



Heene CE Primary School

'Together in faith, we love, grow and learn'



COMPUTING

NATIONAL CURRICULUM REQUIREMENT

Early Years

There is no current requirement for Early Years children to learn about computing.

However the children at our school will be using different coding equipment (Coding caterpillars) to learn about computing as well as having use of iPads to navigate.

Key Stage 1

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Key Stage 2

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.

Teach Computing

Systems and networks

Creating media

Programming

Data and information

Project Evolve / Education for a Connected World

Self-image and identity: this strand explores the differences between online and offline identity beginning with self-awareness, shaping online identities and media influence in propagating stereotypes. It identifies effective routes for reporting and support and explores the impact of online technologies on self-image and behaviour.

Online relationships: this strand explores how technology shapes communication styles and identifies strategies for positive relationships in online communities. It offers opportunities to discuss relationships, respecting, giving and denying consent and behaviours that may lead to harm and how positive online interaction can empower and amplify voice.

Online reputation: This strand explores the concept of reputation and how others may use online information to make judgements. It offers opportunities to develop strategies to manage personal digital content effectively and capitalise on technology's capacity to create effective positive profiles.

Online bullying: This strand explores bullying and other online aggression and how technology impacts those issues. It offers strategies for effective reporting and intervention and considers how bullying and other aggressive behaviour relates to legislation

Managing online information: This strand explores how online information is found, viewed and interpreted. It offers strategies for effective searching, critical evaluation of data, the recognition of risks and the management of online threats and challenges. It explores how online threats can pose risks to our physical safety as well as online safety. It also covers learning relevant to ethical publishing.

Health, well-being and lifestyle: This strand explores the impact that technology has on health, well-being and lifestyle e.g. mood, sleep, body health and relationships. It also includes understanding negative behaviours and issues amplified and sustained by online technologies and the strategies for dealing with them.

Privacy and security: This strand explores how personal online information can be used, stored, processed and shared. It offers both behavioural and technical strategies to limit impact on privacy and protect data and systems against compromise.

Copyright and ownership: This strand explores the concept of ownership of online content. It explores strategies for protecting personal content and crediting the rights of others as well as addressing potential consequences of illegal access, download and distribution.

TEACH COMPUTING PROGRESSION EYFS TO YEAR SIX							
	EYFS	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Autumn Term 1- Systems and Networks	E-Safety ✓ not putting their names on computer games ✓ not talking to people online	Technology Around Us ✓ identify technology ✓ identify a computer and its main parts ✓ use a mouse in different ways ✓ use a keyboard to type on a computer ✓ use a keyboard to edit text ✓ create rules for using technology responsibly	Information Technology Around Us ✓ recognise the uses and features of information technology ✓ identify the uses of information technology in the school ✓ identify information technology beyond school ✓ explain how information technology helps us ✓ explain how to use information technology safely ✓ recognise that choices are made when using information technology	Connecting Computers ✓ identify input and output devices ✓ recognise how digital devices can change the way that we work ✓ explain how a computer network can be used to share information ✓ explore how digital devices can be connected ✓ recognise the physical components of a network	The internet ✓ describe how networks physically connect to other networks ✓ recognise how networked devices make up the internet ✓ outline how websites can be shared via the World Wide Web (WWW) ✓ describe how content can be added and accessed on the World	Systems and Searching ✓ explain that computers can be connected together to form systems ✓ recognise the role of computer systems in our lives ✓ identify how to use a search engine ✓ describe how search engines select results ✓ explain how search results are ranked	Communication and Collaboration ✓ explain the importance of internet addresses ✓ recognise how data is transferred across the internet ✓ explain how sharing information online can help people to work together ✓ evaluate different ways of working together online

					<p>Wide Web (WWW)</p> <ul style="list-style-type: none"> ✓ recognise how the content of the WWW is created by people ✓ evaluate the consequences of unreliable content 	<ul style="list-style-type: none"> ✓ recognise why the order of results is important, and to whom 	<ul style="list-style-type: none"> ✓ recognise how we communicate using technology ✓ evaluate different methods of online communication
<p>Autumn 1 – Online Safety</p>		<p>Health, Well-being and Lifestyle: I can explain rules to keep myself safe when using technology both in and beyond the home.</p> <p>Copyright and Ownership I can explain why work I create using technology belongs to me. I can say why it belongs to me (e.g., 'I designed it' or 'I filmed it').</p>	<p>Health, Well-being and Lifestyle: I can explain simple guidance for using technology in different environments and settings e.g., accessing online technologies in public places and the home environment. I can say how those rules/guides can help anyone accessing online technologies.</p> <p>Online Bullying I can explain what bullying is, how people may bully others and how bullying can make someone feel. I can explain why anyone who experiences bullying is not to blame. I can talk about how anyone experiencing bullying</p>	<p>Online Reputation: I can explain how to search for information about others online I can give examples of what anyone may or may not be willing to share about themselves online. I can explain the need to be careful before sharing anything personal. I can explain who someone can ask if they are unsure about putting something online.</p> <p>Health, Well-being and Lifestyle I can explain why spending too much time using technology can sometimes have a negative impact on anyone; I can give some examples of both positive and negative activities where it is easy to spend a lot of time engaged. I can explain why</p>	<p>Managing Online Information I can analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others. I can describe how to search for information within a wide group of technologies and make a judgement about the probable accuracy (e.g., social media, image sites, video sites). I can describe some of the methods used to encourage people to buy things online (e.g., advertising offers; in-app purchases, pop-ups) and can recognise some of</p>	<p>Copyright and Ownership: I can assess and justify when it is acceptable to use the work of others.</p> <p>Online Relationships: I can give examples of technology-specific forms of communication (e.g., emojis, memes and GIFS). I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognize that this is not my / our fault. I can describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive</p>	<p>Managing Online Information I can explain how search engines work and how results are selected and ranked. I can explain how to use search technologies effectively. I can describe how some online information can be opinion and can offer examples I can explain how and why some people may present 'opinions' as 'facts'; why the popularity of an opinion or the personalities of those promoting it does not necessarily make it true, fair or perhaps even legal.</p> <p>Online Bullying I can describe how to capture bullying content as evidence (e.g., screengrab, URL, profile) to share with others who can help me.</p>

				<p>some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g., age restricted gaming or websites)</p>	<p>these when they appear online. I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true. I can explain that technology can be designed to act like or impersonate living things (e.g., bots) and describe what the benefits and the risks might be I can explain what is meant by fake news e.g., why some people will create stories or alter photographs and put them online to pretend something is true when it isn't</p>	<p>contributions (e.g., gaming communities or social media groups). I can explain how someone can get help if they are having problems and identify when to tell a trusted adult. I can demonstrate how to support others (including those who are having difficulties online).</p>	<p>I can explain how someone would report online bullying in different contexts.</p>
<p>Autumn Term 2- Creating Media</p>		<p><u>Digital painting</u></p> <ul style="list-style-type: none"> ✓ describe what different freehand tools do ✓ use a shape tool and the line tools ✓ make careful choices when painting a digital picture ✓ explain why I chose the tool I used ✓ use a computer on my own to paint a picture 	<p><u>Digital photography</u></p> <ul style="list-style-type: none"> ✓ use a digital device to take a photograph ✓ make choices when taking a photograph ✓ describe what makes a good photograph ✓ decide how photographs can be improved ✓ use tools to change an image ✓ recognise that photos can be changed 	<p><u>Stop-frame animation</u></p> <ul style="list-style-type: none"> ✓ explain that animation is a sequence of drawings or photographs ✓ relate animated movement with a sequence of images ✓ plan an animation ✓ identify the need to work consistently and carefully ✓ review and improve an 	<p><u>Audio production</u></p> <ul style="list-style-type: none"> ✓ identify that sound can be recorded ✓ explain the audio recordings can be edited ✓ recognise the different parts of creating a podcast project ✓ apply audio editing skills independently ✓ combine audio to enhance my podcast project 	<p><u>Video production</u></p> <ul style="list-style-type: none"> ✓ explain what makes a video effective ✓ use a digital device to record video ✓ capture video using a range of techniques ✓ create a storyboard ✓ identify that video can be improved through reshooting and editing 	<p><u>Web page creation</u></p> <ul style="list-style-type: none"> ✓ review an existing website and consider its structure ✓ plan the features of a web page ✓ consider the ownership and use of images (copyright) ✓ recognise the need to preview pages ✓ outline the need for a navigation path ✓ recognise the

		<p>✓ compare painting a picture on a computer and on paper</p>		<p>animation ✓ evaluate the impact of adding other media to an animation</p>	<p>✓ evaluate the effective use of audio</p>	<p>✓ consider the impact of the choices made when making and sharing a video</p>	<p>implications of linking to content owned by other people</p>
<p>Autumn 2 – Online Safety</p>		<p>Self-Image and Identity: I can recognize that there may be people online who could make someone feel sad, embarrassed or upset. If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help. Online Reputation: I can recognise that information can stay online and could be copied. I can describe what information I should not put online without asking a trusted adult first.</p>	<p>Managing Online Information: I can use simple keywords in search engines I can demonstrate how to navigate a simple webpage to get to information I need (e.g., home, forward, back buttons; links, tabs and sections). I can explain what voice activated searching is and how it might be used, and know it is not a real person (e.g., Alexa, Google Now, Siri). I can explain the difference between things that are imaginary, ‘made up’ or ‘make believe’ and things that are ‘true’ or ‘real’. I can explain why some information I find online may not be real or true. Online Reputation I can explain how information put online about someone can last for a long time.</p>	<p>Managing Online Information I can demonstrate how to use key phrases in search engines to gather accurate information online. I can explain what autocomplete is and how to choose the best suggestion. I can explain how the internet can be used to sell and buy things. Privacy and Security I can describe simple strategies for creating and keeping passwords private. I can give reasons why someone should only share information with people they choose to and can trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult. I can describe how connected devices can collect and share anyone’s information with others.</p>	<p>Copyright and Ownership When searching on the internet for content to use, I can explain why I need to consider who owns it and whether I have the right to reuse it. Online Bullying: I can recognise when someone is upset, hurt or angry online. I can describe ways people can be bullied through a range of media (e.g., image, video, text, chat). I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation)</p>	<p>Managing Online Information I can explain the benefits and limitations of using different types of search technologies e.g., voice-activation search engine. I can explain how some technology can limit the information I am presented with. I can explain what is meant by ‘being sceptical’; I can give examples of when and why it is important to be ‘sceptical’. I can evaluate digital content and can explain how to make choices about what is trustworthy e.g., differentiating between adverts and search results. I can explain key concepts including: information, reviews, fact, opinion, belief, validity, reliability and evidence. Self-Image and Identity</p>	<p>Managing Online Information I can define the terms ‘influence’, ‘manipulation’ and ‘persuasion’ and explain how someone might encounter these online (e.g., advertising and ‘ad targeting’ and targeting for fake news). I understand the concept of persuasive design and how it can be used to influence peoples’ choices I can demonstrate how to analyse and evaluate the validity of ‘facts’ and information and I can explain why using these strategies are important I can explain how companies and news providers target people with online news stories they are more likely to engage with and how to recognise this.</p>

						I can explain how identity online can be copied, modified or altered. I can demonstrate how to make responsible choices about having an online identity, depending on context	Copyright and Ownership I can demonstrate the use of search tools to find and access online content which can be reused by others. I can demonstrate how to make references to and acknowledge sources I have used from the internet.
Spring Term1 – Programming	Software and hardware ✓ log on and off numblocks using keyboard and touchscreen ✓ access to ipads ✓ scanning QR codes ✓ taking photos	Moving a robot ✓ explain what a given command will do ✓ act out a given word ✓ combine forwards and backwards commands to make sequences ✓ combine four direction commands to make sequences ✓ plan a simple program ✓ find more than one solution to a problem	Robot algorithms ✓ describe a series of instructions as a sequence ✓ explain what happens when we change the order of instructions ✓ use logical reasoning to predict the outcome of a program (series of commands) ✓ explain that programming projects can have code and artwork ✓ design an algorithm ✓ create and debug a program that I have written	Sequencing sound ✓ explore a new programming environment ✓ identify that commands have an outcome ✓ explain that a program has a start ✓ recognise that a sequence of commands can have an order ✓ change the appearance of my project ✓ create a project from a task description	Repetition in shapes ✓ identify that accuracy in programming is important ✓ create a program in a text-based language ✓ explain what 'repeat' means ✓ modify a count-controlled loop to produce a given outcome ✓ decompose a task into small steps ✓ create a program that uses count-controlled loops to produce a given outcome	Selection in physical computing ✓ control a simple circuit connected to a computer ✓ write a program that includes count-controlled loops ✓ explain that a loop can stop when a condition is met ✓ explain that a loop can be used to repeatedly check whether a condition has been met ✓ design a physical project that includes selection ✓ create a program that controls a physical computing project	Variables in games ✓ Define a 'variable' as something that is changeable ✓ Explain why a variable is used in a program ✓ Choose how to improve a game by using variables ✓ Design a project that builds on a given example ✓ Use my design to create a project ✓ Evaluate my project

<p>Spring 1 – Online Safety</p>		<p>Online Relationships: I can give examples of when I should ask permission to do something online and explain why this is important. I can use the internet with adult support to communicate with people I know (e.g., video call apps or services).</p> <p>Online Bullying: I can describe how to behave online in ways that do not upset others and can give examples.</p>	<p>Online Reputation I can describe how anyone’s online information could be seen by others. I know who to talk to if something as been put online without consent or if it is incorrect.</p>	<p>Self-Image and Identity I can explain what is meant by the term ‘identity’. I can explain how people can represent themselves in different ways online. I can explain ways in which someone might change their identity depending on what they are doing online (e.g., gaming; using an avatar; social media) and why.</p>	<p>Online Reputation I can describe how to find out information about others by searching online. I can explain ways that some of the information about anyone online could have been created, copied or shared by others</p>	<p>Managing Online Information I can identify ways the internet can draw us to information for different agendas, e.g., website notifications, pop-ups, targeted ads. I can describe ways of identifying when online content has been commercially sponsored or boosted (e.g., by commercial companies or by vloggers, content creators, influencers). I can explain what is meant by the term ‘stereotype’, how ‘stereotypes’ are amplified and reinforced online, and why accepting ‘stereotypes’ may influence how people think about others. I can describe how fake news may affect someone’s emotions and behaviour and explain why this may be harmful. I can explain what is meant by a ‘hoax’. I can explain why someone would need to think</p>	<p>Health, Well-being and Lifestyle I can describe common systems that regulate agerelated content (e.g., PEGI, BBFC, parental warnings) and describe their purpose. I recognise and can discuss the pressures that technology can place on someone and how / when they could manage this. I can recognise features of persuasive design and how they are used to keep users engaged (current and future use). I can assess and action different strategies to limit the impact of technology on health (e.g., night-shift mode, regular breaks, correct posture, sleep, diet and exercise).</p> <p>Online Reputation I can explain the ways in which anyone can develop a positive online reputation. I can explain strategies anyone can use to protect their ‘digital</p>
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						carefully before they share.	personality' and online reputation
<p>Spring Term 2</p> <p>–</p> <p>Data and Information</p>		<p>Grouping data</p> <ul style="list-style-type: none"> ✓ label objects ✓ identify that objects can be counted ✓ describe objects in different ways ✓ count objects with the same properties ✓ compare groups of objects ✓ answer questions about groups of objects 	<p>Pictograms</p> <ul style="list-style-type: none"> ✓ recognise that we can count and compare objects using tally charts ✓ recognise that objects can be represented as pictures ✓ create a pictogram ✓ select objects by attribute and make comparisons ✓ recognise that people can be described by attributes ✓ explain that we can present information using a computer 	<p>Branching databases</p> <ul style="list-style-type: none"> ✓ create questions with yes/no answers ✓ identify the object attributes needed to collect relevant data ✓ create a branching database ✓ explain why it is helpful for a database to be well structured ✓ plan the structure of a branching database ✓ independently create an identification tool 	<p>Data logging</p> <ul style="list-style-type: none"> ✓ explain that data gathered over time can be used to answer questions ✓ use a digital device to collect data automatically ✓ explain that a data logger collects 'data points' from sensors over time ✓ recognise how a computer can help us analyse data ✓ identify the data needed to answer questions ✓ use data from sensors to answer questions 	<p>Flat-file databases</p> <ul style="list-style-type: none"> ✓ use a form to record information ✓ compare paper and computer-based databases ✓ outline how grouping and then sorting data allows us to answer questions ✓ explain that tools can be used to select specific data ✓ explain that computer programs can be used to compare data visually ✓ apply my knowledge of a database to ask and answer real-world questions 	<p>Introduction to spreadsheets</p> <ul style="list-style-type: none"> ✓ create a data set in a spreadsheet ✓ build a data set in a spreadsheet ✓ explain that formulas can be used to produce calculated data ✓ apply formulas to data, including duplicating ✓ create a spreadsheet to plan an event ✓ choose suitable ways to present data
<p>Spring 2 – Online Safety</p>		<p>Copyright and Ownership:</p> <p>I can save my work under a suitable title or name so that others know it belongs to me (e.g., filename, name on content). I can</p>	<p>Self-Image and Identity:</p> <p>I can explain how other people may look and act differently online and offline</p> <p>I can give examples of issues online that might make someone feel sad,</p>	<p>Online Relationships:</p> <p>I can describe ways people who have similar likes and interests can get together online.</p> <p>I can explain what it means to 'know someone' online and</p>	<p>Privacy and Security</p> <p>I can describe strategies for keeping personal information private, depending on context.</p>	<p>Online Bullying</p> <p>I can recognise online bullying can be different to bullying in the physical world and can describe some of those differences.</p>	<p>Managing Online Information</p> <p>I can describe the difference between online misinformation and dis-information.</p> <p>I can explain why information that is</p>

		<p>understand that work created by others does not belong to me even if I save a copy.</p>	<p>worried, uncomfortable or frightened; I can give examples of how they might get help. Privacy and Security I can explain how passwords can be used to protect information, accounts and devices. I can explain and give examples of what is meant by 'private' and 'keeping things private'. I can describe and explain some rules for keeping personal information private (e.g., creating and protecting passwords). I can explain how some people may have devices in their homes connected to the internet and give examples (e.g., lights, fridges, toys, televisions).</p>	<p>why this might be different from knowing someone offline. I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with. I can explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried. I can explain how someone's feelings can be hurt by what is said or written online. I can explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline (e.g., sharing images and videos).</p>	<p>I can explain that internet use is never fully private and is monitored, e.g., adult supervision I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. I know what the digital age of consent is and the impact this has on online services asking for consent</p>	<p>I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult. I can identify a range of ways to report concerns and access support both in school and at home about online bullying. I can explain how to block abusive users. I can describe the helpline services which can help people experiencing bullying, and how to access them (e.g., Childline or The Mix).</p>	<p>on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g., the sharing of misinformation or disinformation). I can identify, flag and report inappropriate content. Self-Image and Identity I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online. I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened I know and can give examples of how to get help, both on and offline. I can explain the importance of asking until I get the help needed.</p>
<p>Summer Term 1 –</p>	<p>Coding ✓ Caterpillars and Beebots</p>	<p>Digital writing ✓ use a computer to write ✓ add and remove</p>	<p>Digital music ✓ say how music can make us feel</p>	<p>Desktop publishing ✓ recognise how text and images convey information</p>	<p>Photo editing ✓ explain that the composition of</p>	<p>Introduction to vector graphics ✓ identify that drawing tools</p>	<p>3D modelling ✓ recognise that you can work in three</p>

<p>Creating Media</p>	<ul style="list-style-type: none"> ✓ scanning QR codes 	<p>text on a computer</p> <ul style="list-style-type: none"> ✓ identify that the look of text can be changed on a computer ✓ make careful choices when changing text ✓ explain why I used the tools that I chose ✓ compare typing on a computer to writing on paper 	<ul style="list-style-type: none"> ✓ identify that there are patterns in music ✓ experiment with sound using a computer ✓ use a computer to create a musical pattern ✓ create music for a purpose ✓ review and refine our computer work 	<ul style="list-style-type: none"> ✓ recognise that text and layout can be edited ✓ choose appropriate page settings ✓ add content to a desktop publishing publication ✓ consider how different layouts can suit different purposes ✓ consider the benefits of desktop publishing 	<p>digital images can be changed</p> <ul style="list-style-type: none"> ✓ explain that colours can be changed in digital images ✓ explain how cloning can be used in photo editing ✓ explain that images can be combined ✓ combine images for a purpose ✓ evaluate how changes can improve an image 	<p>can be used to produce different outcomes</p> <ul style="list-style-type: none"> ✓ create a vector drawing by combining shapes ✓ use tools to achieve a desired effect ✓ recognise that vector drawings consist of layers ✓ group objects to make them easier to work with ✓ apply what I have learned about vector drawings 	<p>dimensions on a computer</p> <ul style="list-style-type: none"> ✓ identify that digital 3D objects can be modified ✓ recognise that objects can be combined in a 3D model ✓ create a 3D model for a given purpose ✓ plan my own 3D model ✓ create my own digital 3D model
<p>Summer 1 – Online Safety</p>	<p>Privacy and Security: I can explain how passwords are used to protect information, accounts and devices. I can recognise more detailed examples of information that is personal to someone (e.g., where someone lives and goes to school, family names). I can explain why it is important to always ask a trusted adult</p>	<p>Privacy and Security: I can explain how passwords are used to protect information, accounts and devices. I can recognise more detailed examples of information that is personal to someone (e.g., where someone lives and goes to school, family names). I can explain why it is important to always ask a trusted adult</p>	<p>Copyright and Ownership: I can recognise that content on the internet may belong to other people. I can describe why other people’s work belongs to them.</p> <p>Online Relationships I can give examples of how someone might use technology to communicate with others they don’t also know offline and explain why this might be risky (e.g., email, online gaming, a pen-pal in another school/country). I can explain who I should ask before sharing things</p>	<p>Managing Online Information: I can explain the difference between a ‘belief’, an ‘opinion’ and a ‘fact’ and can give examples of how and where they might be shared online, e.g., in videos, memes, posts, new stories etc. I can explain that not all opinions shared may be accepted as true or fair by others (e.g., monsters under the bed). I can describe and demonstrate how we can get help from a</p>	<p>Self-Image and Identity: I can explain how my online identity can be different to my offline identity. I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. I can explain that others online can pretend to be someone else,</p>	<p>Copyright and Ownership I can give examples of content that is permitted to be reused and know how this content can be found online.</p> <p>Privacy and Security I can explain what a strong password is and demonstrate how to create one. I can explain how many free apps or services may read and share private</p>	<p>Privacy and Security I can describe effective ways people can manage passwords (e.g., storing them securely or saving them in browser). I can explain what to do if a password is shared, lost or stolen. I can describe how and why people should keep their software and apps up to date, e.g., auto updates. I can describe simple ways to increase privacy on apps and</p>

		<p>before sharing any personal information online, belonging to myself or others.</p> <p>Online Relationships:</p> <p>I can explain why it is important to be considerate and kind to people online and to respect their choices. I can explain why things one person finds funny or sad online may not always be seen in the same way by others.</p>	<p>about myself or others online.</p>	<p>trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.</p> <p>Copyright and Ownership</p> <p>I can explain why copying someone else's work from the internet without permission isn't fair and can explain what problems this might cause.</p>	<p>including my friends, and can suggest reasons why they might do this</p> <p>Copyright and Ownership</p> <p>I can give some simple examples of content which I must not use without permission from the owner, e.g., videos, music, images.</p>	<p>information (e.g., friends, contacts, likes, images, videos, voice, messages, geolocation) with others.</p> <p>I can explain what app permissions are and can give some examples.</p>	<p>services that provide privacy settings.</p> <p>I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g., scams, phishing).</p> <p>I know that online services have terms and conditions that govern their use.</p>
<p>Summer Term 2 –</p> <p>Programming</p>		<p>Programming animations</p> <ul style="list-style-type: none"> ✓ choose a command for a given purpose ✓ show that a series of commands can be joined together ✓ identify the effect of changing a value ✓ explain that each sprite has its own instructions ✓ design the parts of a project ✓ use my algorithms to create a programme 	<p>Programming quizzes</p> <ul style="list-style-type: none"> ✓ explain that a sequence of commands has a start ✓ explain that a sequence of commands has an outcome ✓ create a program using a given design ✓ change a given design ✓ create a program using my own design ✓ decide how my project can be improved 	<p>Events and actions in programs</p> <ul style="list-style-type: none"> ✓ explain how a sprite moves in an existing project ✓ create a program to move a sprite in four directions ✓ adapt a program to a new context ✓ develop my program by adding features ✓ identify and fix bugs in a program ✓ design and create a maze-based challenge 	<p>Repetition in games</p> <ul style="list-style-type: none"> ✓ develop the use of count-controlled loops in a different programming environment ✓ explain that in programming there are infinite loops and count-controlled loops ✓ develop a design that includes two or more loops which run at the same time ✓ modify an infinite loop in 	<p>Selection in quizzes</p> <ul style="list-style-type: none"> ✓ explain how selection is used in computer programs ✓ relate that a conditional statement connects a condition to an outcome ✓ explain how selection directs the flow of a program ✓ design a program which uses selection ✓ create a program which uses selection ✓ evaluate my program 	<p>Sensing movement</p> <ul style="list-style-type: none"> ✓ create a program to run on a controllable device ✓ explain that selection can control the flow of a program ✓ update a variable with a user input ✓ use an conditional statement to compare a variable to a value ✓ design a project that uses inputs and outputs on a controllable device ✓ develop a program to use inputs and

					<p>a given program</p> <ul style="list-style-type: none"> ✓ design a project that includes repetition ✓ create a project that includes repetition 		<p>outputs on a controllable device</p>
<p>Summer 2 – Online Safety</p>		<p>Managing Online Information:</p> <p>I can give simple examples of how to find information using digital technologies, e.g., search engines, voice activated searching. I know / understand that we can encounter a range of things online including things we like and don't like as well as things which are real or make believe / a joke. I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.</p>	<p>Online Relationships</p> <p>I can describe different way to ask for, give, or deny my permission online and can identify who can help me if I am not sure.</p> <p>I can explain why I have a right to say 'no' or 'I will have to ask someone'.</p> <p>I can explain who can help me if I feel under pressure to agree to something I am unsure about or don't want to do.</p> <p>I can identify who can help me if something happens online without my consent.</p> <p>I can explain how it may make others feel if I do not ask their permission or ignore their answers before sharing something about them online.</p> <p>I can explain why I should always ask a trusted adult before clicking 'y's', 'agree' or 'accept' online.</p>	<p>Online Bullying:</p> <p>I can describe appropriate ways to behave towards other people online and why this is important.</p> <p>I can give examples of how bullying behaviour could appear online and how someone can get support</p>	<p>Health, Well-being and Lifestyle</p> <p>I can explain how using technology can be a distraction from other things, in both a positive and negative way.</p> <p>I can identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.</p> <p>Online Relationships</p> <p>I can describe strategies for safe and fun experiences in a range of online social environments (e.g., livestreaming, gaming platforms).</p> <p>I can give examples of how to be respectful to others online and describe how to recognize healthy and unhealthy online behaviours.</p>	<p>Online Reputation</p> <p>I can search for information about an individual online and summarise the information found.</p> <p>I can describe ways that information about anyone online can be used by others to make judgements about an individual and why these may be incorrect.</p> <p>Health, Well-being and Lifestyle</p> <p>I can describe ways technology can affect health and wellbeing both positively (e.g., mindfulness apps) and negatively.</p> <p>I can describe some strategies, tips or advice to promote health and well-being with regards to technology.</p> <p>I recognise the benefits and risks of accessing information about</p>	<p>Online Relationships</p> <p>I can explain how sharing something online may have an impact either positively or negatively.</p> <p>I can describe how to be kind and show respect for others online including the importance of respecting boundaries regarding what is shared about them online and how to support them if others do not.</p> <p>I can describe how things shared privately online can have unintended consequences for others (e.g., screengrabs).</p> <p>I can explain that taking or sharing inappropriate images of someone (e.g., embarrassing images), even if they say it is okay, may have an impact for the sharer and</p>

						<p>health and well-being online and how we should balance this with talking to trusted adults and professionals.</p> <p>I can explain how and why some apps and games may request or take payment for additional content (e.g., in-app purchases, loot boxes) and explain the importance of seeking permission from a trusted adult before purchasing.</p>	<p>others; and who can help if someone is worried about this.</p>
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	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
Computing systems and networks	<p>Technology around us Recognising technology in school and using it responsibly.</p>	<p>Information technology around us Identifying IT and how its responsible use improves our world in school and beyond.</p>	<p>Connecting computers Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks.</p>	<p>The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content.</p>	<p>Systems and searching Recognising IT systems in the world and how some can enable searching on the internet.</p>	<p>Communication and collaboration Exploring how data is transferred by working collaboratively online.</p>
Creating media	<p>Digital painting Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.</p> <p>Digital writing Using a computer to create and format text, before comparing to writing non-digitally.</p>	<p>Digital photography Capturing and changing digital photographs for different purposes.</p> <p>Digital music Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.</p>	<p>Stop-frame animation Capturing and editing digital still images to produce a stop-frame animation that tells a story.</p> <p>Desktop publishing Creating documents by modifying text, images, and page</p>	<p>Audio production Capturing and editing audio to produce a podcast, ensuring that copyright is considered.</p> <p>Photo editing Manipulating digital images, and reflecting on the</p>	<p>Video production Planning, capturing, and editing video to produce a short film.</p> <p>Introduction to vector graphics Creating images in a drawing program by using layers and groups of objects.</p>	<p>Webpage creation Designing and creating webpages, giving consideration to copyright, aesthetics, and navigation.</p> <p>3D modelling Planning, developing, and evaluating 3D</p>

			layouts for a specified purpose.	impact of changes and whether the required purpose is fulfilled.		computer models of physical objects.
Data and information	Grouping data Exploring object labels, then using them to sort and group objects by properties.	Pictograms Collecting data in tally charts and using attributes to organise and present data on a computer.	Branching databases Building and using branching databases to group objects using yes/no questions.	Data logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation.	Flat-file databases Using a database to order data and create charts to answer questions.	Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data.
Programming	Moving a robot Writing short algorithms and programs for floor robots, and predicting program outcomes. Programming animations Designing and programming the movement of a character on screen to tell stories.	Robot algorithms Creating and debugging programs, and using logical reasoning to make predictions. Programming quizzes Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.	Sequencing sounds Creating sequences in a block-based programming language to make music. Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions.	Repetition in shapes Using a text-based programming language to explore count-controlled loops when drawing shapes. Repetition in games Using a block-based programming language to explore count-controlled and infinite loops when creating a game.	Selection in physical computing Exploring conditions and selection using a programmable microcontroller. Selection in quizzes Exploring selection in programming to design and code an interactive quiz.	Variables in games Exploring variables when designing and coding a game. Sensing movement Designing and coding a project that captures inputs from a physical device. Transition Using the micro:bits