CURRICULUM MAP: Year 7

Term Autumn 14 weeks	Year 7
Literacy foci **Reading skills** **Subject terminology and vocabulary** **Spelling tests** **Key Objectives** **Key Objectives** **Homework** **Quizizz.com** **DPR** **Revisiting, revising, remembering opportunities** **Starter activities** **Quizizz.com** **SIMS Data drop**	**Units:** **7.1 Digital Citizens** **NC Content:** Students will undertake creative projects that involve selecting, using, and combining multiple applications. Students will explore a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; they will be able to recognise inappropriate content, contact and conduct and know how to report concerns. 1) Understand how to stay safe online and recognise the risks of sharing too much personal information. 2) Understand how online 'phishing' works and how to report 'phishing' and other online scams. **7.2 Control** **NC Content:** Using control software students will design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems. Understand simple Boolean logic [for example, AND, OR and NOT] and some of its uses in circuits and programming. 3) Be able to identify where in everyday situations where control is used in computing and control systems. 4) I can recognise different types of sensors used in everyday objects and situations **Enrichment/life and work skills:** **Computer Science Club/ coding club** **Competitions** **Assessments:** **Quizizz.com** **Written Questions/activities** **Endpoint:** Students will understand how to keep safe online in a variety of scenarios, they will learn how to create a game using block programming.

Term Spring 10 weeks	Year 7
Literacy foci **Reading skills** **Subject terminology and vocabulary** **Spelling tests** **Key Objectives** **Key Objectives** **Homework** **Quizizz.com** **DPR** **Revisiting, revising, remembering opportunities** **Starter activities** **Quizizz.com** **SIMS Data drop**	**Units:** **7.3 Game Development** **NC Content:** Students will complete a creative project that will involve selecting, using, and combining multiple applications and artifacts / assets, meeting the needs of known users. They will create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability They will use a block based programming language to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]. Students will also be introduced to a text based programming Language, (Python). 5) I understand how to plan, develop and evaluate a project and create products such as a game. **7.4 What are Computers ?** **NC Content:** Students must understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems. Students will learn how instructions are stored and executed within a computer system. 6) I understand the difference between input and output devices. 7) I understand that computers use machine code and can work out binary numbers. 10) I understand that computers and electronic devices require operating systems **Enrichment/life and work skills:** **Computer Science Club/ coding club** **Competitions** **Assessments:** **Quizizz.com** **Written Questions/activities** **Endpoint:** Students will understand how Computers work and how websites are created.

Term Summer 14 weeks	Year 7
Literacy foci **Reading skills** **Subject terminology and vocabulary** **Spelling tests** **Key Objectives** **Key Objectives** **Homework** **Quizizz.com** **DPR** **Revisiting, revising, remembering opportunities** **Starter activities** **Quizizz.com** **SIMS Data drop**	**Units:** **7.5 Web Awareness** **NC Content:** Students will complete creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, meeting the needs of known users . They will understand what HTML is and how websites are coded, they will develop their own site. 8) I understand the need to network computers and where they would be used. 9) I understand how data travels through the internet and have an understanding of how search engines work. **7.6 Using Media: promoting a cause** **NC Content:** Students will complete a creative project that will involve selecting, using, and combining multiple applications and artifacts / assets, meeting the needs of known users. They will create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design and usability Students will explore a range of ways to use technology safely, respectfully, responsibly and securely, including protecting their online identity and privacy; they will be able to recognise inappropriate content, contact and conduct and know how to report concerns. 1) Understand how to stay safe online and recognise the risks of sharing too much personal information. **Enrichment/life and work skills:** **Computer Science Club/ coding club** **Competitions** **Assessments:** **End of Year Assessments.** **Written Questions/activities** **Endpoint:** Students will understand how computers are used to make decisions, students will understand how to design and create games.

The progressive, inclusive curriculum 'skills, knowledge and concepts: literacy, life skills and enrichment'

Autumn 12 weeks

Term	Year 8
Autumn 12 weeks	

Literacy foci
Reading skills
Subject terminology and vocabulary
Spelling tests

Units:

8.1 Cryptography

NC Content:

Students will understand two or more programming languages, at least one of which is textual, (Python), and will have solved a variety of computational problems..

Students will understand how data of various types can be represented and manipulated digitally, in the form of binary digits.

Students will relate this to the concept of encryption, making links to units from year 7 to recognise the importance of keeping Data safe. Students will learn about The Enigma Machine, Alan Turing and the work done at Bletchley Park.

1)   I can explain where and why encryption is used in everyday situations e.g. over Wifi

8.2 Data

NC Content:

Students will learn how numerical data can be manipulated by computers using software and its relevance to the modern world.
Links will be made to the importance of data in society.

2) I can setup and format a spreadsheet environment
3) I can manipulate data in a spreadsheet to solve a problem using formulae

Enrichment/life and work skills:

Computer Science Club

Assessments:

Quizizz.com

Written Questions/activities

Endpoint:
Students will have a knowledge of Cryptography and how encryption works, they will also understand the how data is manipulated and its relevance to everyday life.

Key Objectives

Key Objectives

Homework

Quizizz.com

DPR

Revisiting, revising, remembering opportunities
Starter activities
Quizizz.com

SIMS Data drop

Spring 10 weeks

Term	Year 8
Spring 10 weeks	

Literacy foci
Reading skills
Subject terminology and vocabulary
Spelling tests

Units:

8.3 Python Magic

NC Content:

Students will understand how algorithms reflect computational thinking and they will use logical reasoning to compare the suitability of alternative algorithms for the same problem.

Students will use a textual programming language, (Python), to solve a variety of computational problems; they will make use of relevant data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions.

4) I know how to set up a python coding environment and write a simple program
5) I understand why we need programming concepts such as selection and loops

8.4 Cyber Crime and Security

NC Content:
Students will explore a range of ways that society uses technology safely, respectfully, responsibly and securely, including the protecting of ones online identity and privacy.
They will be taught about a range of security concerns and how they may impact an individual and an institution.

6) I know a variety of threats to data security and can explain solutions to these
7) I can explain different kinds of social engineering and how to avoid falling victim to these.

Enrichment/life and work skills:

Computer Science Club

Assessments:

Quizizz.com

Written Questions/activities

Endpoint:
Students will develop a range of coding skills and understand constructs, they will understand the importance of logic in Computing and its relationship to hardware. Students will understand the importance of Cyber security in todays society.

Key Objectives

Key Objectives

Homework
Quizizz.com
DPR

Revisiting, revising, remembering opportunities
Starter activities
Quizizz.com

SIMS Data drop

Summer 14 weeks

Term	Year 8
Summer 14 weeks	

Literacy foci
Reading skills
Subject terminology and vocabulary
Spelling tests

Units:

8.5 Data Representation

NC Content:

Understand the hardware and software components that make up computer systems, and how they communicate with one another and with other systems.

Understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits.

8) I can explain how data such as images and sound are represented by computers

8.6 Graphics

NC Content:

Students will create, re-use, revise and re-purpose digital artefacts for a given audience, with attention
to trustworthiness, design and usability.
Students learn how to create a variety of graphic images using image editing applications, they understand the appropriate use of a variety of file formats

9) I can use a variety of complex editing techniques to create a graphic
10) I can break down and respond to a project brief

Enrichment/life and work skills:

Computer Science Club

Assessments:

End of Year Assessment.

Endpoint:
Students will understand how computers represent different types of data, linking to a previous unit. Students will develop editing skills in Image manipulation software, they will learn how to adjust and combine images to create new digital artifacts.

Key Objectives

Key Objectives

Homework
Quizizz.com
DPR

Revisiting, revising, remembering opportunities
Starter activities
Quizizz.com

SIMS Data drop

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