Progression in Computing

This document provides a more detailed progression of the Computing knowledge, skills, understanding and attitudes required at EYFS, KS1 through to KS2. **Please note that since 2014, the online safety coverage outlined in the National Curriculum is now regarded as limited. A more comprehensive progression for online safety can be found** here.

By the end of EYFS children should be able to:
- Show skill in making toys work by pressing parts or lifting flaps to achieve affects such as sound, movements or new images.
- Know that information can be retrieved using the internet.
- Select and use technology for a particular purpose.

Vocabulary: Control • Information • Internet • Program

By the end of Year 1 children should be able to:

- Understand where to go for help and support when he/she has concerns about content or contact on the internet and other online technologies.
- Predict the behavior of simple programs.
- Understand what algorithms are and how they are implemented on digital devices.
- Use technology purposefully to create digital content.
- Recognize common uses of information technology in the home and school environment

By the end of Year 2 children should also be able to:

- Understand where to go for help and support when he/she has concerns about content or contact on the internet and other online technologies.
- use technology safely and keep personal information private
- understand that programs execute by following precise and unambiguous instructions.
- use logical reasoning to predict the behavior of simple programs
- create simple programs
- debug programs using logical reasoning to predict the actions instructed by the code
- use technology purposefully to create digital content, comparing the benefits of different programs.
- use technology purposefully to create, store, manipulate and   retrieve digital content
- recognize common uses of information technology in the home and school environment

By the end of Year 3 children should also be able to:

- identify a range of ways to report concerns about content or contact in and out of school
- design, write and debug programs that simulate virtual events
- use logical reasoning to explain how some simple algorithms work
- recognise familiar forms of input and output devices and how they are used.
- make efficient use of familiar forms of input and output devices
- with support select and use a variety of software to accomplish goals
- understand that computer networks enable the sharing of data and information.
- use simple search technologies e.g google, Swiggle or another search engine
- recognise that some sources are more reliable than others.
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By the end of Year 4 children should also be able to:

- use technology responsibility and understand that communication online may be seen by others
- decompose programs into smaller parts.
- use logical reasoning to detect and correct errors in algorithms and programs
- with support, select use and combine a variety of software, systems and content which accomplish given goal
- use other input devices such as cameras or sensors
- understand what servers are and how they provide services to a network

- understand how results are selected and ranked by search engines

By the end of Year 5 children should also be able to:
- understand the ethics behind only selecting age appropriate content.
- design, input and test a series of increasingly complex set of instructions to a program or device
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.
- Design, write and test simple programs that follow a sequence of instructions, or allow a set of instructions to be repeated.
- Design and write simple programs with opportunities for selection, where a particular result will happen based on the actions of the user
- Independently select, use and combine a variety of software to design and create content for a given audience, including collecting, analysing, evaluating and presenting data and information.
- design and create a range of programs, systems and content for a given audience
- begin to use internet services and share data to a third party
- use filters in search technologies effectively and understand that results are selected and ranked.

By the end of Year 6 children should also be able to:
- include the use of sequences, selection and repetition when programming
- solve problems by decomposing them into smaller parts

- use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms and programs efficiently

- independently select, use and combine a variety of software to design and create content for a given audience, including collecting, analysing, evaluating and presenting data and information.

- design and create a range of programs, systems and content for a given audience

- independently select use a variety of software to collect, analyse, evaluate and present data and information.
- understand how computer networks enable users to communicate and collaborate
- use filters in net searches effectively and is discerning when evaluating digital content

Please click here for "I can" statements for these skills