

KESTEVEN AND SLEAFORD HIGH SCHOOL



Computing Scheme of Learning

Year 8 – Topic 3 – Programming

Intent – Rationale

Topic Intent: Introduce students to text-based programming and develop their understanding of basic programming constructs (sequence, selection and iteration)

Curriculum Intent: Developing an understanding of some of the underlying principles of Computer Science, with a focus on mathematical skills and programming

KS3 PoS: Use two or more programming languages, at least one of which is textual... design and develop modular programs that use procedures or functions

Sequencing – what prior learning does this topic build upon?	Sequencing – what subsequent learning does this topic feed into?
<ul style="list-style-type: none"> • KS2 Computing (to varying degrees) • Year 7 Topic 3b (Programming) 	<ul style="list-style-type: none"> • Year 9 Topic 4 (Programming) • OCR GCSE Computer Science (2.1 & 2.2)
What are the links with other subjects in the curriculum?	What are the links to SMSC, British Values and Careers?
<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • GB4e & GB4h
What are the opportunities for developing literacy skills and developing learner confidence and enjoyment in reading?	What are the opportunities for developing mathematical skills?
Directly linked to topic <ul style="list-style-type: none"> ○ https://smallbasic-publicwebsite.azurewebsites.net/tutorials ○ https://www.computingatschool.org.uk/data/tft/01p2/03Handouts/0204Introducing_Small_Basic_Guide.pdf 	<ul style="list-style-type: none"> • N/A

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Intent – Concepts

What knowledge will students gain and what skills will they develop as a consequence of this topic?

Know

- Understand how to use Input and Process to generate a required Output
- Understand Small Basic's basic syntax rules and a how to use range of basic functions (input, print, if... elif, for loops, while loops)
- Understand what syntax errors are, how to find them and how to correct them
- Be introduced to the concept of event-driven programming

Apply

- Develop or extend a range of basic programs using taught knowledge, including: a quiz, a calculator, a simple drawing app and a classic game

Extend

- Understand how to use sub-routines and decomposition to simplify a complex task into simpler component parts

What subject specific language will be used and developed in this topic?

- **Sequence:** *an instruction leads to the next ordered instruction in a predetermined order*
- **Iteration:** *Repeating a block of code*
- **Selection:** *Using conditions to decide which line/block of code to run next*
- **Algorithm:** *a process or set of instruction to be followed in calculations or other problem-solving operations such as computer programming*
- **Syntax error:** *A programming error due to incorrect use of the programming language*
- **Debug:** *the process of running code to find errors*

What opportunities are available for assessing the progress of students?

- In-lesson observation and feedback
- Moodle onscreen assessment

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Intent – Concepts

Lesson title	Learning challenge	Higher level challenge	Suggested activities and resources
			See T drive