A community working in harmony to achieve our God – given potential.

EASINGTON
CHURCH OF ENGLAND PRIMARY ACADEMY

# Computing Progression of Knowledge, Skills & Vocabulary - Strand Progression

At Easington Primary Academy, we believe the use of information and communication technology is an integral part of the National Curriculum, a key skill for everyday life and vital for a successful future for our children. Laptops, tablets and programmable robots are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. In an evolving world where technology is at the heart, we aim to develop enthusiasm in computational thinking and confidence in using the latest technologies for a range of purposes.
We are very lucky to be able to provide each and every child within the school with their own Chromebook for use during the school day which develops their skills as well as their knowledge in the wider curriculum.
At Easington, it is paramount that children are confident users of technology, including the internet, whilst exploring it safely. As a school, we have a duty to safeguard and promote the welfare of our children which includes online safety.

## Control Systems

| Key Stage 1 | | | | Key Stage 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** |
| **Understand what algorithms are (& how they are implemented as programs on a digital device)** | Write a simple program (including unplugged/ plugged) | **Understand how we can use logical reasoning to predict the behaviour of a simple program.** | Use logical reasoning to predict the behaviour of a simple program | **Understand how programs can run using various forms of input and output (e.g. Bee bots/ micro bits).** | Use various forms of input and output. | **Understand how to break programs down into smaller parts (decomposition) and why that is useful.** | Use decomposition (breaking things down) to solve problems linked to programs. | **Understand how sequencing can be used within programs.** | Use sequencing effectively within programs. | **Understand how variables can impact programs.** | Use variables purposefully within programs to achieve specific goals. |
| **Understand that programs need precise instructions.** | Write a simple program (which follows precise instructions) | **Understand what debugging is and how it affects how a program runs.** | Identify and debug a simple program. | **Understand how programs are used to control everyday devices. (e.g. toys, drones, traffic lights etc.)** | Create a program which can control/replicate everyday/real world devices. (e.g. toy/traffic lights). | **Understand how to detect and correct errors in algorithms and programs ( for various purposes).** | Use logical reasoning to detect and correct errors in algorithms and programs (for various purposes). | **Understand how repetition (loops) can be used within programs.** | Use repetition (loops) effectively within programs. | **Understand how selection can impact a program.** | Use selection purposefully within programs. |
| **Vocabulary** | | | | | | | | | | | |
| Algorithms, programmes, move, precise instructions. | | (As before +) Logical, reasoning, predict, debug, | | (As before +) Create, specific, goals, sequence, input and output. | | (As before +) decompose, control, design, write, detect, correct | | (As before +) Combine, repetition, sequence | | (As before +) Combine, selection, variables, purpose, impact | |

## Information Technology

| Key Stage 1 | | | | Key Stage 2 | | | | | | | |
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| **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** | **Knowledge** | **Corresponding skill** |
| **Understand how** | Recognise common uses | **Understand how** | Recognise common uses | **Understand how software** | Select, use and combine a | **Understand how the internet and** | Collaborate and communicate | **Understand how software can be** | Select, use and combine a variety | **Understand the difference** | Identify the parts within the |

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| **information technology beyond school can help us.** | of information technology beyond school (in the real world). | | **information technology is used within school to help us.** | of information technology within school. | | **can be used to collect and present data.** | variety of softwares to accomplish given goals (collecting and presenting data/information ) | | **the world wide web can provide opportunities for collaboration and communication.** | effectively for a specific purpose. | | **used to analyse and evaluate data.** | of softwares to accomplish given goals (analyse and evaluate data/information) | | **between the internet and the world wide web and what they do.** | schools computer network (eg. servers, router, ports) |
| **Understand how and why digital content can be changed.** | Use technology purposefully to change pre-made digital content. | | **Understand how we can use technology to create, organise, store and retrieve digital content.** | Use technology purposefully to create, organise, store and retrieve digital content. | | **Understand how to use search technologies effectively.** | Use search technologies effectively. | | **To appreciate how results are selected and ranked using search technologies.** | Use filters to find specific information. | | **To understand how we can evaluate digital content based on reliability and authenticity.** | Evaluate digital content. | | **To understand what databases are and how they are used to store information.** | Select, use and combine a variety of software to create a database for a specific goal. |
| **Vocabulary** | | | | | | | | | | | | | | | | | | | |
| Information technology, Computer, laptop, chromebook, tablet, mouse, touchpad, keyboard, website, click, scroll, type, enter, digital<br><br>Names of devices in the wider world - fridge, TV, tills, cashpoint etc. | | | (As before +) Organise, create, store, retrieve.<br><br>Names of devices within school - printer, interactive whiteboard etc. | | | (As before +) Collect, present, select, combine, software, data, internet, search, search engine | | | (As before +) world wide web, collaborate, communicate, results, rank, filters, specific | | | (As before +) analyse, evaluate, digital content, reliability, authenticity | | | (As before +) compare, computer network, router, server, databases, storage, The Cloud | |
| **<u>Digital Literacy</u>** | | | | | | | | | | | | | | | | | | | |
| **Key Stage 1** | | | | | | **Key Stage 2** | | | | | | | | | | | | | |
| **Knowledge** | **Corresponding skill** | | **Knowledge** | **Corresponding skill** | | **Knowledge** | **Corresponding skill** | | **Knowledge** | **Corresponding skill** | | **Knowledge** | **Corresponding skill** | | **Knowledge** | **Corresponding skill** | | | |
| **Understand why we should keep personal information private.** | Keep personal information private. | | **Understand what usernames and passwords are and why they are important.** | Use usernames and passwords safely. | | **Understand how to use safely, respectfully and responsibly.** | Demonstrate an ability to use technology safely, respectfully and responsibility. | | **Understand what is acceptable and unacceptable behaviour online.** | Recognise acceptable and unacceptable behaviours online and act accordingly. | | **Understand what a digital footprint is and how it can impact your life.** | Identify positive and negative digital footprints. | | **Understand what plagiarism and copyright means and its impact.** | Find and use copyright free online content. | | | |
| **Understand what is inappropriate online content and know to report it to a trusted adult.** | Recognise inappropriate online content. | | **Understand we can respond to inappropriate online content in different ways.** | Respond appropriately to inappropriate online content. | | **Understand that there are a range of ways to report concerns online about content and contact.** | Identify and report concerns appropriately about online content and contact. | | **Understand what scams, spams and hackers are and the corresponding dangers.** | Recognise if a/my device has been scammed, spammed or hacked. | | **Understand that algorithms are used to track online activity in order to influence us (e.g. cookies = advertising).** | Act on personal judgement to determine whether to allow/deny cookie usage. | | **Understand that we are all digital citizens and how we can impact and influence the wider world.** | Be a responsible digital citizen (including social media usage). | | | |
| **Vocabulary** | | | | | | | | | | | | | | | | | | | |
| Private, personal, information, inappropriate, report, trusted | | | (As Before +) username, password, respond, safely | | | (As Before +) respect, responsible, report, contact, stranger | | | (As Before +) Acceptable / unacceptable, scam, hackers, danger, | | | (As Before +) digital footprint, traceable, impact, track, online activity, cookies, advertisement, virus | | | (As Before +) plagiarism, copyright, free, digital citizen, influence, social media | | | |