Waverley Abbey Digital Citizen

All things are possible for one who believes – Mark 9:23.

At Waverley Abbey School, it is our aim to prepare children with the skills and knowledge needed to be active participants in an ever-changing digital world. Our approach to computing aims to develop a growth-mindset in our pupils with increasingly ambitious challenges as they master the various strands of computing.   We equip pupils with the skills vital for their future prospects and to achieve their goals. At Waverley Abbey, we understand that pupils are unique and come to school with their own experiences of computing. Our teaching approach is able to support those who need it, and stretch those who are most able.   All pupils develop key skills in computer science, information technology, digital literacy and online safety. This prepares them for their future education and the endless possibilities that the world can offer them.

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Curriculum enrichment – Safer Internet Day (Tuesday, 11th February 2025)

In addition to following the theme for this year, we will be exploring the following:

Y3 – Explain the ways someone might change their identity depending on what they are doing. I can explain some strategies for keeping my password secret.

Y4 – Understand how I can search online to find information about others. I can explain ways that some of the information about others could have been created, copied or shared by others online.

Y5 – I understand how identity can be copied or modified online.

Y6 – I understand how someone would report online bullying in different contexts. I can describe different age-related content systems eg PEGI, BBFC. I understand features of persuasive design and how to keep users engaged.

PSHE (Jigsaw) will also cover areas of digital living such as, healthy screen time, online bullying and staying safe online.

		Year 3	Year 4	Year 5	Year 6
Topics studied	Autumn 1	**Digital literacy and online safety** Online safety *MS Teams skills taught alongside this unit* Sticky Knowledge To know that not everything on the internet is true: people share facts, beliefs and opinions online. To understand that the internet can affect your moods and feelings. To know that privacy settings limit who can access your important personal information, such as your name, age, gender etc. To know what social media is and that age restrictions apply.	**Digital literacy and online safety** Online safety Sticky Knowledge To understand some of the methods used to encourage people to buy things online. To understand that technology can be designed to act like or impersonate living things. To understand that technology can be a distraction and identify when someone might need to limit the amount of time spent using technology. To understand what behaviours are appropriate in order to stay safe and be respectful online.	**Digital literacy and online safety** Online safety Sticky Knowledge Identifying possible dangers online and learning how to stay safe. Evaluating the pros and cons of online communication. Recognising that information on the Internet might not be true or correct and learning ways of checking validity. Learning what to do if they experience bullying online. Learning to form healthy habits online.	**Digital literacy and online safety** Online safety Sticky Knowledge To know that a digital footprint means the information that exists on the internet as a result of a person's online activity. To know what steps are required to capture bullying content as evidence. To understand that it is important to manage personal passwords effectively. To understand what it means to have a positive online reputation. To know some common online scams.
	Autumn 2	**Digital literacy** Touch typing course Sticky Knowledge To know the correct position for touch typing To know where to position fingers when touch typing. To know where the home row is.	**Computer Science** Further coding with Scratch Sticky Knowledge To understand that a variable is a value that can change (depending on conditions) and know that you can create them in Scratch. To know what a conditional statement is in programming. To understand that variables can help you to create a quiz on Scratch.	**Digital Literacy** Search Engines Sticky Knowledge To know how search engines work. To understand that anyone can create a website and therefore we should take steps to check the validity of websites. To know that web crawlers are computer programs that crawl through the internet. To understand what copyright is.	**Computer Science** Intro to Python Sticky Knowledge To know that there are text-based programming languages such as Logo and Python. To know that nested loops are loops inside of loops. To understand the use of random numbers and remix Python code.
	Spring 1	**Computer Science** Scratch Sticky Knowledge	**Digital Literacy/information technology** HTML	**Computer Science** Programming with music	**Information technology** Bletchley Park 1

		To know that Scratch is a programming language and some of its basic functions. To understand how to use loops to improve programming. To understand how decomposition is used in programming. To understand that you can remix and adapt existing code.	Sticky Knowledge To understand and identify examples of HTML tags. To understand what changing the HTML and CSS does to alter the appearance of an object on the web. To understand that copyright means that those images are protected and to understand that we should do a "creative commons" image search if we wish to use images from the internet. To know what "fake news" is and ways to spot websites that carry this type of misinformation. To know what the "inspect" elements tool is and ways of using it to explore and alter text and images.	Sticky Knowledge To know that a soundtrack is music for a film/video and that one way of composing these is on programming software. To understand that using loops can make the process of writing music simpler and more effective. To know how to adapt their music while performing.	Sticky Knowledge To understand the importance of having a secure password and what "brute force hacking" is. To know that the first computers were created at Bletchley Park to crack the Enigma code to help the war effort in World War 2. To know about some of the historical figures that contributed to technological advances in computing.
	Spring 2	**Information technology** Top Trump databases Sticky Knowledge To know that a database is a collection of data stored in a logical, structured and orderly manner. To know that computer databases can be useful for sorting and filtering data. To know that different visual representations of data can be made on a computer.	**Information technology** Website design – MS Sway Sticky Knowledge To know that a website is a collection of pages that are all connected. To know that websites usually have a homepage and subpages as well as clickable links to new pages, called hyperlinks. To know that websites should be informative and interactive.	**Information technology** Stop motion animation visualisers Sticky Knowledge To know that decomposition of an idea is important when creating stop-motion animations. To understand that stop motion animation is an animation filmed one frame at a time using models, and with tiny changes between each photograph. To know that editing is an important feature of making and improving a stop motion animation.	**Information technology** Big Data 1 Sticky Knowledge To know that data contained within barcodes and QR codes can be used by computers. To know that infrared waves are a way of transmitting data. To know that Radio Frequency Identification (RFID) is a more private way of transmitting data. To know that data is often encrypted so that even if it is stolen it is not useful to the thief.
	Summer 1	**Computer Science** journey inside a computer Sticky Knowledge	**Computer Science** Computational thinking Algorithms and debugging Sticky Knowledge	**Computer Science** Programming Microbits – physical computing Sticky Knowledge	**Information technology** Web-based data delivery services – Digimaps Sticky Knowledge

		To know the roles that inputs and outputs play on computers. To know what some of the different components inside a computer are e.g. CPU, RAM, hard drive, and how they work together. To know what a tablet is and how it is different from a laptop/desktop computer.	To know that combining computational thinking skills can help you to solve a problem. To understand that pattern recognition means identifying patterns to help them work out how the code works. To understand that algorithms can be used for a number of purposes e.g. animation, games design etc.	To know that a Microbit is a programmable device. To know that Microbit uses a block coding language similar to Scratch. To understand and recognise coding structures including variables. To know what techniques to use to create a program for a specific purpose (including decomposition).	To know that mapping data can be delivered through the Internet. To know that mapping data can be searched for specific areas. To understand how to use online maps to answer a range of questions.
	Summer 2	**Information technology** Creating a branching story presentation (Not Kapow planning) Sticky Knowledge To know that different effects and transitions can make a presentation more engaging for a viewer.	**Information Technology** Digimaps Using GIS to explore the local area now and historically. Sticky Knowledge To know that mapping data can be delivered through the Internet. To know that mapping data can be searched for specific areas. To understand how to use online maps to answer a range of questions.	**Digital literacy** Using PowerPoint to share geographical information. Sticky Knowledge To know that a geographic information system, or GIS, is a computer system for analysing geographical data. To know a GIS is capable of capturing, storing, manipulating, analysing, and displaying data in two- or three-dimensional maps. To know how to use PowerPoint to effectively present information.	**Computer Science** Understanding computer networks Sticky Knowledge To know the role of a server and a workstation in a network. To know how routers deliver data around a network. To understand the importance of connecting computers in a network.
National Curriculum statements		**Year 3**	**Year 4**	**Year 5**	**Year 6**
Key skills to progress – **Computer Science (CS)**	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical	**Hardware** • Understanding what the different components of a computer do and how they work together	**Computational thinking** • Solving problems by decomposing them into smaller parts • Using decomposition to understand the purpose of a script of code	**Computational thinking** • Decomposing animations into a series of images • Decomposing a program without support • Predicting how software will work based on previous experience	**Hardware** • Learning about the history of computers and how they have evolved over time • Understanding the historic development of computers

	systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output use logical reasoning to explain how some simple algorithms Work and to detect and correct errors in algorithms and programs.	• Drawing comparisons across different types of computers **Computational thinking** • Using decomposition to explain the parts of a laptop computer • Using decomposition to explore the code behind an animation • Using repetition in programs • Understanding that computers follow instructions • Using an algorithm to explain the roles of different parts of a computer • Using logical reasoning to explain how simple algorithms work • Explaining the purpose of an algorithm • Forming algorithms independently • Using logical thinking to explore more complex software; predicting, testing and explaining what it does • Incorporating loops to make code more efficient • Remixing existing code • Using a more systematic approach to debugging code, justifying what is wrong and how it can be corrected	• Using decomposition to help solve problems • Identifying patterns through unplugged activities • Using past experiences to help solve new problems • Using abstraction to identify the important parts when completing both plugged and unplugged activities • Creating algorithms for a specific purpose • Coding a simple game • Using abstraction and pattern recognition to modify code • Incorporating variables to make code more efficient • Remixing existing code • Using a more systematic approach to debugging code, justifying what is wrong and how it can be corrected	• Writing more complex algorithms for a purpose • Iterating and developing their programming as they work • Beginning to use nested loops (loops within loops) • Debugging their own code • Writing code to create a desired effect • Using a range of programming commands • Using repetition within a program	• Understanding that computer networks provide multiple services **Computational thinking** • Decomposing a program into an algorithm • Using past experiences to help solve new problems • Writing increasingly complex algorithms for a purpose • Debugging quickly and effectively to make a program more efficient • Remixing existing code to explore a problem • Using and adapting nested loops • Programming using the language Python • Changing a program to personalise it • Evaluating code to understand its purpose • Predicting code and adapting it to a chosen purpose
Key skills to progress –	Understand computer networks	**Using software**	**Using software**	**Using software**	**Using software**

Information Technology (IT)	including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.	• Using presentation software to clearly display information. • Edit and enhance a presentation by adding speech, links, sounds and text on screen with transitions. **Using data** • Understanding the vocabulary associated with databases: field, record, data • Learning about the pros and cons of digital versus paper databases • Sorting and filtering databases to easily retrieve information • Creating and interpreting charts and graphs to understand data	• Understanding that websites can be altered by exploring the code beneath the site • Building a web page and creating content for it • Designing and creating a webpage for a given purpose	• Using logical thinking to explore software more independently, making predictions based on their previous experience • Using video editing software to animate • Identify ways to improve and edit an animation	• Using search and word processing skills to create a presentation tink• Creating and editing sound recordings for a specific purpose • Creating and editing videos, adding multiple elements: music, voiceover, sound, text and transitions to create a video advert **Using data** • Understanding how barcodes, QR codes and RFID work
Key skills to progress – **Digital Literacy and online safety (DL)**	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that	**Using the Internet** • Learning to be a responsible digital citizen; understanding their responsibilities to treat others respectfully and recognising when digital behaviour is unkind • Learning about cyberbullying • Learning that not all information on the internet is factual and how to respond to it • Understanding who personal information should/should not be shared with	**Using the Internet** • Understanding why some results come before others when searching • Understanding that information on the internet is not all grounded in fact • Recognising what appropriate behaviour is when collaborating with others online • Recognising that information on the Internet might not be true or correct and that some sources are more trustworthy than others • Learning about different forms of advertising on the internet.	**Using the Internet** • Developing searching skills to help find relevant information on the internet • Understanding how apps can access our personal information and how to alter the permissions. • Identifying possible issues with online communication • Considering the effects of screen-time on physical and mental wellbeing • Learning about online bullying and where to seek advice	**Using the Internet** • Understanding the importance of secure passwords and how to create them, along with two-step authentication • Using search engines safely and effectively • Recognising that updated software can help to prevent data corruption and hacking • Considering their digital footprint and online reputation and future implications they may have • Learning about how to collect evidence and report online bullying concerns

accomplish given goals, including collecting, analysing, evaluating and presenting data and information.				
Links to school values	**Growth -** The computing curriculum supports pupils as they seek to grow in courage as they discover their God-given potential. **Compassion -** Understanding how our behaviour online affects others. **Honesty –** The online safety teaching supports children in staying safe and making good choices in their spiritual journey. **Courage** – Computer science teaching encourages children to persevere with problems and develop a growth mindset. Where at first they encounter a problem, they can stick at it and achieve success **Hope –** Believe that technology can be used for good. **Love -** Showing love to others in a digital world.			