to create software, apps and websites.

### Communication technology

Equipment that we use to communicate with, such as a mobile phone or tablet.

### Compile

When we program, we use human words in our codes and programs. However, a computer does not understand human words, so we have to compile the program - using a compiler - which converts the human words into binary.

### Computational logic / thinking

Computational logic is a term that describes the decision-making progress used in programming and writing algorithms.

## Data

Data is Information.

## Debug

Debugging is checking the code in a computer program to ensure it works, and changing it if it doesn't. When writing a computer program things will often go wrong. When writing a program you have to test and debug your program to ensure that it produces correct results.

## Decomposition

Decomposition is the process by which a large, difficult problem can be broken down into a series of smaller, simpler problems, thus making the overall problem easier to solve.

## Hardware

Hardware is the physical part of a computer, which uses electrical signals to complete the calculations needed to make software run. Examples of hardware are the computer circuit board, memory, processor and/or other equipment related to a computer, such as printers, monitors and keyboards.

## Information technology

A term used for all computer-related technology.

## Input

Information that goes into the computer.

## Internet

A network of computers linked all over the world.

## Logic

When making any decision a certain amount of logic is involved; for example, when deciding what to wear in the morning, you make a logical decision based on the season, weather and any number of other factors. Computational logic is used to allow a program to decide what to do and when. For example you may write code that says:  
"When the user clicks this button, perform this calculation."

## Network

Computers linked within a building or area.

## Output

Information that comes out of the computer.

### **Procedure or function**

A procedure/function is used in programming to break a complex task down into simple steps or sections.

### **Program**

A computer program is a collection of instructions or algorithms designed to simplify processes, whether that be writing a Word document or connecting to a website. A computer program is written using a programming language, which allows a computer scientist to teach a computer how to achieve a result. Examples of programming languages are Scratch, Java, Python, C++ and Ruby.

### **Programming language**

Computers are very good at completing lots of mathematical functions in a short space of time, however they don't have the ability to think for themselves. Programming languages bridge this gap and allow us to teach a computer how to do things.

### **Repetition**

Sometimes called iteration, when part of a program repeats itself. For example, in animation you may repeat the movements of a character to make it look like it's moving along.

### **Selection**

When you choose part of something. For example, when you copy and paste text, the passage that you highlight to copy is called the selection.

### **Sequence**

When doing anything in life it is important to complete things in the correct order; you wouldn't pour water into a teacup before you had boiled the kettle, for example! In a program we have to control what happens and when in order to produce correct results. A sequence helps us to ensure that things happen in the correct order.

### **Software**

Software is created using a programming language and is the non-physical part of a computer. Software can be written once and sold multiple times, for instance Microsoft doesn't have to rebuild Microsoft Word every time they have a new customer, they just make a copy of the files they already have.

### **System (Operating System)**

The Operating System sits between the software and hardware and acts as a translator. It tells the hardware when to run calculations and passes the answers back to the software so that it can decide what calculations to run next.

### Variable

A variable is a piece of information in a program that we want to store, but is able to change. We can compare it to a box in which we put information. This information could be a number, and during the program we might change the initial number (for example as part of the scoring system in a game).

### World Wide Web

This is like the Operating System for the internet. We use the web to help us communicate with and over the internet.