

## RCSAT - Computing Vocabulary

**Glossary of terms taken from the RCSAT Computing Curriculum document, CAS/NAACE “Computing in the National Curriculum” & MIT “Scratch Reference Guide”.**

A

**Algorithm** – an unambiguous procedure or precise step-by-step guide to solve a problem or achieve a particular objective. A set of instructions for achieving a goal or solving a problem.

# B

**Block** – (in scratch) - a ‘chunk’ of programming or a particular graphic block or piece such as the ‘forever’ control block. Blocks linked together are called a **script** in Scratch. To find out what a block does, right-click on it, then select *help* from the pop-up menu.

**Blocks Palette – (in Scratch) –** the area of the scratch interface where control **blocks** can be dragged from to the **scripts area**.

**Command** – a step or line of programming

# C

**Computer networks** – the computers and the connecting hardware (wifi access points, cables, fibres, switches and routers) that make it possible to transfer data using an agreed method (‘protocol’).

**Control** – using computers to move or otherwise change ‘physical’ systems. The computer can be hidden inside the system or connected to it.

**Control Block** – (in Scratch) see **Block**

**Costume – (in Scratch) –** the costume is what a sprite can look like on screen. Costumes tab to see and edit the sprite’s costumes. A sprite can have multiple costumes that are changed by programming the sprite.

# D

**Data** – a structured set of numbers, representing digitised text, images, sound or video, which can be processed or transmitted by a computer.

**Debug** – to detect and correct the errors in a computer program.

**Digital content** – any media created, edited or viewed on a computer, such as text (including the hypertext of a web page), images, sound, video (including animation), or virtual environments, and combinations of these (i.e. multimedia).

# E

**Execute –** to follow a series of instructions. The computer or robot follows the instructions in order to complete the program.

# I

**Information** – the meaning or interpretation given to a set of data by its users, or which results from data being processed.

**Input** – data provided to a computer system, such as via a keyboard, mouse, microphone, camera or physical sensors. Information which is received by the computer from a keyboard, mouse or sensor e.g. pressing the left mouse button or space bar creates an input.

**Internet** – the global collection of computer networks and their connections, all using shared protocols (TCP/IP) to communicate.

# L

**Logical reasoning** – a systematic approach to solving problems or deducing information using a set of universally applicable and totally reliable rules.

# O

**Output** – the information produced by a computer system for its user, typically on a screen, through speakers or on a printer, but possibly though the control of motors in physical systems. Also an action performed by the computer e.g. switching on a light, moving a turtle or sprite across the screen.

# P

**PageRank** – A way of ordering the results of a search on the internet. Google uses a PageRank algorithms, which determines the quality and rank of a page based on the quality of the pages that link to it. Their quality is, in turn, determined by the quality of the pages that link to them, and so on.

**Program** – a stored set of instructions encoded in a language understood by the computer that does some form of computation, processing input and/or stored data to generate output. For children: A sequence of instructions written to perform a specified task on the computer

# R

**Repetition (sometimes referred to as ‘iteration’ in upper KS2 & KS3)** – a programming construct in which one or more instructions are repeated, perhaps a certain number of times, until a condition is satisfied or until the program is stopped. Repetition means repeating a sequence of instructions a certain number of times, or until some specific result is achieved. This means loops of all kinds, such as repeat, for, while, until etc.

# S

**Script –** (In Scratch) blocks are snapped together into stacks, called **scripts**. When you click on a script, Scratch runs the blocks from the top of the script to the bottom. You can program **sprites** and the **stage** using scripts.

**Scripts area -** (In Scratch) – blocks are dragged from the **block palette** onto the script area in order to programme a sprite or stage.

**Search** – to identify data that satisfies one or more conditions, such as web pages containing supplied keywords, or files on a computer with certain properties.

**Selection** – a programming construct in which the instructions that are executed are determined by whether a particular condition is met. A question is asked, and depending on the answer, the program chooses between two or more possible courses of action. At KS2, selection should include the if..then..else statement. (E.g. If the sprite is touching a wall then bounce back, else move forward)

**Sequence** – to place programming instructions in order, with each executed one after the other.

**Services** – programs running on computers, typically those connected to the internet, which provide functionality in response to requests; for example, to transmit a web page, deliver an email or allow a text, voice or video conversation.

**Simulation** – using a computer to model the state and behaviour of real-world (or imaginary) systems, including physical and social systems; an integral part of most computer games.

**Software** – computer programs, including both application software (such as office programs, web browsers, media editors and games) and the computer operating system. The term also applies to ‘apps’ running on mobile devices and to web-based services.

**Sprite –** (in Scratch) an object that can be controlled by programming. Scratch projects are made up of objects called **sprites**. You can change how a sprite looks by giving it a different **costume**. You can use any image as a costume: you can draw an image in the Paint Editor, import an image from your hard disk, or drag in an image from a website.

You can give instructions to a sprite, telling it to move or play music or react to other sprites. To tell a sprite what to do, you snap together graphic **blocks** into stacks, called **scripts**.

When you click on a script, Scratch runs the blocks from the top of the script to the bottom.

**Stage** – (in Scratch) - the Stage is where you see your stories, games, and animations come to life. Sprites move and interact with one another on the Stage. The Stage is 480 units wide and 360 units tall. It is divided into an x-y grid. The middle of the Stage has an x-coordinate of 0 and a y-coordinate of 0.

# V

**Variables** – a way in which computer programs can store, retrieve or change simple data, such as a score, the time left, or the user’s name.

# W

**World Wide Web** – a service provided by computers connected to the internet (web servers), in which pages of hypertext (web pages) are transmitted to users; the pages typically include links to other web pages and may be generated by programs automatically.

## Year Group Computing Vocabulary

**Vocabulary taken from the RCSAT Computing Curriculum document, CAS/NAACE “Computing in the National Curriculum” & MIT “Scratch Reference Guide”.**

**Vocabulary in red indicates new vocabulary for that year group or Key Stage.**

**Key Stage 1**

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| --- | --- |
| **Foundation Stage Vocabulary** | **Year 1 Vocabulary** |
| **Control Information Internet Program** | Control Information Internet Program **Algorithm Data Debug Search Selection Sequence** |

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| **Year 2 Vocabulary** |
| Control Information Internet Program Algorithm DataDebug Search Selection Sequence**Computer networks Execute****Input Output Software****World Wide Web** |

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**Key Stage 2**

|  |  |
| --- | --- |
|  | **Years 3, 4, 5 & 6 Vocabulary** |
|  | Control | **Block** |
| Information | **Blocks Palette** |
| Internet | **Command** |
| Program | **Control Block** |
| Algorithm | **Costume** |
| Data | **Digital content** |
| Debug | **Logical reasoning** |
| Search | **PageRank** |
| Selection | **Repetition (sometimes referred to as** |
| Sequence | **‘iteration’ in upper KS2)** |
| Computer networks | **Script** |
| Execute | **Scripts area** |
| Input | **Services** |
| Output | **Simulation** |
| Software | **Sprite** |
| World Wide Web | **Stage** |
|  | **Variables** |