

Subject	Computing
Term	Cycle 1
Duration (approx.)	6 lessons
Module	HTML

Spelling-Punctuation-Grammar How will you promote high standards within this module?

Correct syntax needed for coding to work.

Link forward: where next for the learning?

Further coding units in Years 8 and 9 can be linked back to the experiences of using HTML.

Skills and concepts to be developed and assessed (linking to identified AOs)

- How to use HTML tags to create a range of website content:
 - *Text;*
 - *Images;*
 - *Hyperlinks;*
 - *Tables;*
 - *Changing formatting for style and size;*
- Using CSS to create a stylesheet template for use on a website.
- How to explain code by using comment lines.
- How to use an online code developer tool and transfer the pages created for local use.

Factual knowledge to be taught and assessed (including subject specific vocabulary).

- What is a website?
- How websites are constructed using HTML script.

Formative Assessment/key piece of work prior to end of unit:

Initial HTML code created – to check for errors / misunderstandings.

Summative Assessment

Final range of code developed for a website.

Building Retention: What prior learning must be built upon/revisited and how will it be assessed?

Link back to coding units completed in Year 7 – similarities and differences between the types of programming used so far and HTML scripting language.

Subject	Computing
Term	Cycle 2
Duration (approx.)	8 Weeks
Module	Scratch Programming

Building Retention: What prior learning must be built upon/revisited and how will it be assessed?

Link back to coding units completed in Year 7—how the key programming terms applied to these languages.

Spelling-Punctuation-Grammar How will you promote high standards within this module?

Check spelling, punctuation and grammar in any on screen text in programs.

Link forward: where next for the learning?

Direct link to Python programming unit later in year 8 where key terms will be revisited in an industry standard language.

Skills and concepts to be developed and assessed (linking to identified AOs)

- How to use a block based programming language.
- Consolidation of key programming terms and how to use these:
- *What a **variable** is in programming and how to create and use variables.*
- *How to use **sequence** in programming to make instructions run in order.*
- *How to use **selection** in programming to make code have different possible outcomes using IF and IF...ELSE.*
- *How to use **iteration** in programming to make code repeat using forever and repeat loops.*
- Using debugging skills to check for errors in code and correct these.
- How to make different types of Scratch programs; stories, games, etc.
- Understanding what pseudocode is and being able to write some pseudocode for a planned program.

Factual knowledge to be taught and assessed (including subject specific vocabulary).

Consolidation of the key programming terms: sequence, selection, iteration and variable. What pseudocode is and what it is used for.

Formative Assessment/key piece of work prior to end of unit:

Check lesson task sheets for development of understanding and use of key terms.

Summative Assessment

Pseudocode to plan a final program.
Final coded program using range of skills learnt.

Subject	Computing
Term	Cycle 2
Duration (approx.)	6 Weeks
Module	Spreadsheet Quiz

Spelling-Punctuation-Grammar How will you promote high standards within this module?

Use of correct spelling in quiz questions and possible answers. Use of MS Word as a drafting tool in order to use spell checking facilities.

Link forward: where next for the learning?

Links to future programming units (Python in Year 8 & 9) as many functions (IF, VLOOKUP) relate to parts of programming languages.

Skills and concepts to be developed and assessed (linking to identified AOs)

- How to use advanced techniques in a spreadsheet to create an easy to use quiz.
- *Data validation to create drop-down lists.*
- *VLOOKUP to automatically populate cells with data.*
- *Macros to run a sequence of events on the click of a button.*
- *Use of IF statements to automatically populate cells.*
- *Settings and protection features to customize how the spreadsheet looks and what can and cannot be edited.*
- How to use formatting tools in a spreadsheet to make the information easy to see and understand.
- How to evaluate a finished product and suggest further improvements.

Factual knowledge to be taught and assessed (including subject specific vocabulary).

Data validation, macros.

Formative Assessment/key piece of work prior to end of unit:

Mid-point check of progress with spreadsheet and accuracy of skills used.

Summative Assessment

Final spreadsheet quiz.
Written evaluation of the final solution.

Building Retention: What prior learning must be built upon/revisited and how will it be assessed?

Link back to spreadsheet unit completed in Year 7 – how to reference cells, formatting tools, how to enter formulae and functions and the benefits of using these.

Subject	Computing
Term	Cycle 3
Duration (approx.)	7 weeks
Module	Introduction to Python

Building Retention: What prior learning must be built upon/revisited and how will it be assessed?

Link back to coding units completed in Years 7 & 8 —how the key programming terms applied to these languages.

**Spelling-Punctuation-Grammar
How will you promote high standards within this module?**

Correct syntax needed for coding to work

Link forward: where next for the learning?

Direct link to Intermediate Python programming unit in year 9 where key terms will be revisited and built on.

Skills and concepts to be developed and assessed (linking to identified AOs)

- How to use an industry standard text based programming language.
- Re-cap of key programming terms and how to use these in a new language:
- *Understanding what a **variable** is in programming and how to create and use variables.*
- *How to use **sequence** in programming to make instructions run in order.*
- *How to use **selection** in programming to make code have different possible outcomes using IF and IF...ELSE.*
- *How to use **iteration** in programming to make code repeat using FOR and WHILE loops.*
- How to accept input from the user in a program and use this.
- Using debugging skills to check for errors in code and correct these.
- Using code commenting to show understanding of what is created.

Factual knowledge to be taught and assessed (including subject specific vocabulary).

The key programming terms: sequence, selection, iteration and variable.

Formative Assessment/key piece of work prior to end of unit:

Check of 'selection' coding to check mid-point progress and ensure syntax used correctly and commenting of good quality.

Summative Assessment

Final coded program using a range of skills learnt.

Subject	Computing
Term	Cycle 3
Duration (approx.)	7 weeks
Module	Systems and Control

Building Retention: What prior learning must be built upon/revisited and how will it be assessed?

Link back to all coding units completed so far – the used of variables, actions, sub-routines (functions) and the process of breaking down problems into step by step solutions.

**Spelling-Punctuation-Grammar
How will you promote high standards within this module?**

Check spelling, punctuation and grammar in any on screen text in programs.

Link forward: where next for the learning?

Direct link to Python programming unit in year 9 where functions will be taught and pupils will use flowchart software to represent code.

Skills and concepts to be developed and assessed (linking to identified AOs)

How to use a range of flowchart elements to create simulations of control systems, including:

- Outputs to change item states in a simulation.
- Decisions to allow different actions to be carried out.
- Delays to control the timing of simulations.
- Variables to be able to store and change data.

Using looping in order to make control systems run continuously.

Using sub-routines in order to separate repeated instructions from main systems.

Factual knowledge to be taught and assessed (including subject specific vocabulary).

How automatic control systems are used in everyday life.

The different types of sensors used in a control system.

The different shapes used to represent information in a flowchart.

Formative Assessment/key piece of work prior to end of unit:

Screenshots of flowcharts created so far at the mid-way point of the unit.

Summative Assessment

Screenshots of flowcharts completed to demonstrate application of skills.

End of unit test to demonstrate factual knowledge learnt.