Being a Computer User at Tanners Brook Primary School

EYFS – The foundations of becoming a computer user

In the Early Years, teaching computing involves the introduction of resources that promote the development of listening skills, curiosity, creativity and problem-solving abilities, as well as supporting other areas of learning. This approach ensures that children transition to Year One with a solid foundation of knowledge. Despite technology not being represented through an area of learning, we ensure our children experience computing and essential e-safety skills as it is deeply integrated into the wider lives of young children. The exploration of computing can be seen in many learning opportunities in the Early Years, but it is likely to see:

- Children planning routes for a friend or robot
- Children making resources work using buttons or switches
- Exploration of digital devices to take photos, videos or play music
- Exploration of resources to develop digital literacy, such as interactive whiteboards and tablets
- Discussions about ways to stay safe when using a digital device
- Playing and listening to digital stories or extracts
- The use of a search engine to help find information
- Explanations from children demonstrating their knowledge of telling a trusted adult if something on a digital device upsets them

These foundations will support our children when they start to learn the National Curriculum for Computing in KS1.

KS1 National Curriculum	**KS2 National Curriculum**
Being a Computer User	**Being a Computer User**
Pupils should be taught to:	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.	- 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.

Key Strands: Computing Systems and Networks Creating Media Programming Data and Information

	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
Early Years						
Year One Curriculum Content Criteria	**A Year One Computer User:** Algorithms and programming 1. I create a series of instructions. 2. I plan a journey for a programmable toy. Information technology 3. I create digital content. 4. I store digital content. 5. I retrieve digital content. 6. I use a website. 7. I use a camera. (covered in Year 2 not year 1) 8. I record sound and play back. (covered in Year 2 not year 1) Digital literacy 9. I use technology safely. 10. I keep personal information private.					
Year One Units of Study	**Unit Title** **Computing systems and networks – technology around us.** **Knowledge and context:** To be able to: • Recognise how technology can help us (9) • show examples of technology and how it helps us (9) • understand that a computer is a piece of technology (9) • make choices when using technology (9) • explain why we need rules when using technology (3,4,5,10)	**Unit Title** **Creating media – digital painting.** **Knowledge and context:** To be able to: • recognise what different software tools do (3,6) • explain that we can use computers to create art (3) • show that a tool can be adjusted to suit an individual need (3/6) • know when to decide the use for each tool appropriately (3)		**Unit Title** **Programming A – moving a robot.** **Knowledge and context:** To be able to: • recall words that can be enacted (1) • know what a command does (1,3) • recognise how to match a command to an outcome (!,2,3) • explain how they understand that a program is a set of commands that a computer runs (1,2,3)	**Unit Title** **Programming B animations (6)** **Knowledge and context:** To be able to: • enact a given word (1) • recall words that can be enacted (1) • predict the outcome of a device command (1) • list commands that can be used on a specific device (1,3) • explain what a command does (1.3) • match a command and outcome (1,3)	**Unit Title** **Creating media – digital writing inc dance mat typing** **Knowledge and context:** To be able to: • explain that they recognise that a keyboard is used to enter text into a computer (typing) (3,4) • know that the shift key changes the output of a key (3) • that text can be changed (3) • that text can be edited (reviewed) (3)

Skills: Children will be able to: • choose technology for a task (3,9) • recognise that technology can be used in different ways (3,9) • identify the main parts of a computer (9) • use a mouse in different ways (3,9) • use a keyboard to type and edit text (3,9) • show to use technology safely (10) **Enhancements:**	• explain how to compare a painting on a computer (9) **Skills:** children will be able to: • create a picture using tools (3) • use shape/line tools for precision (3) • use a range of paint colours (3) • use the fill tool for a designed enclosed area of an image (3) • use undo to correct a mistake (3) • to combine using a range of tools to create a piece of artwork(3) **Enhancements: ipads?**		• recall that a set of instructions can be input before they are told to run (1,2,3) **Skills:** Children will be able to: • enact a given word (1) • predict an outcome of a command on a used device (1,2,3) • list commands that can be used on a given device (1,2) • run a command on a floor robot (1,2,3) • choose a command for a given purpose (1,2,3) • choose a series of words to enact within a program (2) • choose a series of commands that can run as a program (2) • build a sequence of commands – in steps • combine commands • run a program on a device (2) **Enhancements:** Using bee bots	• recognise how to make a command run • choose a command for a specific purpose (1,3) • understand that a program is a set of commands that run on a computer (1,3) • recall a series of commands before enacting them (1,3) • build a sequence of commands (steps) (1,3) • combine commands for a program (1,3) **Skills:** children will be able to: • choose a series of words to be enacted in a program (1,3) • choose a series of commands to run as a program (1,3) • run a program on a device (1,3) **Enhancements:** Using scratchjr for the first time (6)	• that the appearance of text can be changed (3) • how they have considered the impact of any changes made (3) **Skills:** Children will be able to: • use letter/number and space keys to input text to a computer (3) • use punctuation and special keys (3) • select text (3) • choose options to achieve an intended outcome (3) • change the appearance of text on a computer (3) • use backspace to remove text (3) • position the cursor in an intended location (3) • use undo when needed (3) • Save and open files (4,5) **Enhancements: Using KS1 laptops**
Year Two Curriculum Content Criteria	<u>**A Year Two Computer User:**</u> <u>Algorithms and programming</u> 1. I use a range of instructions (e.g. direction, angles, turns). 2. I test and amend a set of instructions. 3. I find errors and amend. (debug)				

4. I write a simple program and test it.
5. I predict what the outcome of a simple program will be (logical reasoning).
6. I understand that algorithms are used on digital devices.
7. I understand that programs require precise instructions.

<u>Information technology</u>

8. I organise digital content.
9. I retrieve and manipulate digital content.
10. I can navigate the web to complete simple searches.

<u>Digital literacy</u>

11. I use technology respectfully.
12. I know where to go for help if I am concerned.
13. I know how technology is used in school and outside of school.

	Unit Title **Computing sytems and networks – IT around us**	Unit Title **Creating media – digital photography**	Unit Title **Programming A – robot algorithms**		Unit Title **Creating media – digital music (10 – finding the site)**	Unit Title **Programming B – programming quizzes (10 – finding the site)**
Year Two Units of Study	**Knowledge and context:** To be able to: - recognise different types of computers used in schools (13) - know that computers are a part of IT (13) - recognise features of IT (13) - talk about the uses of IT and how it benefits us (13) - discuss how rules for IT can help us (12) - recognise choices are made when using IT (11,12) **Skills:** Children will be able to: • describe some uses of computers (13) • identify types of IT in school (13)	**Knowledge and context:** To be able to: • recognise that some digital devices capture images with a camera (8,11) • talk about how to take a photograph (Yr1:7, Yr2:8,9) • know that photographs can be saved and viewed later (9) • make choices when creating a photograph (8,9) • recognise good photograph features and identify how it could be improved (9) • explain how light affects a photograph (9) • recognise that photographs can be changed after they have been captured (9) • know that some images are not accurate (9)	**Knowledge and context:** To be able to: • describe a series of instructions is a sequence (1) • recall that a series of instructions can be created before they are enacted (1, 4) • explain what happens when changing the order of instructions (2,5) • recognise that a program outcome can be predicted (5) **Skills:** Children will be able to: • choose a series of words that can be enacted as a sequence (1,2,4,6,7) • choose a series of instructions that can be run as a program (1,2,4,6,7) • create a program (1,2,4,6,7)		**Knowledge and context:** To be able to: • identify that computers can play sounds of different instruments (8,9) • identify that a pattern can be shown in different ways (8,9) • compare playing music on computers and on an instrument(8,9) **Skills:** Children will be able to: • experiment with musical patterns on a computer and with different sounds (8,9) • create musical patterns on a computer (8,9) • use a computer to compose a rhythm and melody on a given theme use a computer to play the same music but in different ways (tempo/pitch) (8,9)	**Knowledge and context:** To be able to: • describe a series of instructions as a sequence recall that a series of instructions can be input before being enacted (1,2,4,6,7) • reason logically to predict the outcome of a program (5) **Skills:** Children will be able to: • choose a series of words to enact as part of a sequence (1) • explain what happens when the order of instructions are changed (5) • choose a series of commands to run as a program (Yr 1:8 Yr2: 1,2,4,6,7) trace a sequence to then make a prediction (5)

		Skills: Children will be able to:				
	• identify types of IT beyond school (13) • show how IT is used safely (11,12) **Enhancements:**	**Skills:** Children will be able to: • capture a digital image (8,11) • take both landscape and portrait photographs (9) • view images on a device (9) • decide which photographs to keep hold the device still to ensure a clear image (9) • zoom in/out to change the composition of a photograph (9) • consider lighting before taking an image (9) • try using filters to edit the appearance of an image (9) • retake an image to improve it (9) **Enhancements:**	• trace a sequence to predict an outcome (5) • run a program on a device (6) • debug a program they have written (3) **Enhancements:**		• evaluate a composition created on a computer (8,9) • improve a musical composition created on a computer(8,9) **Enhancements:**	• test a prediction by running the sequence (2) • create and debug a self-written program (3) • run a program on a device (6,7) **Enhancements:**
Year Three Curriculum Content Criteria	**A Year Three Computer User:** Algorithms and programming 1. I design a sequence of instructions, including directional instructions. 2. I write programs that accomplish specific goals. 3. I work with various forms of input. 4. I work with various forms of output. Information technology 5. I use a range of software for similar purposes. 6. I collect information. 7. I design and create content. 8. I present information. 9. I search for information on the web in different ways. 10. I manipulate and improve digital images. Digital literacy 11. I use technology respectfully and responsibly. (Taught through project evolve units) 12. I know different ways I can get help if I am concerned. (Taught through project evolve units) 13. I understand what computer networks do and how they provide multiple services. 14. I discern where it is best to use technology and where it adds little or no value.					

		Unit Title	Unit Title	Unit Title		Unit Title	Unit Title
Year Three Units of Study			Creating media – stop frame animation			Creating media – desktop publishing. (5,6,7,8,9,10)	Programming B – events and actions in programs
		Knowledge and context: To be able to: • describe what an input is • explain that a process acts linked to the input (5,13) • explain that an output is produced by the process (5,13) • explain how computer can change how we work (14) • explain how a change of process affects the output (5,13) • recognise that a digital device is made up of several parts and that they can be joined to each other (13) • identify how devices in a network connected with each other (13) • recognise that a network is made up of a number of components (13) • explain how information is passed through multiple connections (13) • identify the benefits computer networks (13,14) **Skills:** Children will be able to: • identify input/output devices (13) • explain that a computer system accepts an input	**Knowledge and context:** To be able to: • explain that an animation is a sequence of images (5) • identify that a capturing device needs to be in a fixed position (5) • recognise that smaller movements create a smoother animation (5) • explain the need for consistency in working (5) • explain the impact of adding other media to an animation (5) • explain that a project be exported so it can be shared (5,8) **Skills:** Children will be able to: • plan an animation using a storyboard (5) • set up a work area with an awareness of what they are capturing (5) • capture an image (5) • use the onion skinning tool to review subject position (5,7) • move a subject between captures (5,7) • review a captured sequence of frames as an animation (5) • remove frames to improve the animation (5,7) • add media to enhance an animation (5)	**Knowledge and context:** To be able to: • explain that programs start because of an input (1) • explain what a sequence is (1) • identify that a program includes sequences of commands (1,2,3) • identify that the sequence of a program is a process (1,3,3) • explain that the order of commands can affect a program's output (1,2,3) • identify that different sequences can achieve the same output (1,4) • identify that different sequences can achieve different outputs (4) **Skills:** Children will be able to: • build a sequence of commands (2) • combine commands in a program (2) • order commands in a program (2) • create a sequence of commands to produce a given outcome (2) **Enhancements:**		**Knowledge and context:** To be able to: • recognise how text/images can be used together convey information (5,6,7) • know landscape/ portrait as different page orientations (5,6,7, 10) • consider how different layouts suit different purposes (5,6,7,10) • recognise that DTP pages can be structured with the use of placeholders (5) • recognise how different font styles and effects are used for certain purposes (5) • consider the benefits of using a DTP application (5,14) **Skills:** Children will be able to: • show that page orientation can be changed (5,10) • add text as a placeholder (5) • organise text/image placeholders in a page layout (5) • add/remove images to and from placeholders (5) • edit text in a placeholder (5) • move/resize/ rotate images (5,10) • review a document (5,14)	**Knowledge and context:** To be able to: • explain that programs start with input (3) • explore what a sequence is (1) • identify that a program includes a sequence of commands (1,2) • explain that an order of commands effects a program's output (1,2) • identify that different sequences can achieve the same/different outputs (1,2,4) **Skills:** Children will be able to: • build a sequence of commands (1) • combine commands in a program (1) • order commands in a program (1,2) • create a sequence of commands to produce a given outcome (1,2) **Enhancements:**

	and processes it to produce an output (13) • explain how a computer network is used to share information (13) • explain the role of a switch server and wireless access point in a network (13) • identify network devices around them (13) • explain how networks can be connected to other networks (13) **Enhancements:**	• review a completed project (7,8) **Enhancements:**			**Enhancements:**	
Year Four Curriculum Content Criteria	<td colspan="6"><u>**A Year Four Computer User:**</u> <u>Algorithms and programming</u> 1. I experiment with variables to control models. 2. I give an on-screen robot specific instructions that takes them from A to B. 3. I make an accurate prediction and explain why I believe something will happen (linked to programming). 4. I de-bug a program. <u>Information technology</u> 5. I select and use software to accomplish given goals. 6. I collect and present data. <u>Digital literacy</u> 7. I recognise acceptable and unacceptable behaviour using technology.</td>
Year Four Units of Study	**Unit Title** Computing systems and networks – the internet **Knowledge and context:** To be able to: • describe how networks connect to other networks (7) • recognise the need for security on the internet (7) • explain that the global interconnection of networks is the internet (7)	**Unit Title** Programming A – repetition in shapes **Knowledge and context:** To be able to: • relate what 'repeat' means (2) • identify everyday tasks that include repetition as part of a sequence, e.g. brushing teeth, dance moves (3) • explain that we can use a loop command in a	**Unit Title** Creating media – photo editing **Knowledge and context:** To be able to: • use an application to change the whole of a digital image (5,6) • change the composition of a digital image by rotating and flipping (5,6) • change the composition of a digital image by cropping (5,6)	**Unit Title** Programming B – repetition in games **Knowledge and context:** To be able to: • understand what 'repeat' means (1,2,3) • identify everyday tasks that include repetition as part of a sequence, e.g. brushing teeth, dance moves (1,2,3) • explain that we can use a loop command in a	Unit Title Programming – Introduction to microbits (1,2,3,4)	

• recognise that the World Wide Web is part of the internet (7) • outline how information can be shared via the World Wide Web (7) • describe how to access the World Wide Web (7) • describe the types of content/media that can be added, created, and shared on the World Wide Web (7) • explain how the content of the World Wide Web is created, owned, and shared by people (7) • explain that the internet enables us to view the World Wide Web (7) • explain that the World Wide Web comprises of websites and web pages (7) • describe the current limitations of World Wide Web media (7) • explain the benefits of the World Wide Web (7) **Skills:** Children will be able to: • use the World Wide Web safely (5,7) • use the different attributes associated with the web, securely and with care (5,7) • evaluate the reliability of content and the consequences of unreliable content(5,7)	program to repeat instructions (1,2) • identify a loop within a program (1,2) • identify patterns in a sequence (1,2) • explain that in programming there are indefinite loops and count controlled loops (1,2) • explain that an indefinite loop will run until the program is stopped (1,2) • explain that you can program a loop to stop after a specific number of time (1,2) • identify patterns in a sequence, e.g. 'step 3 times' means the same as 'step, step, step' (1,2) • justify when to use a loop and when not to (1,2) • explain the importance of instruction order in a loop (1,2) • recognise that not all tools enable more than one process to be run at once (1,2) **Skills:** Children will be able to: • list an everyday task as a set of instructions including repetition (1,2) • use an indefinite loop to produce a given outcome (1,2) • use a count controlled loop to produce a given outcome (1,2)	• adjust colours of a digital image (5,6) • use an application to change part of a digital image (5,6) • apply effects to a digital image (5,6) • select part of a digital image (5,6) • use clone, copy, and paste to change the composition of a digital image (5,6) • use cloning to retouch a digital image (5,6) • use an application to add to the composition of a digital image (5,6) • add text to a digital image(5,6) **Skills:** Children will be able to: • recognise that digital images can be manipulated (5,7) • recognise that digital images can be changed for different purposes (5,7) • choose the most appropriate tool for a particular purpose (5,7) • consider the impact of changes made on the quality of the image (5,7) **Enhancements:**	program to repeat instructions (1,2,3) • identify a loop within a program (1,2,3,4) • identify patterns in a sequence (1,2) • explain that an indefinite loop will run until the program is stopped (1,2,3,4) • explain that you can program a loop to stop after a specific number of times (1,2) • identify patterns in a sequence, e.g. 'step 3 times' means the same as 'step, step, step' (1,2) • justify when to use a loop and when not to (1,2,3) • explain the importance of instruction order in a loop (1,2,3,4) • recognise that not all tools enable more than one process to be run at once (1,2) **Skills:** Children will be able to: • list an everyday task as a set of instructions including repetition (1,2) • use an indefinite loop to produce a given outcome (1,2) • use a count controlled loop to produce a given outcome (1,2) • plan a program that includes appropriate loops

Enhancements:	• plan a program that includes appropriate loops to produce a given outcome (1,2) • recognise tools that enable more than one process to be run at the same time (concurrency) (1,2) • create two or more sequences that run at the same time (1,2) **Enhancements:**		to produce a given outcome (1,2) • recognise tools that enable more than one process to be run at the same time (concurrency) (1,2) • create two or more sequences that run at the same time (1,2) **Enhancements:**		

Year Five Curriculum Content Criteria	**A Year Five Computer User:** <u>Algorithms and programming</u> 1. I combine sequences of instructions and procedures to turn devices on and off. 2. I use technology to control an external device. 3. I design algorithms that use repetition & 2-way selection. <u>Information technology</u> 4. I analyse information. 5. I evaluate information. 6. I understand how search results are selected and ranked. 7. I edit a film. <u>Digital literacy</u> 8. I understand that you have to make choices when using technology and that not everything is true and/or safe.

	Unit Title	**Unit Title**	**Unit Title**	**Unit Title**	**Unit Title**	**Unit Title**
Year Five Units of Study	Computing systems and networks – systems and searching **Knowledge and context:** To be able to: • recognise that a system is a set of interconnected parts which work together (8) • explain that computers can be connected together to form IT systems (8)	Creating media – video production **Knowledge and context:** To be able to: • explain the features of video as a visual media format (7) • recognise which devices can and can't record video (7) • explain the purpose of a storyboard (7)	Data and information – flat file databases **Knowledge and context:** To be able to: • explain that a computer program can be used to organise data (4,5) • explain that tools can be used to select data to answer questions (4,5) • outline how operands can be used to filter data (4,5)	Creating media – introduction to vector graphics **Knowledge and context:** To be able to: • identify that a vector drawing comprises separate objects (8) • recognise that each object in a drawing is in its own layer (8) • explain how alignment and size guides can help	Programming B – selection in quizzes **Knowledge and context:** To be able to: • explain that a condition can only be true or false (1,2,3) • relate that a count-controlled loop contains a condition (1,2,3) • compare a count controlled loop with a	Year 6 Programming A – Variables in games **Knowledge and context:** To be able to: • define a 'variable' as something that is changeable (Year 6 2,5) • examples of information that is variable, for example, a football score during a match (Year 6 2,5)

• identify that data can be transferred between IT systems (8) • recognise inputs, processes, and outputs in large IT systems (8) • describe the role of a particular IT system in their lives (8) • relate that search engines are examples of large IT systems (8) • explain why search engines create indices, and that they are different for each search engine (8) • explain the role of web crawlers in creating an index and how search results are selected (6, 8) • explain that ranking orders search results to make them more useful (6, 8) • explain how ranking is determined by rules, and that different search engines use different rules (6, 8) • explain why the order of results is important and to whom (6, 8) • explain how search engines make money by selling targeted advertising space (6, 8) • identify some of the limitations of search engines (6, 8) **Skills:** Children will be able to:	• recognise that filming techniques can be used to create different effects (7) • recognise the need to regularly review and reflect on a video project (7) • explain the limitations of editing video on a recording device (7) • identify that videos can be edited on a recording device or on a computer (7) • identify videos can be improved through and reshooting or editing recognise projects need to be exported to be shared (7) **Skills:** Children will be able to: • use different camera angles (7) • use pan, tilt and zoom (7) • identify features of a video recording device or application (7) • combine filming techniques for a given purpose (7) • determine what scenes will convey your idea (7) • choose to reshoot a scene or improve later through editing (7) • decide what changes I will make when editing (7) • use split, trim and crop to edit a video(7) **Enhancements:**	• outline how ordering data allows us to answer some questions (4,5) • outline how 'AND' and 'OR' can be used to refine data selection (4,5) • explain that computer programs can be used to compare data visually explain that we present information to communicate a message (4,5) **Skills:** Children will be able to: • choose different ways to view data (4,5) • choose which attribute and value to search by to answer a given question (operands) (4,5) • ask questions that need more than one attribute to answer (4,5) • choose which attribute to sort data by to answer a given question choose multiple criteria to search data to answer a given question (AND and OR) (4,5,6) • select an appropriate graph to visually compare data (4) • choose suitable ways to present information to other people (4,5,8) **Enhancements:**	create a more consistent drawing • recognise that objects can be modified in groups • recognise that vector images can be scaled without impact on quality consider the impact of choices made **Skills:** Children will be able to: • add an object to a vector drawing • select one object or multiple objects • delete objects • move objects between the layers of a drawing • duplicate objects using copy and paste • modify and reposition objects group and ungroup selected objects • combine options to achieve a desired effect • create a vector drawing for a given purpose **Enhancements:**	condition controlled loop (1,2,3) • explain that a condition controlled loop will stop when a condition is met (1,2,3) • explain that when a condition is met a loop will complete a cycle before it stops (1,2,3) • explain that selection can be used to branch the flow of a program (1,2,3) • explain that a loop can be used to repeatedly check whether a condition has been met explain the importance of instruction order in 'if... then... else...' statements(1,2,3) **Skills:** Children will be able to: • choose a condition to use in a program (1,2,3) • create a condition controlled loop (1,2,3) • use a condition in an 'if... then…' statement to start an action use selection to switch program flow • use 'if... then... else…' to switch program flow in one of two ways(1,2,3) **Enhancements:**	• explain that a variable can be used in a program, e.g. 'score' (Year 6 2,5) • define a program variable as a placeholder in memory for a single value (Year 6 2,5) • explain that a variable has a name and a value (Year 6 5) • explain that a variable has a name and a value (Year 6 5) • recognise that the value of a variable can be used by a program (Year 6 5) • recognise that the value of a variable can be updated (Year 6 5) • identify that variables can hold numbers (integers) or letters (strings) (Year 6 5) • define the way that a variable is changed (Year 6 5) • recognise that a variable can be set as a constant (fixed value) (Year 6 5) • explain the importance of setting up a variable at the start of a program (initialisation) (Year 6 5,6) • explain that there is only one value for a variable at any one time (Year 6 5,6) • explain that if you change the value of a variable, you cannot

	• describe the input and output of a search engine (6) • demonstrate that different search terms produce different results (6) • evaluate the results of search terms (6,8) **Enhancements:**					access the previous value (cannot undo) (Year 6 5,6) • explain that if you read a variable, the value remains (Year 6 1-7) • explain that the name of a variable is meaningless to the computer (Year 6 1-7) • explain that the name of a variable needs to be unique (Year 6 1-7) **Skills:** Children will be able to: • identify a variable in an existing program (Year 6 1-7) • experiment with the value of an existing variable (Year 6 1-7) • choose a name that identifies the role of a variable to make it easier for humans to understand it (Year 6 1-7) • decide where in a program to set a variable (Year 6 1-7) • update a variable with a user input use an event in a program to update a variable (Year 6 1-7) • use a variable in a conditional statement to control the flow of a program (Year 6 1-7) • use the same variable in more than one location in a program (Year 6 1-7) **Enhancements:**

	A Year Six Computer User:					
Year Six Curriculum Content Criteria	Algorithms and programming 1. I design a solution by breaking a problem up. 2. I recognise that different solutions can exist for the same problem. 3. I use logical reasoning to detect errors in algorithms. 4. I use selection in programs. 5. I work with variables. 6. I explain how an algorithm works. 7. I explore 'what if' questions by planning different scenarios for controlled devices. Information technology 8. I select, use and combine software on a range of digital devices. 9. I use a range of technology for a specific project. Digital literacy 10. I discuss the risks of online use of technology. 11. I identify how to minimise risks.					
Year Six Units of Study	**Unit Title** Computing systems and networks – communication and collaboration. **Knowledge and context:** To be able to: • recognise that data is transferred across networks using agreed protocols (methods) • explain that data is transferred in packets • recognise that connections between computers allow access to shared stored files • recognise computers connected to the internet allow people in different places to work together • discuss the opportunities that technology offers for communication and collaboration • explain which types of media can be shared through the internet	**Unit Title** Creating media – web page creation **Knowledge and context:** To be able to: • recognise the relationship between HTML and visual display (8,9) • recognise that web pages can contain different media types (8,9) • recognise that web pages are written by people (8,9) • recognise that a website is a set of hyperlinked web pages (8,9) • recognise components of a web page layout • consider the ownership and use of images (copyright) (10,11) • recognise the need to preview pages (different	**Unit Title** Data and information – introduction to spread sheets **Knowledge and context:** To be able to: • identify questions that can be answered using spreadsheet data (8,9) • explain what an item of data is in a spreadsheet (8,9) • explain how the data type determines how a spreadsheet can process the data (8,9) • outline that there are different software tools to work with data (8,9) • recognise cells can be linked (8,9) • recognise that a cell's value automatically updates when the value in a linked cell is changed (8,9) • evaluate results in comparison to the question asked (8,9)	**Unit Title** Creating media – 3D modelling **Knowledge and context:** To be able to: • explain that 3D models can be created on a computer (8,9) • recognise that a 3D environment can be viewed from different perspectives (8,9) • recognise that digital tools can be used to manipulate 3D objects (8,9) • show how placeholders can create holes in 3D objects recognise that artefacts can be broken down into a collection of 3D objects (8,9) **Skills:** Children will be able to: • position 3D shapes relative to one another (8,9)	**Unit Title**	**Unit Title** Programming B – sensing movement. **Knowledge and context:** To be able to: • define 'variable' as something that is changeable (5) • identify examples of information that is variable, e.g. a football score during a match (5) • explain that a variable can be used in a program, e.g. 'score (5) • define a program variable as a placeholder in memory for a single value (5) • explain that a variable has a name and a value (5) • recognise that the value of a variable can be used by a program (5)

	• explain that communicating and collaboration using the internet can be public or private (10) **Skills:** Children will be able to: • outline methods of communicating and collaborating using the internet (8,10,11) • choose methods of internet communication and collaboration for given purposes (8,10,11) • evaluate different methods of online communication and collaboration (8,10,11) • decide what you should and should not share online (8,10,11) **Enhancements:**	screens / devices) (10,11) • recognise the need for a navigation path recognise the implications of linking to content owned by others (10) **Skills:** Children will be able to: • review an existing website (navigation bars, header) (8) • create a new blank web page (8) • add text to a web page (8) • set the style of text on a web page (8) • change the appearance of text (8) • embed media in a web page add web pages to a website (8) • preview a web page (different screen sizes) (8) • insert hyperlinks between pages (8) • insert hyperlinks to another site (8) **Enhancements:**	**Skills:** Children will be able to: •calculate data using a formula for each operation (8,9) •use functions to create new data (8,9) •use existing cells within a formula choose suitable ways to present spreadsheet data(8,9) • explain why data should be organised in a spreadsheet (8,9) **Enhancements:**	• use digital tools to modify 3D objects (8,9) • combine objects to create a 3D digital artefact (8,9) • use digital tools to accurately size 3D objects construct a 3D model which reflects a real world object (8,9) **Enhancements:**		• recognise that the value of a variable can be updated (5) • identify that variables can hold numbers (integers) or letters (strings) (5) • define the way that a variable is changed (5) • recognise that a variable can be set as a constant (fixed value) (5) • explain the importance of setting up a variable at the start of a program (initialisation) (5) • explain that there is only one value for a variable at any one time (5) • explain that if you change the value of a variable, you cannot access the previous value (cannot undo) (5) • explain that if you read a variable, the value remains (5) • explain that the name of a variable is meaningless to the computer(5) • explain that the name of a variable needs to be unique(5) **Skills:** Children will be able to: •identify a variable in an existing program (1-7) •experiment with the value of an existing variable (1-7) •choose a name that identifies the role of a

						variable to make it more usable (to humans) (1-7)
						• decide where in a program to set a variable update a variable with a user input (1-7)
						•use an event in a program to update a variable (1-7)
						•use a variable in a conditional statement to control the flow of a program(1-7)
						• use the same variable in more than one location in a program(1-7)
						Enhancements:

Being a safe computer user – Project Evolve and Education for a connected world.

A safe computer user in EY					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Online reputation • I know what the word 'information' means • I know what 'online' means • I understand that I can put information online for others to see **Self image and identity** • I know that I can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody who asks me to do something that makes me feel sad, embarrassed or upset • I can give different examples of how to say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' • I can explain how this could be better to do in real life or online		**Health, wellbeing and lifestyle** • Tell you the things that they are allowed/not allowed to do when using technology/the internet. • Name some things that might make them happy/unhappy/angry/sad when they use technology and the internet • Name at least one trusted adult who can help them stay safe when using technology/internet. • Give some examples of the rules they have about using technology. • Attempt to say why they are allowed or not allowed to do these things. • State what to do if they are worried or unsure about something online **Online relationships** • I can name some ways that members of my family talk to each other and other people using the internet • I can name an app, a piece of software or a technology that I use or could use to talk to people I know **Privacy and security** • Identify and name examples of their own personal information. • Name people they trust and why. •		**Copyright and ownership** • Recognise that objects and work can belong to them. • Demonstrate how and why they own digital work they have created. • Explain why digital work belongs to them. • Understand the benefits of naming my electronic work. • Demonstrate ways of naming files to help me find them later • **Managing online information** • I can talk about how I can use the internet to find things out. • I can identify devices I could use to access information on the internet. **Online bullying** • Say what being 'unkind online' means to them. • Give specific examples/ways that people can be unkind through technology and the internet. • Recognise differences between kind and unkind behaviour • Give examples of unkind behaviours online. • Name different emotions that someone may feel in their online experiences. • Recognise that being unkind online can make them feel less pleasant emotions (such as angry, upset, worried and sad).	

A safe computer user in Year 1						
Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Education for a connected world objectives taught through teach computing units.	**Managing Online Information** • I know how to get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened. **Self-image and Identity** • If something happens that makes me feel sad, worried,					**Managing online safety** • 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

	uncomfortable or frightened I can give examples of when and how to speak to an adult I can trust and how they can help. **Health, well-being and lifestyle** • I can explain rules to keep myself safe when using technology both in and beyond the home. **Copyright and ownership** • 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).				
Project evolve	**Self image and identity** • I can recognise that there may be people online who could make me feel sad, embarrassed or upset. • I know when I should ask an adult for help with things online that upset me. • I can give examples of different adults I can ask for help. • 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 understand that information that is shared online can stay there for a very long time • I know that information can copied off the internet • I understand that information about me can be copied by others • I know that I should not share my personal information online • I can name different types of personal information that can be shared (photos, text, video) • I can name 3 adults that can help me if I am unsure about information I want to share.	**Online bullying** • Recognise that certain behaviours online can upset others. • Give examples of behaviours that are unlikely to upset others. • Give examples of behaviours that can make others feel more pleasant emotions (e.g. happy, satisfied, proud, etc.) **Privacy and security** • Understand how passwords and PINs keep devices and information secure. • Recognise some examples of strong and poor password practice. • Demonstrate the types of data that may be personal to you. • Able to articulate under what conditions I would ask an adult for help. **Online relationships** • Understand how to ask permission to use technology/do something online. • Understand how to ask permission to do something that affects someone else online.		**Managing online information** • I can give simple examples of how to find information (e.g. search engine, voice activated searching). • I can use the internet to find things out • I know that we can encounter a range of things online including things we like and don't like. • I know that we can encounter things online which are real or make believe / a joke. • I know I can get help if I see content that makes me feel sad, uncomfortable, worried or frightened. • I know how to get help from a trusted adult. **Copyright and ownership** • Recognise that objects and work can belong to them. • Demonstrate how and why they own digital work they have created. • Explain why digital work belongs to them. • Understand the benefits of naming my electronic work. • Demonstrate ways of naming files to help me find them later. •	

		- Give examples of situations where permission must always be sought. - I can name the people I know and how I know them, describing what they are like. - I can describe how I might use the internet to communicate with family or close friends - I understand and can describe why I might need some help from an adult when doing this. - I understand what being considerate/kind means - I can describe what someone might feel like if you were unkind to them - I can describe ways in which I can try to be kind both offline and online - I can explain what I like and dislike and give reasons - I can explain what I like, dislike and find funny and sad online - I can understand that different people may have different reactions to different things online **Health, well being and lifestyle** - Tell you the rules around their own use of technology in and beyond the home. - Explain why these rules help keep them safe. - Identify rules that apply to safety and rules that apply to health/well-being - Emerging awareness of how rules may change with simple changes in context (where they are, what they are doing and who they might be with)			

A safe computer user in Year 2						
Education for a connected world objectives taught through teach computing units.	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Health, well-being and lifestyle Recognise common uses of information technology beyond school Managing Online Information 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 Health, well-being, and lifestyle I can say how those rules / guides can help anyone accessing	Health, well-being and lifestyle Recognise common uses of information technology beyond school Managing Online Information 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			Managing Online Information use technology purposefully to create, organise, store, manipulate and retrieve digital content 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	Managing Online Information use technology purposefully to create, organise, store, manipulate and retrieve digital content

	online technologies					

Project evolve	**Online reputation**
	• I know how to find information online
	• I can find information online that is older than I am
	• I understand that my information can stay online for a very long time
	• I can describe how anyone's online information can be seen by others.
	• I can describe strategies to protect my online information.
	• I know what is ok to share and what isn't
	• I understand that if I have a worry about something someone else has put online I should talk to a trusted adult
	• I can name 3 different people that can help me if I am worried about something a friend has shared online
	
	Online bullying
	
	• Identify some characteristics that are typical of bullying behaviour (online and offline)
	• Consider the motives behind bullying behaviour.
	• Show awareness of the range of emotions that people involved in a bullying situation may feel.
	• Identify examples of bullying behaviour.
	• Recognise the difference between accidental and intentional behaviours that may affect others.
	• Explain reasons why the blame lies with those who display bullying behaviours, not the target.
	• Identify who they can turn to for help and support.
	• Recognise some sources of support in different contexts (e.g. school, home, online).
	• Understand why people sometimes don't ask for help when being bullied.
			Online relationships
			• I am able to describe how you might send a message to someone you know using technology.
			• I can list ways people might use technology to talk to:
			    ○ a pen pal in another school
			    ○ someone in a game (suitable for their age)
			    ○ an agreed adult (eg getting help with a game or interest) with adult help/supervision
			• I can name some of the risks in doing this
			• Understand the word consent and give examples when they might ask for permission.
			• Give examples of when they might need to ask for help if something happens online without their consent.
			• Give examples of where to find support and who they might ask if they are unsure.
			• Understand the word permission and give examples when they might ask for permission
			• Give examples of when they might need to ask for, give or deny permission when online or when using technology
			• Understand the feelings associated with being asked to do something positive and something which concerns them.
			• Identify when to say 'no' and that they have the right to say 'no' online and when to seek advice.
			• Identify who they might ask if they are not sure or have concern
			• Understand the term permission and how it applies online, particularly when sharing.
			• Empathise, understanding how someone might feel if permission is not sought or if content is shared against someone's wishes.
			• Understand next steps and the importance of requesting and giving permission before sharing.
			• Understand the online world is full of things we might not like to see.
			• Understand that sometimes things online are designed online to encourage us to click 'yes' or 'accept' because they want us to agree to things or take us to view something else we didn't intend.
			• Identify when to seek advice from a trusted adult before clicking online.
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			Managing online information
			• I can use keywords in search engines.
					Privacy and security
					• Identify the features of effective passwords.
					• Identify why we need passwords for accounts/devices.
					• Describe the difference between information shared on public platforms (YouTube) and privately (WhatsApp/Direct message).
					• Identify the appropriate types of content that can be shared online and suggest ways to protect this.
					• Recognise the wide range of internet connected devices at home.
					• Name some of the features of a connected device.
					
					Self image and identify
					• I know that people can choose different pictures online to what they actually look like in real life.
					• I can explain why someone might want to change their appearance online.
					• I can describe ways in which people might make themselves look different online.
					• I can recognise issues online that might make me feel sad, worried uncomfortable or frightened.
					• I know who I can go to for help.
					• I know how to ask for help.
					•
					
					Copyright and ownership
					• Identify digital content that belongs to them.
					• Describe why content on the internet may belong to other
					
					Health, wellbeing and lifestyle
					• Recount either rules, guidance or conversations around their own use of technology that they think are important.
					• Identify a range of simple health/ well-being issues on which technology can impact
					• Explain how they can reduce the impact of these issues when using technology
					• Explain ways in which they can self-manage their use of technology or with support from their parent/carer/mentor
					• Demonstrate simple awareness of physical health risks around over engagement. Eg eyes get tired; sitting in one place for a long time; missing meals/drinks etc
					• Explain simple well-being awareness; eg not physically socialising; not listening to parents/carers; being bored etc
					• Begin to recognise that rules and guidance can vary by context.
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- I can describe and demonstrate how to get help from a trusted adult or helpline if I find content that makes me feel sad, uncomfortable, worried or frightened.
- 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 (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 true.
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A safe computer user in Year 3						
Education for a connected world objectives taught through teach computing units.	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Managing Online Information • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; • identify a range of ways to report concerns about content and contact. Privacy and Security • I can describe simple strategies for creating and keeping passwords private.	Managing Online Information • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; • identify a range of ways to report concerns about content and contact			Managing Online Information • Use search technologies effectively, • appreciate how results are selected and ranked, and be discerning in evaluating digital content	•
Project evolve	Online relationships • I understand that there are places online that are for sharing interests and can name at least an example. • I understand what it means to communicate online • I know that when communicating online some people use a different 'language' to when they are speaking face to face • I can explain what it means to 'know' someone. • I can give different examples of how well I know people eg friends, family, teachers. • I can explain the differences between 'knowing' someone online compared to offline • I can explain what is meant by trusting someone online		Health, well being and lifestyle • Give examples of and explain the positive impact of using technology and the internet. • Give examples of tech/online activities that they (could) engage with for extended periods of time. • Give examples of and explain the negative impact of excessive technology use on health and bodies. • Give examples of and explain the negative impact of excessive technology use on thoughts and feelings.		Privacy and security • Recognise that passwords protect my reputation and the information that I consider important. • Be able to suggest methods for keeping password safe and secure • Demonstrate an awareness of the people I trust. • Make decisions about what information they share and with whom. • Recognise that smart devices often collect and share personal information and other information about people (e.g. tech usage). Online reputation	

• I can give examples of what 'liking' someone online means and how it can be done • I understand and can explain the difference between trusting and liking someone online. • I understand and can explain what trust means and why it is so important, including online. • I understand that I should be careful when sharing some information about myself and about other people online. • I understand that trust has to be earned and can give examples of how trust in someone might be lost because of something that happens online. • I can describe how it might feel if I/someone else has their feelings hurt by something someone says online • I understand that when people talk online, it is different to communicating face to face and that sometimes people act differently online • I understand that sometimes people say or write things online which are not meant as it seems • I can explain the importance of giving permission before sharing things online; • I can explain the importance of gaining permission before sharing things online; • I understand that the principles of sharing online is the same as sharing offline e.g. sharing images and videos. **Self image and identity** • I can explain what is meant by the term 'identity'. • I can explain how I can represent myself in different ways online. • I can explain ways in which and why I might change my identity depending on what I am doing online (e.g. gaming; using an **avatar**; social media).	• Give examples of and explain the negative impact of excessive technology use on relationships and work (e.g. homework/chores/etc.) • Explain simple rules/strategies they use to reduce the impact of these issues. • I can explain why some online activities have age restrictions. • I can explain how children can be pressured into watching or doing something online. • I know who I can talk to if other people pressure me into doing something that makes me feel uncomfortable **Managing online information** • I can use key phrases in search engines. • I can explain what autocomplete is. • I can explain how to choose the best suggestion. • I am aware that autocomplete suggestions may not be truthful. • I can explain how the internet can be used to sell and buy things. • I can describe different contexts for buying/selling online e.g. websites, auctions, social media, streaming services, app store, apps, in-app/game purchases, influencers. • I can explain the difference between a 'belief', an 'opinion' and a 'fact'. • I can analyse information and differentiate between 'opinions', 'beliefs' and 'facts'. • I understand what criteria have to be met before something is a 'fact'. • I can explain how to evaluate evidence to determine its credibility. • I can identify how to get help from a trusted adult if needed. **Copyright and ownership** • To understand that we all have rights over the content we create • To know that whilst the internet may be 'Free' not all content is 'Free to use'	• I can use a search engine to find information about me and my family • I can use " " to narrow my search • I understand that I should check the images, news and video results as well as the regular search results • I understand what 'personal' information is • I know that I must always ask before I share information about others online • I can name 3 different places or people that I can go to if I am unsure if information is safe to share **Online bullying** • I can explain why I should be kind online vs. unkind • I know how I should act online • I can explain how I make sure I am being kind • I can say what harmful online behaviour looks like • I can describe methods people may use to bully others including online and offline methods • I can provide simple examples of where online bullying can take place and what it might look like •

A safe computer user in Year 4						
Education for a connected world objectives taught through teach computing units.	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Managing Online Information • use technology safely, respectfully and responsibly; recognise	**Managing Online Information** use technology safely, respectfully and responsibly; recognise acceptable/unacceptable	**Managing Online Information** use technology safely, respectfully and responsibly; recognise acceptable/unacceptable			•

	acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact • 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 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.	behaviour; identify a range of ways to report concerns about content and contact **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 I can give some simple examples of content which I must not use without permission from the owner, e.g. videos, music, images**.**	behaviour; identify a range of ways to report concerns about content and contact **Self-image and identity** I can explain how my online identity can be different to my offline identity		
Project evolve	**Self image and identity** • I can explain how my online identity can be different to the identity I present in 'real life'. • I can explain the reasons for and against changing your identity online and explain how someone might do so. • I can describe the right decisions about how I interact with others online and how this will impact on how others perceive me • Understand the issue of impersonation and how this can impact on my personal online reputation and relationships. • Describe some of the motives behind online impersonation. **Online bullying** • I understand bullying behaviour can make someone feel upset, hurt or angry • I am aware of online behaviours that may show that someone is feeling upset, hurt or angry • I understand that someone may try to pretend they are not upset, hurt or angry online • I know what are different types of media online. • I can explain the different features of different media • I can simply describe what bullying online may look like on these different forms of media • I know that what I do online can affect other people's feelings	**Online relationships** • I can describe what it feels like to be safe online. • I can list a number of things I can do to make sure I have a positive and safe experience online. • I can give examples of when I have used or may have to use these in my online life. • I understand and can explain what is meant by respect. • I can give examples of how online behaviour is either respectful or disrespectful. • I can describe how it is possible to be respectful onli • I can explain how content shared online may feel unimportant to one person but may be important to other people's thoughts feelings and beliefs **Health, wellbeing and lifestyle** • Give examples of tech/online activities that effectively hold their attention and engagement. • Explore the value they place in different tech/online activities (e.g. priorities, more important/less important than…) • Recognise some of the limitations that tech/online activities may place on their attention (e.g. when I'm playing on my PS4, I can't be with my friends in the park, when I'm watching my favourite YouTuber, I can't practise my spellings, etc.) • Give examples of tech/online activities that they engage with for extended periods of time. • Demonstrate an awareness of the effects of over engagement on physical health, wellbeing, relationships and work. • Give examples of what happens when they have been online for too long.	**Online reputation** • I understand that others may search my name online to find information about me • I know that not all information about me online may have been posted online by me • I understand that people may alter information or put untrue information about me online with or without my knowledge **Managing online information** • I can explain the difference between a 'belief', an 'opinion' and a 'fact'. • I can analyse information and differentiate between 'opinions', 'beliefs' and 'facts'. • I understand what criteria have to be met before something is a 'fact'. • I can explain how to evaluate evidence to determine its credibility. • I can identify how to get help from a trusted adult if needed. • I can describe how I can search for information within a wide group of technologies (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, product reviews, product placement, influencer reviews/use, sponsored search results, gambling, recommendation algorithms, in-game performance, fake editorial). • I can describe techniques to recognise advertising (e.g. motivation, call to action, if advert is paid, use of advertising hashtags).	

• I understand that what I do online can influence how someone feels about me • I understand I should not be mean online •	• Identify times when someone might need to limit the amount of time they use technology. • Recognise and explain a range of strategies to limit time spent online/using tech. (e.g. self-management strategies, technical solutions such as timers/reminders, external influences) • Begin to evaluate the effectiveness of these strategies on their own use of technology. **Copyright and ownership** • Demonstrate ways of recognising who might own online content. • Explain what reuse is. • Give examples of when they are/are not permitted to reuse online content.	• I can recognise some of these techniques when they appear online • I can describe what is a 'bot'. • I can explain how bots are used online (e.g. boost follower/retweet numbers, chat bot for help on a site, or as part of an app or game, impersonation). • I can describe techniques to identify if I'm talking to a bot. • I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true. • 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 some people will pretend something is true when it isn't. • I can explain why someone would need to think carefully before they share. **Privacy and security** • Identify the risks posed by over-sharing information online. • Suggest appropriate strategies for keeping personal information private in different contexts. • Explain the reasons why internet use may be monitored. • Understand how monitoring services are used to keep children and users safe online. • Structure an argument from one perspective and convey this with effective and clear contributions. • I can describe how some online services may seek consent to store information about me; • I know what the digital age of consent is; • I know how to get help if I am unsure about consenting to an online service.

A safe computer user in Year 5

Education for a connected world objectives taught through teach computing units.	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	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. **Privacy and Security** • I can explain what a strong password		**Managing Online Information** Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content			•

	is and demonstrate how to create one		
Project evolve	**Self image and identity** • I can explain someone's online identity can be different to their identity in 'real life'. • I can describe how someone might change their identity online. • I can explain the positive reasons for changing your online identity and the negative reasons for doing so. • I understand that I can show my online identity in different ways. • I know that my online identity can have an impact on others, both positively and negatively. • I can demonstrate responsible choices about my online identity, depending on context. **Online reputation** • I can use a search engine to search for information about other people and present that information for others to read • I understand that the information I find may not be accurate • I understand that people may make judgements against others on the information that they find •	**Online relationships** • Understand that communication online does not have to be text-based. • Understand that a variety of communication methods have been developed specifc to online communication eg gifs, memes. • Understand that the appropriate use of technology specific communication eg meme and gifs depends on circumstance and context. • I can describe what is meant by harm. • I understand that not everyone I communicate with online is pleasant and may not have my best intentions at heart • I can explain why some people choose to act in a certain way online, that it is their decision and that I am not responsible. • I can give examples of the online (or offline) communities to which I belong. • I can describe some of the positive things I do in these communities and can explain how my behaviour impacts on others. • I can describe how online communities collaborate and the benefit of doing this. • I understand some of the difficulties some people may have, including online • I can describe what I can do to support others online, both friends and people I know less well • I understand how to report problems online and can name a number of reporting routes that I could use or suggest to someone else **Health, well being and lifestyle** • Understand simple properties of healthy sleep • Can recount simple benefits of sleep on body's health • Can offer suggestions on how use of technology before sleep could affect quality of sleep • Recount the concept of healthy sleep • Can identify activities when using technology that could negatively impact on sleep • Can offer simple strategies to manage technology before bedtime • Differentiate between fact and fake information. • Make a balanced judgement when researching information online. • Know what a trusted source of online website/information looks like. • Explain what in-app purchasing is (including loot boxes).	**Managing online information** • I can use different search technologies. • I can evaluate digital content and can explain how I make choices from search results. • I can explain what is meant by 'being sceptical'. • I understand the difference between online mis-information (inaccurate information distributed by accident) and dis-information (inaccurate information deliberately distributed and intended to mislead). • I can evaluate flawed reasoning. • I can explain why information I see online may be personalised • I can identify some of the methods used to get my attention online • I understand that the information I see may be targeted based on my interests • Understand that some online content may be commercially promoted. • Know what is meant by content that is sponsored or boosted. • Understand that some influencers or vloggers are paid to promote items. • Recognise that where content is sponsored, it is not always apparent. • Know what the term 'stereotype' means. • Understand how stereotypes may be reinforced online. • Recognise how stereotypes can influence perceptions of others online. • Describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful. • Explain what is meant by a 'hoax'. • Explain why someone would need to think carefully before they share. • I can explain why some people will pretend something is true when it isn't. **Copyright and ownership** • Recognise fair dealing situations • Understand that some work is in the public domain • Know that even copyrighted work can be used, if this use is fair. **Privacy and security** • Identify the risks posed by not protecting accounts and information online. • Suggest appropriate strategies for creating strong passwords and explain why these are effective.	

			Identify the benefits but also the risks of in-app purchases.	Understand how apps request permission to access data and functions on a device.
			• Know that I should always ask permission when making an online purchase. •	• Suggest some reasons as to why apps/companies request access to personal data. • Recognise that app permissions allow access to our personal information. • Understand the relationship between the value of data and the ethics of collecting that data. • Be aware that the data we share is valuable to app developers. •

A safe computer user in Year 6						
Education for a connected world objectives taught through teach computing units.	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<u>Managing Online Information</u> • I can identify, flag and report inappropriate content <u>Self-image and identity</u> • 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	<u>Managing online information</u> • use technology safely, respectfully, and responsibly; • recognise acceptable/unacceptable behaviour. <u>Copyright and ownership</u> • I can demonstrate the use of search tools to find and access online content which can be reused by others.	<u>Managing information online</u> • I can describe how I can search for information within a wide group of technologies (e.g. social media, image sites, video sites) • I can use different search technologies • I can evaluate digital content and can explain how I make choices from search results	<u>Managing online information</u> • Use technology safely, respectfully, and responsibly; • recognise acceptable/unacceptable behaviour; • identify a range of ways to report concerns about content and contact <u>Privacy and Security</u> • I can describe strategies for keeping my personal information private, depending on context		•
Project evolve	**<u>Managing online information</u>** • I can use search technologies effectively. • I can explain how search engines work. • I can explain how results are selected and ranked. • 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'. • I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting'). • Know what is meant by persuasive design. • Understand that how it may be used to influence behaviour. • Recognise some examples of persuasive design.		**<u>Online reputation</u>** • I understand what an online reputation is • I understand that people may do an online search to find out information about me • I understand that the information that people find about me will allow them to form an opinion about me • I can explain what a digital personality is. • I can explain strategies anyone can use to protect their 'digital personality' and online reputation. • I can explain how online anonymity can protect online reputation. **<u>Online bullying</u>** • I know there are different ways to gather evidence of bullying behaviour online.		**<u>Privacy and security</u>** • Recognise and select effective strategies for managing passwords. • Suggest methods for managing situations where passwords are lost or stolen. • I can describe why people should keep their software and apps up to date. • I can describe how people can keep their software and apps up to date e.g. auto updates. • Recognise that app permissions allow access to our personal information. • Understand the relationship between the value of data and the ethics of collecting that data. • Be aware that the data we share is valuable to app developers.	

- I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important.
- I can identify, flag and report inappropriate content.
- 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.
- Understand what the terms misinformation and disinformation mean.
- Describe the difference between misinformation and disinformation.
- Recognise examples of misinformation and disinformation.
- Understand if something is popular online, it may still be inaccurate or untrue.
- Recognise how this may happen.
- Know the difference between Misinformation and Disinformation
- I know ways to report illegal content on different platforms
- I understand that there are different types of illegal content online
- I know some of the laws that relate to different types of illegal content

Self image and identity

- I can describe ways in which media can shape ideas about gender, race, religion, disability, culture and other groups.
- I can identify messages about stereotyped roles and make judgements based on them.
- I can challenge and explain why it is important to reject inappropriate representations online.
- I can describe issues online that might make me or others feel sad, worried, uncomfortable or frightened.
- I know and can give examples of how I might get help, both on and offline.
- I can explain why I should keep asking until I get the help I need.

- I know some different ways to use technology to protect myself from bullying behaviour.
- I know it's important to talk to a trusted adult about being bullied online.
- Identify routes for reporting bullying and harmful behaviours they witness or experience online.
- Make decisions about the suitability of different reporting routes based on context.
- Consider strategies for safely and positively intervening.

Online relationships

- Understand the concept of consequence online and give examples.
- Understand that reactions to events online can determine the consequences.
- Understand that sharing online can be positive as well as negative and be able to give examples of both.
- Understand what 'boundaries' are, including online.
- Understand the concepts of respect and self-respect and give examples of how this can be shown online.
- Understand how to respect others' boundaries online, particularly regarding sharing information about them.
- Understand the concept of consequence online and give examples.
- Understand that reactions to events online can determine the consequences.
- Understand that sharing online can be positive as well as negative and be able to give examples of both.
- Understand the term inappropriate, give alternatives, and understand that 'inappropriate' might mean different things to different people.
- Understand what an 'inappropriate' picture might be and give examples.
- Understand the potential impact of sharing 'inappropriate' pictures, both for the sharer and the person having pictures shared.

- Distinguish between genuine and fake content/sites
- Understand some tactics employed by scammers
- Identify the features of scam communications
- I know that online services have terms and conditions that govern their use.
- I know that terms and conditions say what the company is allowed to do and what a user is allowed to do.
- I know that terms and conditions may include information about how an online service makes money.

Copyright and ownership
- Demonstrate ways of searching for reusable content.
- Select content that is appropriate for reuse in my own work.
- Understand how to reference online sources in my own work.

Health, well being and lifestyle
- Recognise content rating symbols and describe what they mean/what content they may cover (e.g. PEGI icons for content, BBFC symbols for age ratings, etc).
- Show some understanding of the purpose and limitations of these systems (e.g. purpose is to inform about the themes present in the content, not all content is age regulated, not all content is covered under the same rating system.)
- Demonstrate an awareness of why some content is age regulated (e.g. affects mood, affects thinking, may result in emulation, could result in harm?)
- Recognise the features of a healthy media balance.
- Understand how technology can place pressure on someone
- Know how to positively address peer pressure and can apply this in online situations.
- Identify examples of persuasive design.
- Briefly explain the purpose of features that persuade or nudge users into certain behaviours.
- Consider strategies for mitigating the effects of persuasive design on technology use.
- Demonstrate knowledge of age appropriate strategies that can limit the impact of technology on health.

			- Select suitable strategies based on their own personal needs, use and experience of tech and the internet. - Describe positive outcomes that would show a strategy is successful.