Pupil Progression

Computer Science

Understands what an algorithm is and is able to express simple linear (non-branched) algorithms using sequential notation. (AL)
Determines the order of complexity of their own programs, and can demonstrate by building a simple program in an environment that does not rely on test on e.g. programmable robots etc. (AL)
Understands that algorithms implement on digital devices as programs. Designs simple algorithms using loops, and selection if i.e. statements. Uses logical reasoning to predict outcomes, and identifies errors i.e. debugging, in programs. (AL)
Understands that ranges of digital devices can be considered a computer. (AB) (GE) Recognises and uses a range of input and output devices. Understands how programs specify the function of a general purpose computer. (AB)

Designs solutions (algorithms) that use repetition and two-way selection i.e. if then else. (AB) (AL) Performs operations using bit patterns e.g. conversion between binary and hexadecimal, binary subtraction etc. (AB) (AL) (GE) Understands that people interact with computers.

Notes: Each of the Progression Pathway statements is underpinned by one-or-more learning outcomes (due for publication in 2014), providing greater detail of what should be taught to achieve each

Computational Thinking Concept:

Differentiation of data: text, number, (AB) (GE) Distinguishes between some of these forms and can explain the different ways that they communicate information. (AB)
Obtains content from the world wide web using a web browser. (AL)
Understands that digital communication is possible through transmission of data and information. (AB) (DE) USES understands the importance of communicating safety and respectfully, online, and the need for keeping personal information private. (AB) Knows what to do when concerned about content or being contacted. (AL)
Recognises that ranges of digital devices can be considered a computer. (AB) (GE) Recognises and can use a range of input and output devices. (AL)
Navigates the web and can carry out simple web searches to collect digital content. (AB) (EV) Technology is increasing independence to purposefully organise digital content.
Uses a variety of software to manipulate and present digital content: data and information. (AL) Shares their experiences of technology in school and beyond the classroom. (GE) TALKS about their work and makes improvements to solutions based on feedback received. (EV)
Recognises what is acceptable and unacceptable behaviour when using technologies and online services.

Digital Literacy

Knows what can be a flat line can include searching for information. (EV) Uses filters or can perform single criteria searches for information. (AL)
Shows an awareness of, and can use a range of internet services e.g. VDP, Collects, organises and presents data and information in digital context. (AB) Creates digital content to achieve a given goal through combining tools and packages from different internet services and software e.g. blogging. (AL) Makes appropriate improvements to solutions based on feedback received, and can comment on the success of the solution. (EV)
Demonstrates responsible use of technologies and online services, and knows how to report concerns. (AL) Selects, combines and uses internet services. (GE) UNDERSTANDS the potential of information technology for collaboration when computers are networked. (GE)
Recognises ethical issues surrounding the application of information technology beyond school.

Uses technologies and online services securely, and knows how to identify and report inappropriate conduct. (AL) IDENTIFIES and explains how the use of technology can impact on society.

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