



Copplestone Computing Curriculum

Year 4

Overview and Small Steps

| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| <p>Computing systems and networks – The Internet <i>(CS, DL and IT)</i></p> <ol style="list-style-type: none"> 1. To describe how networks physically connect to other networks 2. To recognise how networked devices make up the internet 3. To outline how websites can be shared via the World Wide Web (WWW) 4. To describe how content can be added and accessed on the World Wide Web (WWW) 5. To recognise how the content of the WWW is created by people 6. To evaluate the consequences of unreliable content | <p>Creating media – Audio production <i>(DL and IT)</i></p> <ol style="list-style-type: none"> 1. To identify that sound can be recorded 2. To explain that audio recordings can be edited 3. To recognise the different parts of creating a podcast project 4. To apply audio editing skills independently 5. To combine audio to enhance my podcast project 6. To evaluate the effective use of audio | <p>Programming A- Repetition in shapes <i>(CS and IT)</i></p> <ol style="list-style-type: none"> 1. To evaluate the effective use of audio 2. To create a program in a text-based language 3. To explain what 'repeat' means 4. To modify a count-controlled loop to produce a given outcome 5. To decompose a task into small steps 6. To create a program that uses count-controlled loops to produce a given outcome | <p>Data and information – Data logging <i>(CS and IT)</i></p> <ol style="list-style-type: none"> 1. To explain that data gathered over time can be used to answer questions 2. To use a digital device to collect data automatically 3. To explain that a data logger collects 'data points' from sensors over time 4. To recognise how a computer can help us analyse data 5. To identify the data needed to answer questions 6. To use data from sensors to answer questions | <p>Creating media – Photo editing <i>(DL and IT)</i></p> <ol style="list-style-type: none"> 1. To explain that the composition of digital images can be changed 2. To explain that colours can be changed in digital images 3. To explain how cloning can be used in photo editing 4. To explain that images can be combined 5. To combine images for a purpose 6. To evaluate how changes can improve an image | <p>Programming B – Repetition in games <i>(CS and IT)</i></p> <ol style="list-style-type: none"> 1. To develop the use of count-controlled loops in a different programming 2. To explain that in programming there are infinite loops and count controlled loops 3. To develop a design that includes two or more loops which run at the same time 4. To modify an infinite loop in a given program 5. To design a project that includes repetition 6. To create a project that includes repetition |



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| https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet | https://teachcomputing.org/curriculum/key-stage-2/creating-media-audio-editing | https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes | https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging | https://teachcomputing.org/curriculum/key-stage-2/creating-media-photo-editing | https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games |
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National Curriculum links

Computer Science (CS) – **foundation understanding** – How computers and computer systems work and how they are designed and programmed.

Information Technology (IT) – **using their understanding, applying**- The purposeful use of existing programs to develop products and solutions.

Digital Literacy (DL) – **implications**- The skills, knowledge and understanding needed in order to participate fully and safely.

Computational Thinking – threaded throughout computer science, information technology and digital literacy.

Vocabulary For Year Group

Red is new vocabulary for year group.

Algorithm - A precise set of ordered steps that can be followed by a human or a computer to achieve a task.

Attribute – A word or a phrase that can be used to describe an object such as its colour, size, or price.

Code - The commands that a computer can run.

Code snippet – A section of a program viewed in isolation.

Command - A single instruction that can be used in a program to control a computer.

Computer - A programmable machine that accepts and processes inputs and produces outputs (input, process, output; IPO).

Computer Network – A group of interconnected computing devices.



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Computer systems - A combination of hardware and software that can have data input to it, which it then processes and outputs. It can be programmed to perform a variety of tasks.

Count-controlled loop - A command that repeatedly runs a defined section of code a predefined number of times.

Data - A letter, word, number etc. that has been collected for a purpose, but stored without context.

Data set – A collection of related data.

Debugging - The process of finding and correcting errors in a program.

Decompose – To break down a task into smaller, more achievable steps.

Digital Device - A computer or a device with a computer inside that has been programmed for a specific task.

Information - Data put into a context that provides meaning.

Infinite loop - A command that repeatedly runs a defined section of code indefinitely.

Input – Data that is sent to a program to be processed.

Internet – The global systems of interconnected computer networks.

Loop - (Count-controlled, condition-controlled, or infinite) Commands that repeatedly run a defined section of code.

Output – The result of data processed by a computer.

Procedure - A named set of commands that can be called multiple times throughout a program. This type of subroutine does not return a value.

Process- A program, or part of a program, that is running on a computer.

Program - A set of ordered commands that can be run by a computer to complete a task.

Repetition - Part of a program where one or more commands are run multiple times in a loop.



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Run (execute) – To action the commands in a program.

Website – A collection of interlinked web pages, stored under a single domain.

WiFi - A technology that allows devices to wirelessly access a network and transfer data.

WWW (World Wide Web) - A service provided via the internet that allows access to web pages and other shared files.