Computing Progression of Skills

Intent: At Howe Dell, our computing curriculum empowers pupils to leave Year 6 as confident Master of Technology rather than passive users. We deliver a dynamic and adaptable curriculum using Teach Computing resources alongside the CUSP iPad curriculum, ensuring lessons meet the evolving needs of every learner. Our approach encourages children to be innovators and problem-solvers, not just users of technology. This foundation equips pupils with the skills to think critically, design solutions, and apply technology creatively. Through explicit computing lessons, pupils build deep knowledge and apply it across a range of subjects preparing them to thrive in a digital world with confidence and creativity.

Note: Digital safety is taught explicitly as a unit of work within the computing curriculum but is also referenced and taught through: excellent modelling of device use by teaching staff daily, through the school's acceptable use agreement and is embedded within the PSHE curriculum.
Digital safety skills referenced in this document relate directly to the units of work taught as part of the computing curriculum.

<table>
<tr><th rowspan="2">Year Group</th><th colspan="4">Computing Skills</th><th rowspan="2">Key Vocabulary</th></tr>
<tr><th>Computing systems and networks</th><th>Creating media</th><th>Data and information</th><th>Programming</th></tr>
<tr><td rowspan="3">Year 1</td><td>• Recognise and name digital devices and their parts
• Log on to a school network or device with support
• Use a suitable access device (mouse, keyboard, touchscreen, switch)
• Explain why we use passwords
• Know who to tell if concerned about content</td><td>• Select basic tools/options to change the appearance of digital content, e.g., filter on an image / font / size of paintbrush
• Combine media with support to present information, e.g., text and images.
• Type text using a keyboard</td><td>• Describe objects using labels
• Find objects with similar properties
• Answer questions about groups of objects
• Decide how to group objects to answer a question</td><td>• Create a simple program e.g., to control a floor robot
• Predict the outcome of a simple algorithm or program
• Explain what an algorithm is and create one
• Debug an error in a simple algorithm or program e.g., for a floor robot</td><td><u>Computing Systems and Networks</u>
computer, mouse/trackpad, keyboard, screen, safely, responsibly
<u>Creating Media</u>
tool, undo, word processor, backspace, toolbar
<u>Programming</u>
Bee-Bot, command, sprite, blocks, reset, program, algorithm</td></tr>
<tr><td colspan="4">Digital Safety</td><td></td></tr>
<tr><td colspan="4">• recognise when an image pops-up on the computer or tablet screen that makes them uncomfortable or if it upsets them, then tell a trusted adult
• recognise that all the information on the web is not reliable, so when they are not sure, they should tell a trusted adult
• recognise when someone is trying to gain personal information and to tell an adult, who can help them block the person, if necessary.</td><td>pop-up, internet, World Wide Web, deleted, messages, password, block</td></tr>
<tr><td>Year 2</td><td>• Explain how IT is used at home
• Explain how IT is used in the wider world
• Log on to a school network or device without support
• Identify rules for acceptable use of technology in school
• Know what personal information is
• Recognise that some information found online may not be true</td><td>• Create simple digital content for a purpose, e.g., digital art
• Capture, edit and improve photos
• Combine media with little support to present information, e.g., text and images
• Identify real photos and those that have been changed</td><td>• Recognise charts and pictograms and explain why we use them
• Explain information shown in a simple chart or pictogram
• Modify simple charts/pictograms, e.g., add title, item or labels
• Identify the key features of a chart or pictogram
• Collect and present data on a topic</td><td>• Predict the outcome of an algorithm or program with multiple steps
• Identify and correct errors in a given algorithm or program, and recognise the term debugging
• Explain what an algorithm and program are
• Plan out a program by creating an algorithm, and evaluate its success</td><td><u>Computing Systems and Networks</u>
barcode, scan, information technology
<u>Creating Media</u>
device, capture, image, framing, focal point, subject matter, field of view, compose, natural lighting, artificial lighting
<u>Data and Information</u>
data, tally, vote, attribute
<u>Programming</u></td></tr>
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Year Group	Computing Skills				Key Vocabulary
	Computing systems and networks	**Creating media**	**Data and information**	**Programming**	
					instruction, sequence, debugging, design, modify
Year 2	**Digital Safety**				
	• Recognise when an image pops-up on the computer or tablet screen that makes them uncomfortable or if it upsets them, then tell a trusted adult • Recognise when an image pops-up on the computer or tablet screen that looks like an advert with in-app purchasing, then tell a trusted adult • To recognise when someone is being a bully online, to tell a trusted adults then block, mute or report the bully				pop-up, internet, World Wide Web, website, app, leader board
Year 3		• Edit digital content to improve it • Combine media **independently** to present information, e.g., text and images • Design and create simple digital content for a specific purpose or audience	• Use a branching database • Create a branching database • Identify the features of a good question in a branching database • Evaluate a given branching database and suggest improvements	• Modify an existing program • Create examples of algorithms containing count-controlled loops. • Use a forever loop in a program to keep something happening • Identify errors in a block or text-based program and correct them • Recognise that different inputs can be used to control a program	<u>Creating Media</u> text, landscape, portrait, orientation, placeholder, template <u>Data and Information</u> branching database, database, value, equal, even, separate <u>Programming</u> programming, costume, stage, backdrop, event, run the code, extension block
	Digital Safety				
	• Demonstrate ways of protecting their online reputation • Identify ways of working out whether information online is reliable • Identify ways in which they can secure their information online by creating strong passwords • Identify what they can do to be kind online • Recognise upsetting content and understand what to do when they encounter it • Identify who they can talk to about upsetting content – and how to approach a conversation • Understand it's OK to feel scared or sad when you see something upsetting on or off a screen				online reputation, phishing, scam, two-step verification, hacker, cyberbully, bystander

Year Group	Computing Skills				Key Vocabulary
	Computing systems and networks	**Creating media**	**Data and information**	**Programming**	
Year 4	• Remember and use an individual password • Recognise what websites are trustworthy sources of information • Identify the benefits and risks of different apps and websites • Understand that the media can portray different groups of people differently • Age rate a game or film and explain their rating	• Collect, organise and present information using a range of media • Design, create and edit digital content for a specific purpose • Identify the features of a good piece of digital content and apply these in own design • Know where to find copyright-free content, e.g., creative images. • Collaborate with peers using online tools		• Create a program using a range of events/inputs to control what happens • Explain when to use forever loops and count-controlled loops, and use them in programs • Recognise selection in a program or algorithm • Use selection in algorithms in programs e.g., if…then… • Design a program for a purpose • Recognise common mistakes in programs and how to correct them	Computing Systems and Networks internet, router, network security, browser, download, sharing, permission, ownership Creating Media digital content, resize Programming code snippet, count-controlled loop, infinite loop, duplicate, refine, evaluate
Year 4	**Digital Safety**				
	• Know how online content can be interpreted in different ways by different people • Khow to find credible information online • Consider their digital footprints and be mindful about what they read or post online, knowing that it can be misinterpreted • Identify things online they do not like, know how to tackle them and how to report them • Talk about why and when to report the abuse – and the online spaces where they can report to • Know how to recognise that seeking help for yourself or others is a sign of strength • Know that apps and services have community standards, or terms of service – as well as online tools for reporting abuse				digital footprint, motive, credibility, report, community guidelines, terms of service
Year 5	• Explain the difference between the internet and the World Wide Web; and between a search engine and a web browser • Perform a complex search for information • Know where to find copyright free images and audio, and why this is important. • Critically evaluate websites for reliability and authenticity	• Use different drawing tools to create images • Create images by layering and duplicating images to create more complex pieces of work • Evaluate and improve designs	• Know the difference between data and information • Perform a search to answer questions about data • Create graphs and charts from data	• Name a range of sensors in physical systems • Predict what will happen in a program or algorithm when the input changes • Use two-way selection e.g., if… then…else… • Recognise variables in a program • Create programs including 'repeat until' loops • Create and use simple variables, e.g., to keep score • Create an algorithm for a physical system (with sensor)	Computing Systems and Networks system, connection, protocol Creating Media vector, drawing tools, zoom, alignment grid, resize, handles, consistency Data and Information records, field, axis, compare, filter Programming microcontroller, Crumble controller, components, LED, sparkle, condition, action
	Digital Safety				
	• Explain what it means to have a positive digital footprint and why this is important • Critically evaluate what we see on social media				online reputation, digital footprint, bystander, upstander

Year Group	Computing Skills				Key Vocabulary
	Computing systems and networks	**Creating media**	**Data and information**	**Programming**	
	• Explain how social media can mislead or misrepresent reality • Identify different types of online scams people our age may experience, including 'phishing' • Identify sources of support for someone who is worried about anything online • Explain what to do or say when they see upsetting stuff online				
Year 6		• Select, combine and remix a range of media to create original content • Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share) • Identify the most effective tools to present information for a specific purpose	• Recognise what a spreadsheet is and what it is used for • Use simple formulae in a spreadsheet to find out information from a set of data • Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae • Produce graphs from data in a spreadsheet to answer a question • Analyse and evaluate data and information in a spreadsheet, chart or database	• Design and program a system that uses sensors • Recognise and use procedures (sub-routines) in programs • Plan out a program in detail, including task, algorithm, code and execution level • Use nested selection statements in a program • Combine a variable with relational operators (< = >) to determine when a program changes • Recognise key concepts (sequence, selection, repetition and variables)	<u>Creating Media</u> effective, 2D, 3D, rotate, position, select, duplicate, dimensions <u>Data and Information</u> spreadsheet, data heading, data set, cells, columns and rows, formula, cell reference <u>Programming</u> search engine, web page, browser, copyright, fair use, hyperlink Micro:bit, flashing, USB Selection, condition, variable, random accelerometer
	Digital Safety				
	• Describe how to find and ask for help if someone feels unsafe online • Demonstrate ways to build positive and healthy online relationships and friendships • Describe strategies they can use to respond to hurtful online behaviour • Identify sources of support that can help friends and peers if they are experiencing hurtful behaviour online • Know how mean behaviour online can lead to conflicts at school • Discuss why and when to report online abuse				two-step verification, hacker, cyberbully, bystander, upstander