



Programme of Learning

KS3

Computing

Our Curriculum

- A** **Ambitious** Our students reach their full potential
- S** **Spiritual** Our students develop a strong moral compass and integrity
- P** **Purposeful** Our students experience a broad and balanced curriculum that prepares them for the next stage of education and life
- I** **Inclusive** Our students needs and talents are recognised and nurtured
- R** **Rich** Our students access a range of academic, creative and cultural opportunities
- E** **Engaging** Our students are motivated and develop a love of learning



Our curriculum equips students with the computing literacy and skills needed for the digital world and future workplaces, ensuring learners develop a solid understanding of Computer Science and IT. After studying a broad Key Stage 3 curriculum, we offer specialist courses at Key Stage 4 and 5 to help students achieve their ambitions, whilst emphasising safe and positive computing practices. Our lessons, centred on practical tasks and problem solving, include both visual and text-based programming, nurturing independence and skill development. We provide ongoing instruction, feedback and extra-curricular opportunities such as Coding Club to enhance learning. Regular curriculum reviews ensure students gain up-to-date knowledge and skills relevant to Computing and other subjects studied at All Hallows.



Student Progress Grid

COMPUTING Computing (Scratch)

Add highlight / circle the cells that best describe your work

Aspect of work	Level 4 and below*	Level 5	Level 6	Level 7	Level 8 and above*
1. Using Scratch: Accessing my/Our/One Account and saving my Project. Downloading, and saving my Project to my OneDrive	I can access my/Our/One Scratch Account, open my Project and save it. I can download my Project to my OneDrive with some help and/or reminders.	I can access my/Our/One Scratch Account, open my Project and save it. I can download my Project to my OneDrive with some help.	I can access my/Our/One Scratch Account and save it. I can download my Project to my OneDrive without help.	I can access my/Our/One Scratch Account, open my Project and save it. I can download my Project to my OneDrive and upload a Scratch file without help.	I can access my/Our/One Scratch Account, open my Project and save it. I can download my Project to my OneDrive and upload a Scratch file without help.
2. The 3 Programming Constructs	I wrote the 3 constructs into my online diary	I wrote the 3 constructs into my online diary but I have not learnt them yet.	I wrote the 3 constructs into my online diary and I can remember some of them.	I wrote the 3 constructs into my online diary and I can usually remember them all - using PCSIS.	I wrote the 3 constructs into my online diary and I can remember them all - using PCSIS.
3. Adding a sprite and editing the code of a sprite in Scratch. Eg falling objects and a pot to catch the object/s	I can add sprites to Scratch - eg . A ball and a pot. I needed help to write the code to make the sprites move or to control the sprite. I am not confident to explain where sequence and iteration have been used.	I can add sprites to Scratch - eg . A ball and a pot. I needed a little help to write the code to make the sprites move or to control the sprite. I am not confident to explain where sequence and iteration have been used.	I can add different sprites and I can program them to do different things by editing the code. I added objects that fall from the top of the screen and added a pot that can move by using the arrow keys. I used sequence and iteration in my code when shown by the teacher.	I can add different sprites and I can program them to do different things by editing the code. I added objects that fall from the top of the screen and added a pot that can move by using the arrow keys. I can recognise where sequence and iteration was used in my code.	I can add different sprites and I can program them to do different things by editing the code. I added objects that fall from the top of the screen and added a pot that can move by using the arrow keys. I can explain where sequence and iteration was used in my code and how it helps my program.
4. Add other sprites (falling objects to avoid - homework)	I needed lots of help to add another falling sprite - eg a lightning bolt.	I needed some help to add another falling sprite - eg a lightning bolt.	I added another falling object to my program myself.	I added another falling object to my program myself and changed the code.	I added other falling objects to my program myself and changed the code so they fall in a different way - as I wanted.
5. Understand how to edit the code to alter the action of the falling objects.	I copied the code to edit the sprites I have in my program	I copied the code to edit the sprites I have in my program	I know that the code affects the action of the falling object and the timing/delay/frequency of the falling objects but I find it hard to identify where this happens in my code.	I can recognise where the code affects the action of the sprites in my game eg . The speed of the falling object and the timing/delay/frequency of the falling objects.	I can recognise and explain where the code affects the action of the sprites in my game eg . The speed of the falling object and the timing/delay/frequency of the falling objects.
6. Use cloning - falling objects and other objects	I copied the code that allows my falling objects to be copied (cloned).	I copied the code that allows my falling objects to be copied (cloned).	I can recognise the coding behind cloning and identify where iteration has been used.	I can recognise the coding behind cloning and identify where iteration has been used.	I can explain the coding behind cloning and how iteration has been used.
7. Adding Variables: <u>Score</u> and/or timer	I was able to add a score or timer to my game	I added a score and a timer to my game	I can identify where my score and timer are used and are adjusted within the code.	I can identify how my score and timer are used and are adjusted within the code. I set the timer to end the game at a certain value.	I can identify and explain how my score and timer are variables and are adjusted within the code. I set the timer to end the game at a certain value.
8. Selection - change score depending on what is touched	My score changes when one of my sprites is touched by another sprite but I cannot explain how this happens.	I used selection in my code to change the score when my pot catches a ball.	I used selection in my code to change the score when my pot catches a ball. My score is also changed if I accidentally touch a different falling object.	I can recognise where a selection affects the score of my game. I edited the code to add a score and to reduce the score depending on what happens to my sprites.	I can recognise and explain where a selection affects the score of my game. I edited the code to add a score and to reduce the score depending on what happens to my sprites.
9. Extras: • Change backdrop • Welcome page; • Instruction screen • End game page • Sound • Objects falling in different direction • High Score • Bonus object with different reward	I did not manage to complete any 'extras' for my Scratch game	I added a Welcome page but copied the code from the teacher demonstration	I added one or two extras and can identify the code I used	I added two or three extras and can identify the code I used	I can recognise and explain where a selection affects the score of my game. I edited the code to add a score and to reduce the score depending on what happens to my sprites. I added more than 3 extras and can identify and explain the code I used

*Level 9 may be awarded where all work is at level 8 and above. Levels 1, 2 and 3 may be awarded where work is below level 4. Award myself a level!

Progress Grid

(this is an exemplar progress grid for computing and students will receive a different grid for each unit studied)

Year 7

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 7

TITLE OF UNIT: 7.1 E Safety

LESSONS: 1

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •How to maintain personal safety online – privacy settings •How to report any online concerns / issues •Recognise risks of online activity / behaviour •Cyberbullying issue awareness •Online shopping/buying – safety and security •Personal identity protection •Personal data protection •Not passing on yours or other people's info/Id •Consequences of not following safety rules •Age restrictions of social media sites and why (they are under 13!) 	<ul style="list-style-type: none"> •Security – creating passwords •Researching guidance about safe internet use

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration	Rule of Law Mutual Respect Individual Liberty	E Safety Personal Security and Safety

Literacy/Reading/Numeracy	Careers
Task to summarise top tips using language introduced during lesson	

How will this topic be assessed?
Task handed in on Teams – A4 poster explaining top 5 tips on ' how to stay safe online ' including explanations and ' Where to Find Help '.

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 7

TITLE OF UNIT: 7.2 Systems and Apps at All Hallows

LESSONS: 4

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •The potential of Office 365 •MS desktop apps •Standard menus and tools to use in MS Office •Audit current level of expertise •Ability to use school produced documents/work at home using O365 	<ul style="list-style-type: none"> •Login •School network – file structure and storage •Office 365 Skills – email, SharePoint, Teams. •Use of Forms for assessment (Quiz) •Word – document production •Online diary for Computing •Download MS apps at home using O365 offer

Core Values	British Values	Social, Moral, Cultural & Spiritual
Responsibility Intellectual Curiosity	Rule of Law Mutual Respect Individual Liberty	

Literacy/Reading/Numeracy	Careers
Accuracy of word processing will be taught eg. spellcheck and grammar check.	Referral to use of MS apps in the business world.

How will this topic be assessed?
<ul style="list-style-type: none"> •Assessment will be via the audit checklist sheet and an end of unit test completed in class. Record of work added to online diary.

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 7

TITLE OF UNIT: 7.3 Scratch 1 - Programming 1

LESSONS: 5

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •Programming constructs •Debugging •Computational thinking 	<ul style="list-style-type: none"> •Abstraction •Pattern recognition •Decomposition •Sequences •Iteration •Selection

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Tolerance Democracy Rule of Law Mutual Respect Individual Liberty	

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> •Technical language related to programming. •Abstraction •Pattern recognition •Decomposition •Sequence •Iteration •Selection 	The core concepts introduced are a key skill for most computing careers and essential for the Computer Science GCSE, and can be applied to most STEM subjects

How will this topic be assessed?
<ul style="list-style-type: none"> •We will use an Assessment Grid for this unit •There is an end of topic test for this unit, (EOTT)

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 7

TITLE OF UNIT: 7.4 Computer Hardware (including binary)

LESSONS: 4

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •Key people in the invention and development of computing •Main components of a computer. •CPU, memory, data storage •Computer performance •Why a computer uses binary •Comparative costs of computer components •Binary counting system 	<ul style="list-style-type: none"> •Research – theory of Computer Hardware and key people •Create, save, add slides, add text, format text to PowerPoint file to present work •Import images e.g. from file, copy and paste into PowerPoint

Core Values	British Values	Social, Moral, Cultural & Spiritual
Intellectual Curiosity		Inventors/developers of computing

Literacy/Reading/Numeracy	Careers
Research – reading about key people in the field of computing	Computer hardware related careers

How will this topic be assessed?
<ul style="list-style-type: none"> •The PowerPoint file produced by students will be assessed for this unit of work • Content and presentation will be considered.

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 7

TITLE OF UNIT: 7.5 Flowol (including Microbits)

LESSONS: 5

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •Programming constructs •Debugging •Computational thinking •Flow charts symbols 	<ul style="list-style-type: none"> •Abstraction •Pattern recognition •Decomposition •Creating algorithms to solve problem •Drawing flowcharts that demonstrate •Iteration & Selection

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Tolerance Democracy Rule of Law Mutual Respect Individual Liberty	

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> •Technical language related to programming. •Abstraction •Pattern recognition •Decomposition •Sequence •Iteration •Selection 	The core concepts introduced are a key skill for most computing careers and essential for the Computer Science GCSE, and can be applied to most STEM subjects

How will this topic be assessed?
<ul style="list-style-type: none"> •We will use an Assessment Grid for this unit •There is an end of topic test for this unit, (EOTT)

Year 8

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 8

TITLE OF UNIT: 8.1 E-Safety

LESSONS: 1

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •How to maintain personal safety online - privacy settings •How to report any online concerns / issues •Recognise risks of online activity / behaviour •Cyberbullying •Online shopping / buying - safety and security •Digital footprint / tattoo •How data is captured by online organisations •Use of data captured by online organisations •GDPR - rights re. data •Persuasive design - eg gaming - money spent - time spent 	<ul style="list-style-type: none"> •Security - passwords •Search engines - ranking, selecting and targeting people

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Rule of Law Mutual Respect Individual Liberty	

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> •Digital literacy – keywords •Writing of a short essay – structure / conclusion. Spell check. 	

How will this topic be assessed?
<ul style="list-style-type: none"> •Students will be set an essay to write on the topic of 'digital footprint' - Using the case study of Paris Brown watched in lesson. The assignment will be set on Teams.

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 8

TITLE OF UNIT: 8.2 Scratch 2 - Programming 2

LESSONS: 5

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •Programming constructs: Sequence Selection Iteration •Scratch programming Language, graphics based 	<ul style="list-style-type: none"> •Using sequences of code to achieve a goal •Programming loops •Programming selection •Opening files •Saving files •Problem Solving •Drawing images on screen •Computer game creation

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Mutual Respect	Contribute to class discussions to share and develop understanding Collaborative work on problem-solving activities Resilience and perseverance to overcome difficulties

Literacy/Reading/Numeracy	Careers
Keywords: Sequence, Iteration, Selection X Y co-ordinates for placing and moving sprites	The core concepts introduced are a key skill for most computing careers and essential for the CS GCSE, and can applied to most STEM subjects.

How will this topic be assessed?
<ul style="list-style-type: none"> •Self and Peer assessment of completed games to a set assessment grid

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 8

TITLE OF UNIT: 8.3 Python Programming (Turtle)

LESSONS: 5

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> • Programming constructs: • Sequence • Selection • Iteration • Text based programming (Python) • Computational Thinking • Logic 	<ul style="list-style-type: none"> • Using sequences of code to achieve a goal • Opening files • Saving files • Outputting information to the screen • Taking information from the keyboard • Problem Solving (debugging) • Basic maths in code • Boolean Logic (AND OR) • Designing a texted based game

Core Values	British Values	Social, Moral, Cultural & Spiritual
Responsibility Intellectual Curiosity		Contribute to class discussions to share and develop understanding Collaborative work on problem-solving activities Resilience and perseverance to overcome difficulties

Literacy/Reading/Numeracy	Careers
Keywords: Sequence, Iteration, Selection, Abstraction, Decomposition, Pattern Recognition, Algorithm	The core concepts introduced are a key skill for most computing careers and essential for the Computer Science GCSE, and can applied to most STEM subjects.

How will this topic be assessed?
<ul style="list-style-type: none"> • Self and Peer assessment of completed games to a set assessment grid, • We will also use an EOTT for this unit.

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 8

TITLE OF UNIT: 8.4 Excel

LESSONS: 5

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •Business organisation and use of spreadsheet application. •Answering a brief •Spreadsheet design and functions 	<ul style="list-style-type: none"> •Sum •Average •Cell referencing •Conditional formatting •Filtering Data •Data Validation •IF function •Graphs and Charts

Core Values	British Values	Social, Moral, Cultural & Spiritual
Business organisation and use of common applications.	Business organisation and use of common applications.	Pricing, payments

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> •Sum, Average •Functions •Logic •Percentages •Interpreting instructions 	Business administration Accounting

How will this topic be assessed?
•We will use an Assessment Grid for this unit

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 8

TITLE OF UNIT: 8.5 Flexible Computing Unit

LESSONS: 3

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> •Programming constructs •Debugging •Computational thinking •Flow charts symbols 	<ul style="list-style-type: none"> •Abstraction •Pattern recognition •Decomposition •Creating algorithms to solve problem •Drawing flowcharts that demonstrate Iteration & Selection •Programming microbits to solve problems

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Tolerance Democracy Rule of Law Mutual Respect Individual Liberty	

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> •Technical language related to programming. •Abstraction •Pattern recognition •Decomposition •Sequence •Iteration •Selection 	The core concepts introduced are a key skill for most computing careers and essential for the Computer Science GCSE, and can be applied to most STEM subjects

How will this topic be assessed?
<ul style="list-style-type: none"> •We will use an Assessment Grid for this unit •There is an end of topic test for this unit, (EOTT)

Year 9

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 9

TITLE OF UNIT: 9.1 E Safety

LESSONS: 1

By the end of this unit, students will be able to know/do:

grey font indicates where a refresher will be given about those issues

Knowledge	Skills
<ul style="list-style-type: none"> •How to maintain personal safety online - privacy settings •How to report any online concerns / issues •Recognise risks of online activity / behaviour •Cyberbullying •Online shopping / buying - safety and security •Laws surrounding online activity and social media •Scams – various types – fraud – illegal behaviour by others •Fake information, sites, data, news etc – disinformation – fact checking •Grooming – signs and what to do 	<ul style="list-style-type: none"> •Research •Word doc. /Teams Task •Fact checking

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Tolerance Democracy Rule of Law Mutual Respect Individual Liberty	E Communication methods and the law. Accuracy and validity of internet information

Literacy/Reading/Numeracy	Careers

How will this topic be assessed?
<ul style="list-style-type: none"> •This unit will be assessed using the homework set for students.

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 9

TITLE OF UNIT: 9.2 Text Based Adventure Game

LESSONS: 6

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> • Programming constructs • Debugging • Computational thinking • Text based programming (Python) 	<ul style="list-style-type: none"> • Abstraction • Pattern recognition • Decomposition • Creating algorithms to solve problem • Drawing flowcharts that demonstrate Iteration & Selection • Coding algorithm designed in Python

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Tolerance Democracy Rule of Law Mutual Respect Individual Liberty	

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> • Technical language related to programming. • Abstraction • Pattern recognition • Decomposition • Sequence • Iteration • Selection 	The core concepts introduced are a key skill for most computing careers and essential for the Computer Science GCSE, and can be applied to most STEM subjects

How will this topic be assessed?
<ul style="list-style-type: none"> • We will use an Assessment Grid for this unit • There is an end of topic test for this unit, (EOTT)

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 9

TITLE OF UNIT: 9.3 Microbits / Python

LESSONS: 5

By the end of this unit, students will be able to know/do:

Knowledge	Skills
<ul style="list-style-type: none"> • Programming constructs • Debugging • Computational thinking • Flow charts symbols 	<ul style="list-style-type: none"> • Abstraction • Pattern recognition • Decomposition • Creating algorithms to solve problem • Drawing flowcharts that demonstrate Iteration & Selection • Programming micro robots solve problems

Core Values	British Values	Social, Moral, Cultural & Spiritual
Respect Courage Responsibility Consideration Intellectual Curiosity	Tolerance Democracy Rule of Law Mutual Respect Individual Liberty	

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> • Technical language related to programming. • Abstraction • Pattern recognition • Decomposition • Sequence • Iteration • Selection 	The core concepts introduced are a key skill for most computing careers and essential for the Computer Science GCSE, and can be applied to most STEM subjects

How will this topic be assessed?
<ul style="list-style-type: none"> • We will use an Assessment Grid for this unit • There is an end of topic test for this unit, (EOTT)

Scheme of Learning

SUBJECT: Computing

YEAR GROUP: 9

TITLE OF UNIT: 9.4 Spreadsheet Task

LESSONS: 6

By the end of this unit, students will be able to know/do:

Knowledge	Skills (Microsoft Excel)
<ul style="list-style-type: none"> •Business organisation and use of common applications. •Invoicing customers •Producing an integrated e-solution 	<ul style="list-style-type: none"> •Sum •Cell referencing •Hyperlinks (menu navigation) •Conditional formatting •Vlookup •Filtering Data •Data Validation •IF function •iferror •CountIF •Macros – extension work

Core Values	British Values	Social, Moral, Cultural & Spiritual
Business organisation and use of common applications.	Business organisation and use of common applications.	

Literacy/Reading/Numeracy	Careers
<ul style="list-style-type: none"> •Functions •Logic •Percentages •Following recorded instructions – help videos 	Basic business admin Invoices

How will this topic be assessed?
<ul style="list-style-type: none"> •This unit will be assessed on the working undertaken and the solution produced by students. An assessment grid will be used by students and staff to assess the work.

Computing Feedback Statement

1. Give verbal feedback during lessons
2. Give an indicative summative level for homework set – we use Teams Assignments for this, and give marks, 25, 50, 75 or 100. General criteria is given for each mark
3. Use Progress Grids so students can self-assess using level descriptors. Students are given these grids before starting a unit of work
4. By using End of Topic Tests. Some units of work lend themselves to having an EOTT – these are produced using MS Forms and are designed as multiple-choice questions. Scores are shared with students and help inform us of learning.