Ashtree Primary School Progression in Computing

Whole School Intent

High Expectations = High Outcomes

Vision: 'To create a school community which is safe, understanding, aspirational and which values reading, and where curriculum design challenges children to succeed in life emotionally, socially and intellectually.

Computing at Ashtree should allow children to develop their curiosity for technology whilst giving them the key skills, knowledge and vocabulary needed to progress onto the next stage of their learning. The teaching of computing should encompass elements of exploratory play for children at all ages.

	Computer Science	Information Technology	Digital Literacy	Vocabulary
Nursery	Pupils know how to operate simple equipment and follow rules regarding their use. Pupils show an interest in technological toys with knobs or pulleys, or real objects.	Pupils are shown that information can be retrieved from computers. Pupils show skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. Pupils are shown digital stories.	Pupils interact with age-appropriate computer software and explore how they work. Incorporate technology resources that children recognise into their play, such as a camera.	*Ipad/Tablet* *Computer/laptop*
Reception	Pupils use simple computer programs. Pupils follow simple instructions when using technology.	Pupils know that information can be retrieved from computers. Pupils select and use technology for particular purposes. Pupils look at and enjoy digital books independently.	Pupils begin to discuss that a range of technology is used in places such as home and school. Pupils begin to discuss how to use technology safely – they begin to know right and wrong and the	*Online* *Sort* *Log in* *Log out*

			importance of limiting screen time.	
Year 1	Pupils know that an algorithm is a set of instructions. Pupils know that an algorithm for a computer is called a program. Pupils learn to program a basic floor turtle such as a BeeBot. Pupils learn to program an onscreen app such as 2go. Pupils are able to de-bug their instructions. Pupils can make logical attempts to fix the code. Pupils begin to read code.	Pupils can create digital content using a program such as paint. Pupils can find, edit and save their work. Pupils begin to use simple word processing tools. Pupils can follow simple instructions to access online resources, e.g. QR Codes	Pupils learn about some uses of the internet. Pupils can give examples of technology they use both in and out of school. Pupils know objects which use technology and objects which don't. Pupils begin to learn to keep private information safe online. Pupils learn to be cautious when online and to check with an adult before sharing information online.	*Password, hardware and software, avatar, input, logical reasoning, algorithm, program, debug, refine, predict repeat* Digital, non-digital, website, *pictogram*
Year 2	Pupils can explain what an algorithm is. Pupils can create a simple program for a specific purpose. E.g. Use 2Code to navigate around the screen. Pupils can identify parts of a program that respond to specific events and initiate specific actions, E.g. Use 2Code to make the character speak.	Pupils are confident when finding, editing and saving digital content. Pupils begin to edit more complex data using programs such as 2Sequence Pupils can organise data into simple databases. Pupils learn to use digital cameras and microphones for a purpose.	Pupils are introduced to retrieving relevant, purposeful digital content using a search engine. Pupils begin to learn the implications of inappropriate online searches. Pupils explore websites and say whether they like them or not. Pupils are introduced to the concept of sending messages via the internet	*Hardware, software input and output, debug, refine, predict repeat Input and output, Internet, world wide web, URL, spreadsheet, search engine,*

	Pupils are able to make *cause and effect* statements. Pupils can read simple code.		using a class e-mail account. Pupils know how to report inappropriate online content.	
Year 3	Pupils write a simple algorithm. Pupils experiment with timing and repeat features in programs such as 2code. Pupils begin to use 'if' statements within their code designs. Pupils learn to identify and correct errors in algorithms. Pupils learn to predict the outcome of several steps of code. Pupils learn to collaborate electronically using shared documents. Pupils learn to use methods of online communication such as e-mails and blogs.	Pupil understand that to use a search engine they are connecting to the internet. Pupils begin to consider what software is most appropriate for a given task. Pupils create purposeful content to attach in e-mails. Pupils learn to write and deliver a presentation on a given subject. Pupils record and edit media to create a short sequence using programs such as Imovie. Pupils learn to how to develop a storyboard and create a simple animation.	Pupils learn the importance of having a secure password for digital accounts. Pupils are introduced to the notion that they are digital citizens. They understand the importance of staying safe and how to create a safe and comfortable online environment for others. Pupils know more than one way to report inappropriate content and contact.	*hyperlink,* *browser,* *intellectual property,* *copyright,* *formula,* *virus, malware,* *Word processing terms:* *font, bold, italic, highlight* *animation,* *blog, forum, simulation,*
Year 4	Pupils learn about the hardware which allows computers to join and form a network. Pupils learn how to sequence instructions using	Pupils begin to check the credibility of information found using search engines. Pupils learn how to use effective keywords when searching online.	Pupils are introduced to the concept of cyberbullying. Pupils explore key concepts when relating to online safety and can help others	*pixels,* *brightness,* *contrast,* *copyright,* *component,* *computer processor*

	timing features in programs such as 2animate. Pupils learn how to use sequence, selection and repetition in programs; work with variables and various forms of input and output. Pupils learn how to design, write and debug programs that accomplish specific goals.	Pupils learn to use software to create an e-book, brochure or poster on a given subject. Pupils learn to search, sort and graph information.	understand the importance of staying safe online. Pupils learn how to respect the privacy of others online. Pupils know a range of ways of reporting inappropriate content and contact.	*data-logger,* *sensor,* *selection,* *branching database,* *flat-file database* *Internet,* *world wide web,* *URL,* *hyperlink,* *browser,* *Main parts of a computer: monitor, CPU, keyboard, mouse etc*
Year 5	Pupils learn about wireless networks – the benefits and the dangers of these. Pupils learn how to translate sequenced algorithms into code. Pupils learn to test and debug their code. Pupils learn the causes of bugs within their code. Pupils learn to identify important parts of code and decompose them in a logical way.	Pupils incorporate a range of media when creating digital content such as presentations and animations. Pupils learn to make appropriate improvements to digital content based on feedback. Pupils can explain how credible a webpage is. Pupils are able to use advanced searches online, e.g. using Google Advanced Search tools.	Pupils learn about the dangers of spending too long online or playing a game. Pupils learn about age-appropriate online platforms. Pupils learn about safe and harmful resources to download online. Pupils learn about the consequences of sharing too much information online. Pupils learn about the permanency of online information.	*decomposition,* *variable (in programming),* *constant,* *abstraction,* *storyboard,* *(video) transition,* *(video) trimming,* *operating system,* *Graphical user Interface,* *Big data,* *common file types,* *encryption,* *server and client,* *web crawler,* *digital footprint*
Year 6	Pupils can explain clearly the difference between	Pupils are able to evaluate the quality of digital	Pupils learn about the dangers of live streaming.	*Streaming,* *wiki,*

	the internet and the world wide web. Pupils can describe how they access the internet at school. Pupils are able to explain how the programs they have created work. Pupils learn to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as the whole. Pupils learn to identify important parts of code and decompose them in a logical way using their knowledge of coding structures and applying skills from previous programs.	content they create and can identify improvements, making some refinements. Pupils learn to compare digital content sources. Pupils use critical thinking skills in everyday use of online communication.	Pupils can explain the ways in which they can protect their personal information online. Pupils learn how to communicate effectively to prevent miscommunication in order to be a responsible member of a connected culture.	*blog,* *micro-blog,* *data protection,* *intellectual property,* *multi-track,* *podcast,* *plagiarism,* *common file types,* *copyright,* *cells,* *columns and rows,* *cell reference*