

# Computing



## Intent

Technology is transforming the lives of everyone, and at Longthorpe Primary School, we intend to support our pupils to navigate the digital world through the teaching of a modern, ambitious and relevant computing curriculum. Our curriculum has been designed to provide pupils with rich and varied opportunities that use a range of resources and media, consolidating and revisiting skills to ensure learning is internalised and retained, thus creating successful, technological learners.

A strong understanding of technology is becoming more vital and influences both pupils' school and home life. We wish to prepare pupils for the future and support them in applying their computational thinking and creativity that will help them to become active participants in the ever-changing digital world. It is important to us that the pupils understand how to use technology to express themselves, as tools for learning and as a means to drive their generation forward into the future. We therefore feel it is imperative that pupils leave our school competent in understanding technology, ready for the demands of the KS3 curriculum and beyond, and vitally, with a high level of knowledge of how to keep themselves safe whilst accessing it.

## Implementation

Our curriculum is taught via three key themes which ensures that pupils receive a broad and balanced range of experiences and opportunities linked to the computing National Curriculum and provides a core structure to ensure that knowledge and skills can be built upon from unit to unit and year to year. Within these themes are the unit headings which ensure that teaching is linked to specific focus and learning outcome.

<b>Computer Science</b>  Systems & Networks Programming	<b>Information Technology</b>  Creating Media Data & Information	<b>Digital Literacy</b>  E-Safety
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We teach our pupils to become creators of technology and not just users. Therefore, our progressive curriculum introduces computational thinking from an early age. Our pupils learn to code using platforms such as Scratch and 2Simple. We also ensure that our curriculum covers the key concepts of algorithms, logic and debugging. We encourage creative problem-solving and computational thinking in cross-curricular activities. To foster our pupils' understanding of various hardware and software systems, we provide hands-on experiences with a range of devices, such as tablets and computers. We teach them how to effectively use productivity tools, conduct research, and present information using digital platforms. We also introduce them to the concepts of networks, data representation, and data security.

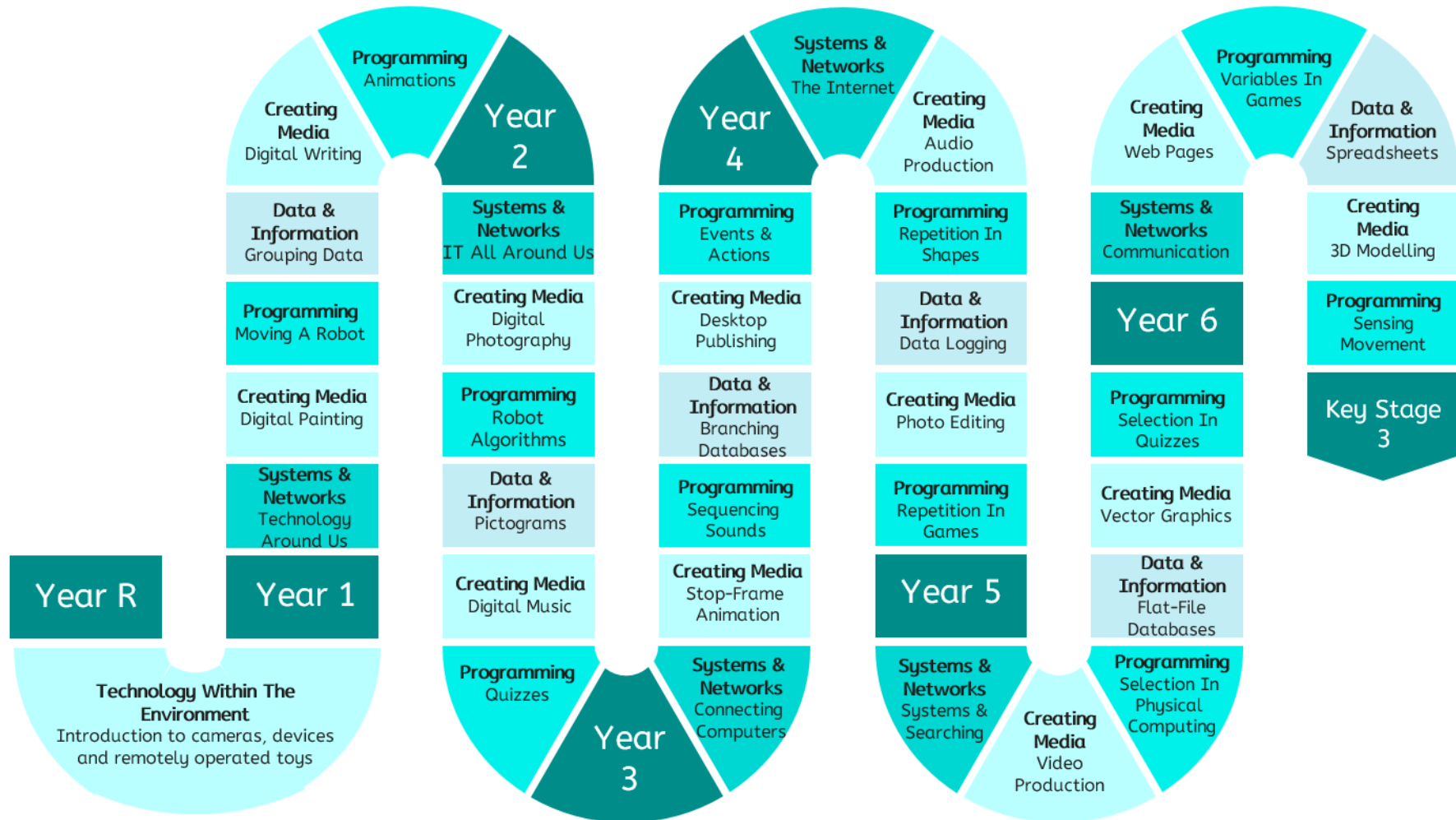
We understand the importance of teaching E-Safety to our pupils and know that being able to keep safe online is a vital skill. Pupils leave Longthorpe as safe and effective users of technology and good cyber-citizens. To enable this, we have designed and developed a well-structured and effective curriculum to explicitly teach E-Safety to pupils on a weekly basis, alongside that of our computing curriculum. It focuses on issues such as online etiquette, cyberbullying, and protecting personal information and also teaches pupils how to evaluate and critically analyse online resources, enabling them to navigate the digital world confidently. The key concepts taught are:

<b>Managing Online Information</b>	<b>Online Reputation</b>	<b>Health, Wellbeing and Lifestyle</b>	<b>Privacy and Security</b>
<b>Self- image and Identity</b>	<b>Online Relationships</b>	<b>Online Bullying</b>	<b>Copyright and Ownership</b>

## The Computing Journey of a Longthorpe Pupil

<b>EYFS</b>	By the end of the EYFS pupils have experienced using technology within their play-based environment. Pupils have been introduced to a range of IT and are developing their skills using devices such as tablets, cameras and recording devices to capture their learning. They have also gained a growing confidence, control and increased language skills through opportunities to use creative apps such as 'Paint' on the interactive board and are becoming confident in controlling remotely operated toys.
<b>KS1</b>	By the end of KS1 pupils understand what algorithms are, how they are implemented and that programs are a sequence of instructions. They are also able to write and test their own simple programs. Upon leaving KS1 pupils are able to organise, store, manipulate and retrieve data in a range of digital formats and can communicate safely and respectfully online. They keep personal information private and are able to recognise common uses of information technology beyond school.
<b>KS2</b>	By the end of KS2 pupils are able to design and write programs that accomplish specific goals and solve problems by breaking them down into smaller parts. They can work with variables and various forms of input and output and predict and test programs. They use logical reasoning to explain how simple algorithms work and detect and correct errors in algorithms and programs. Upon leaving KS2, pupils are able to select, use and combine a variety of software on a range of digital devices to accomplish given goals. They understand how computer networks work and how they can use services, such as the worldwide web; and the opportunities they offer for communication and collaboration. Pupils are able use the internet safely and can describe how Internet search engines find and store data; use them effectively; be perceptive in evaluating digital content; respect individual's property; use technology responsibly, securely and safely.

## Units Overview (Computer Science & Information Technology)



## Progression of Knowledge and Skills (Computer Science & Information Technology)

Year 1	Computing Systems & Networks	Creating Media	Programming	Data & Information	Creating Media	Programming
	Technology Around Us	Digital Painting	Moving A Robot	Grouping Data	Digital Writing	Programming Animations
Progression Summary	<p>This unit builds upon pupils' experience of technology within their EYFS environment. Learners will build their knowledge of parts of a computer and develop the basic skills needed to effectively use a computer keyboard and mouse.</p> <p>This unit directly precedes the Y2 Computer systems and networks unit, IT around us</p>	<p>This unit builds upon pupils' experience of using simple paint tools in EYFS.</p>	<p>This unit builds upon pupils' experiences of using technological toys within their EYFS environment. This unit progresses learners' knowledge and understanding of giving and following instructions. It moves from giving instructions to each other to giving instructions to a robot by programming it.</p>	<p>This unit will introduce learners to data and information. It will introduce learners to the concept of labelling and grouping objects based on their properties. Learners will develop their understanding that objects can be given labels, which is fundamental to their future learning concerning databases and spreadsheets. In addition, learners will begin to improve their ability to use dragging and dropping skills on a device.</p> <p>Following this unit, in year 2, learners will present data graphically in pictograms.</p>	<p>This unit progresses the learners' knowledge and understanding of using computers to create and manipulate digital content, focussing on using a word processor. The learners will develop their ability to find and use the keys on a keyboard in order to create digital content. The learners are then introduced to manipulating the resulting text, making cosmetic changes, and justifying their reason for making these changes.</p> <p>Following this unit, learners will further develop their digital writing skills in the Year 3 - 'Desktop publishing' unit and the Year 6 - 'Web page development' unit.</p>	<p>This unit progresses learners' knowledge and understanding of programming and follows on from 'Programming A - Moving a robot', where pupils will have learned to program a floor robot using instructions.</p>

<b>Year 2</b>	<b>Computing Systems &amp; Networks</b>  IT Around Us	<b>Creating Media</b>  Digital Photography	<b>Programming</b>  Robot Algorithms	<b>Data &amp; Information</b>  Pictograms	<b>Creating Media</b>  Digital Music	<b>Programming</b>  Programming Quizzes
<b>Progression Summary</b>	This unit progresses learners' understanding of technology and how they interact with it. They will develop this understanding to become familiar with the term information technology and will be able to identify common features of IT. This unit also builds on the learners' understanding of using technology safely and responsibly.	This unit begins the learners' understanding of how photos are captured and can be manipulated for different purposes. Following this unit, learners will develop their photo editing skills in Year 4.	Learners have had some experience of creating short programs using floor robots and predicting the outcome of a simple program (Year 1). This unit progresses learners' knowledge and understanding of algorithms and how they are implemented as programs on digital devices. Learners will spend time looking at how the order of commands affects outcomes. Learners will use this knowledge and logical reasoning to trace programs and predict outcomes.	This unit progresses pupils' knowledge and understanding of grouping data. It builds on the Year 1 Data and Information unit where learners labelled objects and grouped them based on different properties. Following this unit, Learners will develop their understanding of attributes (properties) using branching databases to structure data according to different object attributes (Year 3).	In Year 1, learners have had experience of making choices on a tablet/computer, and they should be able to navigate within an application. Learners have also experienced patterns.  This unit progresses pupils' knowledge through listening to music and considering how music can affect how we think and feel. Learners will then purposefully create rhythm patterns and music using IT.	This unit progresses learners' knowledge and understanding of instructions in sequences and the use of logical reasoning to predict outcomes.
<b>Year 3</b>	<b>Computing Systems &amp; Networks</b>  Connecting Computers	<b>Creating Media</b>  Stop-Frame Animation	<b>Programming</b>  Sequencing Sounds	<b>Data &amp; Information</b>  Branching Databases	<b>Creating Media</b>  Desktop Publishing	<b>Programming</b>  Events & Actions In Programs
<b>Progression Summary</b>	This unit progresses learners' knowledge and understanding of technology by focusing on digital and non-digital	This unit progresses pupils' knowledge and understanding of using digital devices to create media, exploring how	Learners have some prior experience of programming floor robots and using ScratchJr in KS1. This unit explores the concept of	This unit progresses learners' knowledge and understanding of the categories of data handling, with a	This unit progresses learners' knowledge and understanding of using digital devices to combine text and images	This unit builds upon learners programming experiences from KS1 where they have had some experience of

	<p>devices, and introducing the concept of computers connected together as a network.</p> <p>Following this unit, learners will explore the internet as a network of networks.</p>	<p>they can create stop-frame animations.</p> <p>Following this unit, learners will further develop their video editing skills in Year 5.</p>	<p>sequencing in programming through Scratch. Learners will be introduced to a selection of motion, sound, and event blocks which they will use to create their own programs, featuring sequences.</p>	<p>particular focus on implementation. It builds on their knowledge of data and information from key stage 1. They will continue to develop their understanding of attributes and begin to construct and interrogate branching databases as a means of displaying and retrieving information.</p>	<p>building on work from the KS1 units digital painting, writing and photography</p>	<p>programming. This unit introduces the Scratch programming environment and the concept of sequences.</p>
<b>Year 4</b>	<p><b>Computing Systems &amp; Networks</b></p> <p>The Internet</p>	<p><b>Creating Media</b></p> <p>Audio Production</p>	<p><b>Programming</b></p> <p>Repetition In Shapes</p>	<p><b>Data &amp; Information</b></p> <p>Data Logging</p>	<p><b>Creating Media</b></p> <p>Photo Editing</p>	<p><b>Programming</b></p> <p>Repetition In Games</p>
<b>Progression Summary</b>	<p>This unit progresses pupils' knowledge and understanding of networks in Year 3.</p> <p>In Year 5, they will continue to develop their knowledge and understanding of computing systems and online collaborative working.</p>	<p>This unit progresses pupils' knowledge and understanding of creating media, by focusing on the recording and editing of sound to produce a podcast.</p> <p>Following this unit, learners will explore combining audio with video in the 'Video editing' unit in Year 5.</p>	<p>This unit progresses pupils' knowledge and understanding of programming. It progresses from the sequence of commands in a program to using count-controlled loops. Pupils will create algorithms and then implement those algorithms as code.</p>	<p>This unit progresses learners' knowledge and understanding of data and how it can be collected over time to answer questions. Specifically, it builds on the concept of answering questions with data which is first introduced in the KS1 data and information units. The unit also introduces the idea of automatic data collection. Learners are also introduced to data in tables and graphs, knowledge they will build on in the Year 5 unit (flat file databases) and the</p>	<p>This unit progresses pupils' knowledge and understanding of digital photography and using digital devices to create media.</p> <p>Following this unit, learners will further develop their image editing skills in Year 5 – Vector drawing.</p>	<p>This unit assumes that learners will have some prior experience of programming. In KS1 learners cover floor robots and ScratchJr, and Scratch is introduced in the Year 3.</p>

				Year 6 unit (spreadsheets).		
<b>Year 5</b>	<b>Computing Systems &amp; Networks</b>	<b>Creating Media</b>	<b>Programming</b>	<b>Data &amp; Information</b>	<b>Creating Media</b>	<b>Programming</b>
	Systems & Searching	Video Production	Selection In Physical Computing	Flat-File Databases	Introduction To Vector Graphics	Selection In Quizzes
<b>Progression Summary</b>	This unit progresses learners' knowledge and understanding of computing systems from KS1. In this unit, learners will develop their understanding of computer systems and how information is transferred between systems and devices. Learners will consider small-scale systems as well as large-scale systems. They will explain the input, output, and process aspects of a variety of different real-world systems.	This unit progresses learners' knowledge and understanding of creating media by guiding them systematically through the process involved in creating a video. The unit builds on the Year 4 unit 'Photo editing' where composition is introduced and the Year 3 unit 'Stop-frame animation' where learners explored some of the features of video production. By the end of this unit, learners will have developed the skills required to plan, record, edit, and share a video.	This unit builds upon learner's prior experience of programming using a block-based language (e.g. Scratch) and their understanding of the concepts of sequence and repetition.	This unit progresses learners' knowledge and understanding of why and how information might be stored in a database, and looks at how tools within a database can help us to answer questions about our data. It moves on to demonstrate how a database can help us display data visually, and how real-life databases can be used to help us solve problems. Finally, the learners create a presentation showing understanding and application of all the tools used within the unit.	This unit progresses learners' knowledge and understanding of digital painting and has some links to the Year 3 'Creating media - Desktop publishing' unit, in which learners used digital images. In this Year 5 unit, learners create images that could be used in desktop publishing documents.	This unit builds upon learner's prior experience of programming using block-based construction (e.g. Scratch), their understanding of the concepts of 'sequence' and 'repetition' and their experience of using 'selection'.
<b>Year 6</b>	<b>Computing Systems &amp; Networks</b>	<b>Creating Media</b>	<b>Programming</b>	<b>Data &amp; Information</b>	<b>Creating Media</b>	<b>Programming</b>
	Communication & Collaboration	Web Page Creation	Variables In Games	Introduction To Spreadsheets	3D Modelling	Sensing Movement



<b>Progression Summary</b>	This unit progresses learners' knowledge and understanding of computing systems and online collaborative working.	This unit progresses pupils' knowledge and understanding of the following: digital writing, digital painting, desktop publishing, digital photography, photo editing, and vector drawing.	This unit builds upon learner's prior experience of programming in Scratch. Specifically, their knowledge of programming constructs of sequence, repetition, and selection.	This unit progresses pupils' knowledge and understanding of data, and teaches them how to organise and modify data within spreadsheets. Specifically, learners will have experienced data in tables and charts in the Y4 data logging and Y5 branching database units.	This unit progresses pupils' knowledge and understanding of creating 3D graphics using a computer. Prior to undertaking this unit, learners have worked with 2D graphics applications.	This unit builds upon knowledge and understanding of sequence, repetition and selection independently within programming.
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### Progression Map (Computer Science & Information Technology)

<b>Year 1</b>	<b>Computing Systems &amp; Networks</b>	<b>Creating Media</b>	<b>Programming</b>	<b>Data &amp; Information</b>	<b>Creating Media</b>	<b>Programming</b>
	Technology Around Us	Digital Painting	Moving A Robot	Grouping Data	Digital Writing	Programming Animations
<b>Curriculum objectives</b>	<ul style="list-style-type: none"> <li>I can locate examples of technology in the classroom and explain how they help us</li> <li>I can name the main parts of a computer</li> <li>I can switch on and log into a computer</li> <li>I can use a keyboard and mouse effectively</li> <li>I can save and open my work to a file</li> </ul>	<ul style="list-style-type: none"> <li>I can make marks and shapes on a screen and explain which tools I used</li> <li>I can explain that different paint tools do different jobs</li> <li>I can change the colour and brush sizes</li> <li>I can spot the differences between painting on a computer and on</li> </ul>	<ul style="list-style-type: none"> <li>I can predict the outcome of a command</li> <li>I can run 4 commands and match them to an outcome</li> <li>I can follow and give instructions</li> <li>I can explain what my program should do</li> <li>I can debug and identify several possible solutions</li> </ul>	<ul style="list-style-type: none"> <li>I can group, match and count objects and their properties</li> <li>I can choose and describe groups for objects</li> <li>I can describe, match and identify labels for a group of objects</li> <li>I can record my ideas and results</li> </ul>	<ul style="list-style-type: none"> <li>I can open a word processor</li> <li>I can recognise, identify and find keys on a keyboard</li> <li>I can use a keyboard effectively</li> <li>I can use the tool bar to change the appearance of text</li> <li>I can identify and explain the differences between typing and writing</li> </ul>	<ul style="list-style-type: none"> <li>I can find and use commands to move a sprite</li> <li>I can compare different programming tools</li> <li>I can use more than one block by joining them together</li> <li>I can use a start block and run my program</li> <li>I can find blocks that have numbers</li> </ul>

	<ul style="list-style-type: none"> <li>I can identify and discuss rules to keep us safe and healthy when we are using technology in and beyond the home</li> </ul>	paper and give my opinions			text and offer my opinion on these	<p>and change and discuss these values</p> <ul style="list-style-type: none"> <li>I can use more than one sprite and delete them</li> <li>I can create an algorithm for each sprite and add new blocks</li> <li>I can choose appropriate artwork and sprites for my project</li> <li>I can test the programs I have created</li> </ul>
<b>Year 2</b>	<b>Computing Systems &amp; Networks</b>	<b>Creating Media</b>	<b>Programming</b>	<b>Data &amp; Information</b>	<b>Creating Media</b>	<b>Programming</b>
	IT Around Us	Digital Photography	Robot Algorithms	Pictograms	Digital Music	Programming Quizzes
<b>Curriculum objectives</b>	<ul style="list-style-type: none"> <li>I can identify, find, describe and sort examples of IT</li> <li>I can identify that a computer is a part of IT</li> <li>I can identify that some IT can be used in more than one way</li> <li>I can talk about uses of information technology</li> <li>I can recognise common types of</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise what devices can be used to take photographs</li> <li>I can talk about how to take a photograph</li> <li>I can explain the process of taking a good photograph</li> <li>I can take photos in both landscape and portrait format and explain my choice</li> </ul>	<ul style="list-style-type: none"> <li>I can follow instructions given by someone else</li> <li>I can choose a series of words that can be acted out as a sequence</li> <li>I can give clear instructions</li> <li>I can use the same instructions to create different algorithms</li> <li>I can use an algorithm to program a sequence on a floor robot</li> </ul>	<ul style="list-style-type: none"> <li>I can record data in a tally chart</li> <li>I can represent a tally count as a total</li> <li>I can compare totals in a tally chart</li> <li>I can enter data onto a computer</li> <li>I can use a computer to view data in a different format</li> <li>I can use pictograms to answer simple questions about objects</li> </ul>	<ul style="list-style-type: none"> <li>I can describe music, identify simple differences in pieces of music and give my opinion</li> <li>I can create a rhythm pattern</li> <li>I can play an instrument following a rhythm pattern</li> <li>I can explain that music is created and played by humans</li> <li>I can connect images with sounds</li> </ul>	<ul style="list-style-type: none"> <li>I can identify the start of a sequence</li> <li>I can identify that a program needs to be started</li> <li>I can show how to run my program</li> <li>I can predict the outcome of a sequence of commands</li> <li>I can match two sequences with the same outcome</li> </ul>

	<p>technology and say why we use them</p> <ul style="list-style-type: none"> <li>I can demonstrate how IT devices work together</li> <li>I can list different uses of information technology</li> <li>I can talk about different rules for using IT and say how rules can help keep me safe</li> <li>I can use IT for different types of activities and identify the choices I make</li> <li>I can explain the need to use IT in different ways</li> </ul>	<ul style="list-style-type: none"> <li>I can identify what is wrong with a photograph</li> <li>I can improve a photograph by retaking it</li> <li>I can explore the effect that light has on a photo and experiment with different light sources</li> <li>I can explain why a picture may be unclear</li> <li>I can recognise that images can be changed and identify them</li> <li>I can use a tool to achieve a desired effect and explain my choices</li> <li>I can apply a range of photography skills to capture a photo</li> </ul>	<ul style="list-style-type: none"> <li>I can show the difference in outcomes between two sequences that consist of the same instructions</li> <li>I can follow a sequence</li> <li>I can predict the outcome of a sequence</li> <li>I can compare my prediction to the program outcome</li> <li>I can explain the choices that I made for my mat design</li> <li>I can identify different routes around my mat</li> <li>I can test my mat to make sure that it is usable</li> <li>I can explain what my algorithm should achieve</li> <li>I can create an algorithm to meet my goal</li> <li>I can use my algorithm to create a program</li> <li>I can test and debug each part of the program</li> <li>I can plan algorithms for different parts of a task</li> <li>I can put together the different parts of my program</li> </ul>	<ul style="list-style-type: none"> <li>I can organise data in a tally chart</li> <li>I can use a tally chart to create a pictogram and explain what it shows</li> <li>I can tally objects using a common attribute</li> <li>I can create a pictogram to arrange objects by an attribute</li> <li>I can answer 'more than'/'less than' and 'most/least' questions about an attribute</li> <li>I can choose a suitable attribute to compare people</li> <li>I can collect the data I need</li> <li>I can create a pictogram and draw conclusions from it</li> <li>I can use a computer program to present information in different ways</li> <li>I can share what I have found out using a computer</li> <li>I can give simple examples of why information should not be shared</li> </ul>	<ul style="list-style-type: none"> <li>I can use a computer to experiment with pitch</li> <li>I can relate an idea to a piece of music</li> <li>I can identify that music is a sequence of notes</li> <li>I can explain how my music can be played in different ways</li> <li>I can refine my musical pattern on a computer</li> <li>I can create a rhythm which represents an animal I've chosen</li> <li>I can create my animal's rhythm on a computer</li> <li>I can add a sequence of notes to my rhythm</li> <li>I can review my work and explain how I changed it</li> <li>I can listen to music and describe how it makes me feel</li> </ul>	<ul style="list-style-type: none"> <li>I can change the outcome of a sequence of commands</li> <li>I can work out the actions of a sprite in an algorithm</li> <li>I can decide which blocks to use to meet the design</li> <li>I can build the sequences of blocks I need</li> <li>I can choose backgrounds and characters for the design</li> <li>I can create a program based on the new design</li> <li>I can choose the images for my own design</li> <li>I can create an algorithm</li> <li>I can build sequences of blocks to match my design</li> <li>I can compare my project to my design</li> <li>I can improve my project by adding features</li> <li>I can debug my program</li> </ul>
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Year 3	Computing Systems & Networks	Creating Media	Programming	Data & Information	Creating Media	Programming
	Connecting Computers	Stop-Frame Animation	Sequencing Sounds	Branching Databases	Desktop Publishing	Events & Actions In Programs
<b>Curriculum objectives</b>	<ul style="list-style-type: none"> <li>• I can explain that digital devices accept inputs and produce outputs</li> <li>• I can follow a process</li> <li>• I can classify input and output devices</li> <li>• I can describe a simple process</li> <li>• I can design a digital device</li> <li>• I can explain how I use digital devices for different activities</li> <li>• I can recognise similarities between using digital devices and using non-digital tools</li> <li>• I can suggest differences between using digital devices and using non-digital tools</li> <li>• I can recognise different connections</li> <li>• I can explain how messages are passed through multiple connections</li> <li>• I can discuss why we need a network switch</li> </ul>	<ul style="list-style-type: none"> <li>• I can draw a sequence of pictures</li> <li>• I can create an effective flip book— style animation</li> <li>• I can explain how an animation/flip book works</li> <li>• I can predict what an animation will look like</li> <li>• I can explain why little changes are needed for each frame</li> <li>• I can create an effective stop-frame animation</li> <li>• I can break down a story into settings, characters and events</li> <li>• I can describe an animation that is achievable on screen</li> <li>• I can create a storyboard</li> <li>• I can use onion skinning to help me make small changes between frames</li> </ul>	<ul style="list-style-type: none"> <li>• I can identify the objects in a Scratch project (sprites, backdrops)</li> <li>• I can explain that objects in Scratch have attributes (linked to)</li> <li>• I can recognise that commands in Scratch are represented as blocks</li> <li>• I can identify that each sprite is controlled by the commands I choose</li> <li>• I can choose a word which describes an on-screen action for my plan</li> <li>• I can create a program following a design</li> <li>• I can start a program in different ways</li> <li>• I can create a sequence of connected commands</li> <li>• I can explain that the objects in my project will respond exactly to the code</li> <li>• I can explain what a sequence is</li> </ul>	<ul style="list-style-type: none"> <li>• I can investigate questions with yes/no answers</li> <li>• I can make up a yes/no question about a collection of objects</li> <li>• I can create two groups of objects separated by one attribute</li> <li>• I can select an attribute to separate objects into groups</li> <li>• I can create a group of objects within an existing group</li> <li>• I can arrange objects into a tree structure</li> <li>• I can select objects to arrange in a branching database</li> <li>• I can group objects using my own yes/no questions</li> <li>• I can test my branching database to see if it works</li> <li>• I can create yes/no questions using given attributes</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain the difference between text and images</li> <li>• I can recognise that text and images can communicate messages clearly</li> <li>• I can identify the advantages and disadvantages of using text and images</li> <li>• I can change font style, size, and colours for a given purpose</li> <li>• I can edit text</li> <li>• I can explain that text can be changed to communicate more clearly</li> <li>• I can explain what 'page orientation' means</li> <li>• I can recognise placeholders and say why they are important</li> <li>• I can create a template for a particular purpose</li> </ul>	<ul style="list-style-type: none"> <li>• I can explain the relationship between an event and an action</li> <li>• I can choose which keys to use for actions and explain my choices</li> <li>• I can identify a way to improve a program</li> <li>• I can choose a character for my project</li> <li>• I can choose a suitable size for a character in a maze</li> <li>• I can program movement</li> <li>• I can use a programming extension</li> <li>• I can consider the real world when making design choices</li> <li>• I can choose blocks to set up my program</li> <li>• I can identify additional features (from a given set of blocks)</li> </ul>

	<ul style="list-style-type: none"> <li>I can recognise that a computer network is made up of a number of devices</li> <li>I can demonstrate how information can be passed between devices</li> <li>I can explain the role of a switch, server, and wireless access point in a network</li> <li>I can identify how devices in a network are connected together</li> <li>I can identify networked devices around me</li> <li>I can identify the benefits of computer networks</li> </ul>	<ul style="list-style-type: none"> <li>I can review a sequence of frames to check my work</li> <li>I can evaluate the quality of my animation</li> <li>I can explain ways to make my animation better</li> <li>I can evaluate another learner's animation</li> <li>I can improve my animation based on feedback</li> <li>I can add other media to my animation</li> <li>I can explain why I added other media to my animation</li> <li>I can evaluate my final film</li> </ul>	<ul style="list-style-type: none"> <li>I can combine sound commands</li> <li>I can order notes into a sequence</li> <li>I can build a sequence of commands</li> <li>I can decide the actions for each sprite in a program</li> <li>I can make design choices for my artwork</li> <li>I can identify and name the objects I will need for a project</li> <li>I can relate a task description to a design</li> <li>I can implement my algorithm as code</li> </ul>	<ul style="list-style-type: none"> <li>I can compare two branching database structures</li> <li>I can explain that questions need to be ordered carefully to split objects into similarly sized groups</li> <li>I can independently create questions to use in a branching database</li> <li>I can create questions that will enable objects to be uniquely identified</li> <li>I can create a physical version of a branching database</li> <li>I can create a branching database that reflects my plan</li> <li>I can work with a partner to test my identification tool</li> <li>I can suggest real-world uses for branching databases</li> </ul>	<ul style="list-style-type: none"> <li>I can choose the best locations for my content</li> <li>I can paste text and images to create a magazine cover</li> <li>I can make changes to content after I've added it</li> <li>I can identify different layouts</li> <li>I can match a layout to a purpose</li> <li>I can choose a suitable layout for a given purpose</li> <li>I can identify the uses of desktop publishing in the real world</li> <li>I can say why desktop publishing might be helpful</li> <li>I can compare work made on desktop publishing to work created by hand</li> </ul>	<ul style="list-style-type: none"> <li>I can choose suitable keys to turn on additional features</li> <li>I can build more sequences of commands to make my design work</li> <li>I can test a program against a given design</li> <li>I can match a piece of code to an outcome</li> <li>I can modify a program using a design</li> <li>I can make design choices and justify them</li> <li>I can implement my design</li> <li>I can evaluate my project</li> </ul>
<b>Year 4</b>	<b>Computing Systems &amp; Networks</b>  The Internet	<b>Creating Media</b>  Audio Production	<b>Programming</b>  Repetition In Shapes	<b>Data &amp; Information</b>  Data Logging	<b>Creating Media</b>  Photo Editing	<b>Programming</b>  Repetition In Games
<b>Curriculum objectives</b>	<ul style="list-style-type: none"> <li>I can describe the internet as a network of networks</li> <li>I can demonstrate how information is</li> </ul>	<ul style="list-style-type: none"> <li>I can identify the input and output devices used to record and play sound</li> </ul>	<ul style="list-style-type: none"> <li>I can program a computer by typing commands</li> </ul>	<ul style="list-style-type: none"> <li>I can choose a data set to answer a given question</li> <li>I can suggest questions that can</li> </ul>	<ul style="list-style-type: none"> <li>I can improve an image by rotating it</li> <li>I can explain why I might crop an image</li> </ul>	<ul style="list-style-type: none"> <li>I can list an everyday task as a set of instructions including repetition</li> </ul>

	<ul style="list-style-type: none"> <li>shared across the internet</li> <li>I can discuss why a network needs protecting</li> <li>I can describe networked devices and how they connect</li> <li>I can explain that the internet is used to provide many services</li> <li>I can recognise that the World Wide Web contains websites and web pages</li> <li>I can explain the types of media that can be shared on the WWW</li> <li>I can describe where websites are stored when uploaded to the WWW</li> <li>I can describe how to access websites on the WWW</li> <li>I can explain what media can be found on websites</li> <li>I can recognise that I can add content to the WWW</li> <li>I can explain that internet services can be used to create content online</li> <li>I can explain that websites and their</li> </ul>	<ul style="list-style-type: none"> <li>I can use a computer to record audio</li> <li>I can explain that the person who records the sound can say who is allowed to use it</li> <li>I can re-record my voice to improve my recording</li> <li>I can inspect the soundwave view to know where to trim my recording</li> <li>I can discuss what sounds can be added to a podcast</li> <li>I can explain how sounds can be combined to make a podcast more engaging</li> <li>I can save my project so the different parts remain editable</li> <li>I can plan appropriate content for a podcast</li> <li>I can record content following my plan</li> <li>I can review the quality of my recordings</li> <li>I can improve my voice recordings</li> <li>I can open my project to continue working on it</li> <li>I can arrange multiple sounds to</li> </ul>	<ul style="list-style-type: none"> <li>I can explain the effect of changing a value of a command</li> <li>I can create a code snippet for a given purpose</li> <li>I can use a template to draw what I want my program to do</li> <li>I can write an algorithm to produce a given outcome</li> <li>I can test my algorithm in a text-based language</li> <li>I can identify repetition in everyday tasks</li> <li>I can identify patterns in a sequence</li> <li>I can use a count-controlled loop to produce a given outcome</li> <li>I can identify the effect of changing the number of times a task is repeated</li> <li>I can predict the outcome of a program containing a count-controlled loop</li> <li>I can choose which values to change in a loop</li> <li>I can identify 'chunks' of actions in the real world</li> <li>I can use a procedure in a program</li> </ul>	<ul style="list-style-type: none"> <li>be answered using a given data set</li> <li>I can identify data that can be gathered over time</li> <li>I can explain what data can be collected using sensors</li> <li>I can use data from a sensor to answer a given question</li> <li>I can identify that data from sensors can be recorded</li> <li>I can recognise that a data logger collects data at given points</li> <li>I can identify the intervals used to collect data</li> <li>I can talk about the data that I have captured</li> <li>I can view data at different levels of detail</li> <li>I can sort data to find information</li> <li>I can explain that there are different ways to view data</li> <li>I can propose a question that can be answered using logged data</li> <li>I can plan how to collect data using a data logger</li> </ul>	<ul style="list-style-type: none"> <li>I can use photo editing software to crop an image</li> <li>I can explain that different colour effects make you think and feel different things</li> <li>I can experiment with different colour effects</li> <li>I can explain why I chose certain colour effects</li> <li>I can add to the composition of an image by cloning</li> <li>I can identify how a photo edit can be improved</li> <li>I can remove parts of an image using cloning</li> <li>I can experiment with tools to select and copy part of an image</li> <li>I can use a range of tools to copy between images</li> <li>I can explain why photos might be edited</li> <li>I can describe the image I want to create</li> <li>I can choose suitable images for my project</li> </ul>	<ul style="list-style-type: none"> <li>I can predict the outcome of a snippet of code</li> <li>I can modify a snippet of code to create a given outcome</li> <li>I can modify loops to produce a given outcome</li> <li>I can choose when to use a count-controlled and an infinite loop</li> <li>I can recognise that some programming languages enable more than one process to be run at once</li> <li>I can choose which action will be repeated for each object</li> <li>I can explain what the outcome of the repeated action should be</li> <li>I can evaluate the effectiveness of the repeated sequences used in my program</li> <li>I can identify which parts of a loop can be changed</li> <li>I can explain the effect of my changes</li> </ul>
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	<p>content are created by people</p> <ul style="list-style-type: none"> <li>I can suggest who owns the content on websites</li> <li>I can explain that there are rules to protect content</li> <li>I can explain that not everything on the World Wide Web is true</li> <li>I can explain why some information I find online may not be honest, accurate, or legal</li> <li>I can explain why I need to think carefully before I share or reshare content</li> </ul>	<p>create the effect I want</p> <ul style="list-style-type: none"> <li>I can explain the difference between saving a project and exporting an audio file</li> <li>I can listen to an audio recording to identify its strengths</li> <li>I can suggest improvements to an audio recording</li> <li>I can choose appropriate edits to improve my podcast</li> </ul>	<ul style="list-style-type: none"> <li>I can explain that a computer can repeatedly call a procedure</li> <li>I can design a program that includes count-controlled loops</li> <li>I can make use of my design to write a program</li> <li>I can develop my program by debugging it</li> </ul>	<ul style="list-style-type: none"> <li>I can use a data logger to collect data</li> <li>I can interpret data that has been collected using a data logger</li> <li>I can draw conclusions from the data that I have collected</li> <li>I can explain the benefits of using a data logger</li> </ul>	<ul style="list-style-type: none"> <li>I can create a project that is a combination of other images</li> <li>I can review images against a given criterion</li> <li>I can use feedback to guide making changes</li> <li>I can combine text and my image to complete the project</li> </ul>	<ul style="list-style-type: none"> <li>I can re-use existing code snippets on new sprites</li> <li>I can evaluate the use of repetition in a project</li> <li>I can select key parts of a given project to use in my own design</li> <li>I can develop my own design explaining what my project will do</li> <li>I can refine the algorithm in my design</li> <li>I can build a program that follows my design</li> <li>I can evaluate the steps I followed when building my project</li> </ul>
<b>Year 5</b>	<b>Computing Systems &amp; Networks</b>	<b>Creating Media</b>	<b>Programming</b>	<b>Data &amp; Information</b>	<b>Creating Media</b>	<b>Programming</b>
	Systems & Searching	Video Production	Selection In Physical Computing	Flat-File Databases	Introduction To Vector Graphics	Selection In Quizzes
<b>Curriculum objectives</b>	<ul style="list-style-type: none"> <li>I can explain that systems are built using a number of parts</li> <li>I can describe the input, process, and output of a digital system</li> <li>I can explain that computer systems</li> </ul>	<ul style="list-style-type: none"> <li>I can explain that video is a visual media format</li> <li>I can identify features of videos</li> <li>I can compare features in different videos</li> <li>I can identify and find features on a</li> </ul>	<ul style="list-style-type: none"> <li>I can create a simple circuit and connect it to a microcontroller</li> <li>I can program a microcontroller to make an LED switch on</li> <li>I can explain what an infinite loop does</li> <li>I can connect more than one output</li> </ul>	<ul style="list-style-type: none"> <li>I can create a database using cards</li> <li>I can explain how information can be recorded</li> <li>I can order, sort, and group my data cards</li> </ul>	<ul style="list-style-type: none"> <li>I can recognise that vector drawings are made using shapes</li> <li>I can experiment with the shape and line tools</li> <li>I can discuss how vector drawings are different from</li> </ul>	<ul style="list-style-type: none"> <li>I can recall how conditions are used in selection</li> <li>I can identify conditions in a program</li> <li>I can modify a condition in a program</li> </ul>

	<ul style="list-style-type: none"> <li>communicate with other devices</li> <li>I can identify tasks that are managed by computer systems</li> <li>I can identify the human elements of a computer system</li> <li>I can explain the benefits of a given computer system</li> <li>I can make use of a web search to find specific information</li> <li>I can refine my web search</li> <li>I can compare results from different search engines</li> <li>I can explain why we need tools to find things online</li> <li>I can recognise the role of web crawlers in creating an index</li> <li>I can relate a search term to the search engine's index</li> <li>I can order a list by rank</li> <li>I can explain that a search engine follows rules to rank results</li> <li>I can give examples of criteria used by search engines to rank results</li> <li>I can describe some of the ways that search</li> </ul>	<ul style="list-style-type: none"> <li>digital video recording device</li> <li>I can experiment with different camera angles</li> <li>I can make use of a microphone</li> <li>I can suggest filming techniques for a given purpose</li> <li>I can capture video using a range of filming techniques</li> <li>I can review how effective my video is</li> <li>I can outline the scenes of my video</li> <li>I can decide which filming techniques I will use</li> <li>I can create and save video content</li> <li>I can store, retrieve, and export my recording to a computer</li> <li>I can explain how to improve a video by reshooting and editing</li> <li>I can select the correct tools to make edits to my video</li> <li>I can make edits to my video and improve the final outcome</li> <li>I can recognise that my choices when</li> </ul>	<ul style="list-style-type: none"> <li>component to a microcontroller</li> <li>I can use a count-controlled loop to control outputs</li> <li>I can design sequences that use count-controlled loops</li> <li>I can explain that a condition is either true or false</li> <li>I can design a conditional loop</li> <li>I can program a microcontroller to respond to an input</li> <li>I can explain that a condition being met can start an action</li> <li>I can identify a condition and an action in my project</li> <li>I can use selection (an 'if...then...' statement) to direct the flow of a program</li> <li>I can identify a real-world example of a condition starting an action</li> <li>I can describe what my project will do</li> <li>I can create a detailed drawing of my project</li> <li>I can write an algorithm that describes what my model will do</li> </ul>	<ul style="list-style-type: none"> <li>I can explain what a field and a record is in a database</li> <li>I can navigate a flat-file database to compare different views of information</li> <li>I can choose which field to sort data by to answer a given question</li> <li>I can explain that data can be grouped using chosen values</li> <li>I can group information using a database</li> <li>I can combine grouping and sorting to answer specific questions</li> <li>I can choose which field and value are required to answer a given question</li> <li>I can outline how 'AND' and 'OR' can be used to refine data selection</li> <li>I can choose multiple criteria to answer a given question</li> <li>I can select an appropriate chart to visually compare data</li> <li>I can refine a chart by selecting a particular filter</li> </ul>	<ul style="list-style-type: none"> <li>paper-based drawings</li> <li>I can identify the shapes used to make a vector drawing</li> <li>I can explain that each element added to a vector drawing is an object</li> <li>I can move, resize, and rotate objects I have duplicated</li> <li>I can use the zoom tool to help me add detail to my drawings</li> <li>I can explain how alignment grids and resize handles can be used to improve consistency</li> <li>I can modify objects to create a new image</li> <li>I can identify that each added object creates a new layer in the drawing</li> <li>I can change the order of layers in a vector drawing</li> <li>I can use layering to create an image</li> <li>I can copy part of a drawing by duplicating several objects</li> <li>I can recognise when I need to group and ungroup objects</li> </ul>	<ul style="list-style-type: none"> <li>I can use selection in an infinite loop to check a condition</li> <li>I can identify the condition and outcomes in an 'if... then... else...' statement</li> <li>I can create a program that uses selection to produce different outcomes</li> <li>I can explain that program flow can branch according to a condition</li> <li>I can design the flow of a program that contains 'if... then... else...'</li> <li>I can show that a condition can direct program flow in one of two ways</li> <li>I can outline a given task</li> <li>I can use a design format to outline my project</li> <li>I can identify the outcome of user input in an algorithm</li> <li>I can implement my algorithm to create the first section of my program</li> <li>I can test my program</li> </ul>
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	<ul style="list-style-type: none"> <li>results can be influenced</li> <li>I can recognise some of the limitations of search engines</li> <li>I can explain how search engines make money</li> </ul>	<ul style="list-style-type: none"> <li>making a video will impact the quality of the final outcome</li> <li>I can evaluate my video and share my opinions</li> </ul>	<ul style="list-style-type: none"> <li>I can use selection to produce an intended outcome</li> <li>I can test and debug my project</li> </ul>	<ul style="list-style-type: none"> <li>I can explain the benefits of using a computer to create charts</li> <li>I can ask questions that will need more than one field to answer</li> <li>I can refine a search in a real-world context</li> <li>I can present my findings to a group</li> </ul>	<ul style="list-style-type: none"> <li>I can reuse a group of objects to further develop my vector drawing</li> <li>I can create a vector drawing for a specific purpose</li> <li>I can reflect on the skills I have used and why I have used them</li> <li>I can compare vector drawings to freehand paint drawings</li> </ul>	<ul style="list-style-type: none"> <li>I can share my program with others</li> <li>I can identify ways the program could be improved</li> <li>I can identify the setup code I need in my program</li> <li>I can extend my program further</li> </ul>
<b>Year 6</b>	<b>Computing Systems &amp; Networks</b>	<b>Creating Media</b>	<b>Programming</b>	<b>Data &amp; Information</b>	<b>Creating Media</b>	<b>Programming</b>
	<b>Communication &amp; Collaboration</b>	<b>Web Page Creation</b>	<b>Variables In Games</b>	<b>Introduction To Spreadsheets</b>	<b>3D Modelling</b>	<b>Sensing Movement</b>
<b>Curriculum objectives</b>	<ul style="list-style-type: none"> <li>I can recognise that data is transferred using agreed methods</li> <li>I can explain that internet devices have addresses</li> <li>I can describe how computers use addresses to access websites</li> <li>I can identify and explain the main parts of a data packet</li> <li>I can explain that data is transferred over networks in packets</li> <li>I can explain that all data transferred over</li> </ul>	<ul style="list-style-type: none"> <li>I can discuss the different types of media used on websites</li> <li>I know that websites are written in HTML</li> <li>I can recognise the common features of a web page</li> <li>I can suggest media to include on my page</li> <li>I can draw a web page layout that suits my purpose</li> <li>I can say why I should use copyright-free images</li> </ul>	<ul style="list-style-type: none"> <li>I can identify examples of information that is variable</li> <li>I can explain that the way a variable changes can be defined</li> <li>I can identify that variables can hold numbers or letters</li> <li>I can identify a program variable as a placeholder in memory for a single value</li> <li>I can explain that a variable has a name and a value</li> <li>I can recognise that the value of a variable can be changed</li> </ul>	<ul style="list-style-type: none"> <li>I can collect data</li> <li>I can suggest how to structure my data</li> <li>I can enter data into a spreadsheet</li> <li>I can explain what an item of data is</li> <li>I can choose an appropriate format for a cell</li> <li>I can apply an appropriate format to a cell</li> <li>I can explain which data types can be used in calculations</li> <li>I can construct a formula in a spreadsheet</li> </ul>	<ul style="list-style-type: none"> <li>I can add 3D shapes to a project</li> <li>I can view 3D shapes from different perspectives</li> <li>I can move 3D shapes relative to one another</li> <li>I can resize an object in three dimensions</li> <li>I can lift/lower 3D objects</li> <li>I can recolour a 3D object</li> <li>I can rotate objects in three dimensions</li> <li>I can duplicate 3D objects</li> </ul>	<ul style="list-style-type: none"> <li>I can apply my knowledge of programming to a new environment</li> <li>I can test my program on an emulator</li> <li>I can transfer my program to a controllable device</li> <li>I can identify examples of conditions in the real world</li> <li>I can use a variable in an if, then, else statement to select the flow of a program</li> </ul>

	<ul style="list-style-type: none"> <li>the internet is in packets</li> <li>I can recognise how to access shared files stored online</li> <li>I can send information over the internet in different ways</li> <li>I can explain that the internet allows different media to be shared</li> <li>I can identify different ways of working together online</li> <li>I can recognise that working together on the internet can be public or private</li> <li>I can explain how the internet enables effective collaboration</li> <li>I can explain the different ways in which people communicate</li> <li>I can identify that there are a variety of ways to communicate over the internet</li> <li>I can choose methods of communication to suit particular purposes</li> <li>I can compare different methods of</li> </ul>	<ul style="list-style-type: none"> <li>I can find copyright-free images</li> <li>I can describe what is meant by the term 'fair use'</li> <li>I can add content to my own web page</li> <li>I can preview what my web page looks like</li> <li>I can evaluate what my web page looks like on different devices and suggest/make edits.</li> <li>I can explain what a navigation path is</li> <li>I can describe why navigation paths are useful</li> <li>I can make multiple web pages and link them using hyperlinks</li> <li>I can explain the implication of linking to content owned by others</li> <li>I can create hyperlinks to link to other people's work</li> <li>I can evaluate the user experience of a website</li> </ul>	<ul style="list-style-type: none"> <li>I can decide where in a program to change a variable</li> <li>I can make use of an event in a program to set a variable</li> <li>I can recognise that the value of a variable can be used by a program</li> <li>I can choose the artwork for my project</li> <li>I can create algorithms for my project</li> <li>I can explain my design choices</li> <li>I can create the artwork for my project</li> <li>I can choose a name that identifies the role of a variable</li> <li>I can test the code that I have written</li> <li>I can identify ways that my game could be improved</li> <li>I can use variables to extend my game</li> <li>I can share my game with others</li> </ul>	<ul style="list-style-type: none"> <li>I can identify that changing inputs changes outputs</li> <li>I can calculate data using different operations</li> <li>I can create a formula which includes a range of cells</li> <li>I can apply a formula to multiple cells by duplicating it</li> <li>I can use a spreadsheet to answer questions</li> <li>I can explain why data should be organised</li> <li>I can apply a formula to calculate the data I need to answer questions</li> <li>I can produce a chart</li> <li>I can use a chart to show the answer to a question</li> <li>I can suggest when to use a table or chart</li> </ul>	<ul style="list-style-type: none"> <li>I can group 3D objects</li> <li>I can accurately size 3D objects</li> <li>I can show that placeholders can create holes in 3D objects</li> <li>I can combine a number of 3D objects</li> <li>I can analyse a 3D model</li> <li>I can choose objects to use in a 3D model</li> <li>I can combine objects in a design</li> <li>I can construct a 3D model based on a design</li> <li>I can explain how my 3D model could be improved</li> <li>I can modify my 3D model to improve it</li> </ul>	<ul style="list-style-type: none"> <li>I can determine the flow of a program using selection</li> <li>I can use a condition to change a variable</li> <li>I can experiment with different physical inputs</li> <li>I can explain that checking a variable doesn't change its value</li> <li>I can use an operand (e.g. &lt;=&gt;) in an if, then statement</li> <li>I can explain the importance of the order of conditions in else, if statements</li> <li>I can modify a program to achieve a different outcome</li> <li>I can decide what variables to include in a project</li> <li>I can design the algorithm for my project</li> <li>I can design the program flow for my project</li> <li>I can create a program based on my design</li> <li>I can test my program against my design</li> </ul>
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	<ul style="list-style-type: none"> <li>communicating on the internet</li> <li>I can decide when I should and should not share information online</li> <li>I can explain that communication on the internet may not be private</li> </ul>					<ul style="list-style-type: none"> <li>I can use a range of approaches to find and fix bugs</li> </ul>
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### Progression Map (Digital Literacy)

	Self-Image & Identity	Online Relationships	Online Reputation	Copyright & Ownership	Online Bullying	Managing Online Information	Privacy & Security	Health, Wellbeing & Lifestyle
EYFS	I can recognise, online or offline, that anyone can say 'no' - 'please stop' - 'I'll tell' - 'I'll ask' to somebody who makes them feel sad, uncomfortable, embarrassed or upset.	I can recognise some ways in which the internet can be used to communicate.  I can give examples of how I (might) use technology to communicate with people I know	I can identify ways that I can put information on the internet.	I know that work I create belongs to me.  I can name my work so that others know it belongs to me.	I can describe ways that some people can be unkind online.  I can offer examples of how this can make others feel	I can talk about how to use the internet as a way of finding information online.  I can identify devices I could use to access information on the internet.	I can identify some simple examples of my personal information (e.g. name, address, birthday, age, location).  I can describe who would be trustworthy to share this information with; I can explain why they are trusted.	I can identify rules that help keep us safe and healthy in and beyond the home when using technology  I can give some simple examples of these rules
Year 1	I can recognise that there may be people online who could make someone feel	I can give examples of when I should ask permission to do something online and explain why this is important.	I can recognise that information can stay online and	I can explain why work I create using technology belongs to me	I can describe how to behave online in ways that do not upset others	I can give simple examples of how to find information using digital technologies, e.g. search engines, voice activated searching.	I can explain how passwords are used to protect information,	I can explain rules to keep myself safe when using technology both in

	<p>sad, embarrassed or upset.</p> <p>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.</p>	<p>I can use the internet with adult support to communicate with people I know (e.g. video call apps or services).</p> <p>I can explain why it is important to be considerate and kind to people online and to respect their choices.</p> <p>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>I can explain why it is important to be considerate and kind to people online and to respect their choices.</p> <p>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>could be copied.</p> <p>I can describe what information I should not put online without asking a trusted adult first.</p>	<p>I can say why it belongs to me (e.g. 'I designed it' or 'I filmed it').</p>	<p>and can give examples.</p>	<p>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.</p> <p>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>accounts and devices.</p> <p>I can recognise more detailed examples of information that is personal to someone (e.g. where someone lives and goes to school, family names).</p> <p>I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others.</p>	<p>and beyond the home.</p>
Year 2	<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, worried, uncomfortable or frightened; I can give examples of how they might get help.</p>	<p>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).</p> <p>I can explain who I should ask before sharing things about myself or others online.</p> <p>I can describe different ways to ask for, give, or deny my permission online and can</p>	<p>I can explain how information put online about someone can last for a long time.</p> <p>I can describe how anyone's online information could be seen by others.</p> <p>I know who to talk to if something has</p>	<p>I can recognise that content on the internet may belong to other people.</p> <p>I can describe why other people's work belongs to them</p>	<p>I can explain what bullying is, how people may bully others and how bullying can make someone feel.</p> <p>I can explain why anyone who experiences bullying is not to blame</p> <p>I can talk about how</p>	<p>I can use simple keywords in search engines.</p> <p>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).</p> <p>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).</p>	<p>I can explain how passwords can be used to protect information, accounts and devices.</p> <p>I can explain and give examples of what is meant by 'private' and 'keeping things private'.</p> <p>I can describe and explain some rules for</p>	<p>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.</p> <p>I can say how those rules / guides can help anyone accessing online technologies</p>

		<p>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'. 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 'yes', 'agree' or 'accept' online</p>	<p>been put online without consent or if it is incorrect.</p>		<p>anyone experiencing bullying can get help.</p>	<p>I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'</p> <p>I can explain why some information I find online may not be real or true.</p>	<p>keeping personal information private (e.g. creating and protecting passwords).</p> <p>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>	
Year 3	<p>I can explain what is meant by the term 'identity'.</p> <p>I can explain how people can represent themselves in different ways online.</p> <p>I can explain ways in which someone might change their identity depending on what they are</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 why this might be different from knowing someone offline.</p> <p>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</p>	<p>I can explain how to search for information about others online.</p> <p>I can give examples of what anyone may or may not be willing to share about themselves online.</p> <p>I can explain the need to be careful before sharing</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>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>I can demonstrate how to use key phrases in search engines to gather accurate information online.</p> <p>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.</p> <p>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, news stories etc.</p>	<p>I can describe simple strategies for creating and keeping passwords private.</p> <p>I can give reasons why someone should only share information with people they choose to and can trust.</p> <p>I can explain that if they are not sure or feel</p>	<p>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</p> <p>I can explain why some online activities have age restrictions, why it is important to</p>

	<p>doing online (e.g. gaming; using an avatar; social media) and why.</p>	<p>information and content they are trusted with.</p> <p>I can explain how someone's feelings can be hurt by what is said or written online, e.g. nervous, uncomfortable or worried.</p> <p>I can explain how someone's feelings can be hurt by what is said or written online.</p> <p>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>anything personal.</p> <p>I can explain who someone can ask if they are unsure about putting something online.</p>			<p>I can explain that not all opinions shared may be acceptable.</p> <p>I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened as true or fair by others (e.g. monsters under the bed).</p> <p>I can describe and demonstrate how we can get help from a trusted adult if we see content that makes us feel sad, uncomfortable, worried or frightened.</p>	<p>pressured then they should tell a trusted adult.</p> <p>I can describe how connected devices can collect and share anyone's information with others.</p>	<p>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 web sites).</p>
Year 4	<p>I can explain how my online identity can be different to my offline identity.</p> <p>I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them.</p> <p>I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons</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 recognise healthy and unhealthy online behaviours.</p> <p>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.</p>	<p>I can describe how to find out information about others by searching online.</p> <p>I can explain ways that some of the information about anyone online could have been created, copied or shared by others.</p>	<p>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.</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>I can recognise when someone is upset, hurt or angry online.</p> <p>I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat).</p> <p>I can explain why people need to think carefully about how content they post might affect others,</p>	<p>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.</p> <p>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).</p> <p>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 these when they appear online.</p>	<p>I can describe strategies for keeping personal information private, depending on context.</p> <p>I can explain that internet use is never fully private and is monitored, e.g. adult supervision.</p> <p>I can describe how some online services may seek consent to store information about me; I know how to respond</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>

	why they might do this.				their feelings and how it may affect how others feel about them (their reputation).	<p>I can explain why lots of people sharing the same opinions or beliefs online do not make those opinions or beliefs true.</p> <p>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.</p> <p>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>appropriately and who I can ask if I am not sure.</p> <p>I know what the digital age of consent is and the impact this has on online services asking for consent.</p>	
Year 5	<p>I can explain how identity online can be copied, modified or altered.</p> <p>I can demonstrate how to make responsible choices about having an online identity, depending on context.</p>	<p>I can give examples of technology-specific forms of communication (e.g. emojis, memes and GIFs).</p> <p>I can explain that there are some people I communicate with online who may want to do me or my friends harm. I can recognise that this is not my / our fault.</p> <p>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 contributions. (e.g. gaming communities or social media groups).</p> <p>I can explain how someone can get help if they are having problems and identify when to tell a trusted adult.</p>	<p>I can search for information about an individual online and summarise the information found.</p> <p>I can explain the ways in which anyone can develop a positive online reputation.at information about anyone online can be used by others to make judgments about an individual and why these may be incorrect</p>	<p>I can assess and justify when it is acceptable to use the work of others I can give examples of content that is permitted to be reused and know how this content can be found online.</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>I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying.</p>	<p>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.</p> <p>I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'.</p> <p>I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results.</p> <p>I can explain key concepts including: information,</p>	<p>I can explain what a strong password is and demonstrate how to create one.</p> <p>I can explain how many free apps or services may read and share private 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>I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.</p> <p>I can describe some strategies, tips or advice to promote health and wellbeing with regards to technology.</p> <p>I recognise the benefits and risks of accessing information about health and well-being online and how we should balance this with talking to trusted</p>

		I can demonstrate how to support others (including those who are having difficulties) online.			<p>I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult.</p> <p>I can identify a range of ways to report concerns and access support both in school and at home about online bullying.</p> <p>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>reviews, fact, opinion, belief, validity, reliability and evidence.</p> <p>I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads.</p> <p>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).</p> <p>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.</p> <p>I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful.</p> <p>I can explain what is meant by a 'hoax'. I can explain why someone would need to think carefully before they share.</p>		<p>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>
Year 6	I can identify and critically evaluate online content relating to gender, race,	I can explain how sharing something online may have an impact either positively or negatively.	I can explain the ways in which anyone can develop a		I can describe how to capture bullying content as	I can explain how search engines work and how results are selected and ranked.	I can describe effective ways people can manage passwords (e.g.	I can describe common systems that regulate age-related content (e.g. PEGI, BBFC,



	<p>religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online.</p> <p>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.</p> <p>I can explain the importance of asking until I get the help needed.</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. screen-grabs.</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 others; and who can help if someone is worried about this.</p>	<p>positive online reputation.</p> <p>I can explain strategies anyone can use to protect their 'digital personality' and online reputation, including degrees of anonymity.</p>		<p>evidence (e.g. screen-grab, URL, profile) to share with others who can help me.</p> <p>I can explain how someone would report online bullying in different contexts.</p>	<p>I can explain how to use search technologies effectively.</p> <p>I can describe how some online information can be opinion and can offer examples.</p> <p>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>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).</p> <p>I understand the concept of persuasive design and how it can be used to influence peoples' choices.</p> <p>I can demonstrate how to analyse and evaluate the validity of 'facts' and information and I can explain why using these strategies are important.</p> <p>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> <p>I can describe the difference between online</p>	<p>storing them securely or saving them in the browser).</p> <p>I can explain what to do if a password is shared, lost or stolen.</p> <p>I can describe how and why people should keep their software and apps up to date, e.g. auto updates.</p> <p>I can describe simple ways to increase privacy on apps and 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</p>	<p>parental warnings) and describe their purpose.</p> <p>I recognise and can discuss the pressures that technology can place on someone and how / when they could manage this.</p> <p>I can recognise features of persuasive design and how they are used to keep users engaged (current and future use).</p> <p>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>
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						<p>misinformation and disinformation.</p> <p>I can explain why information that is 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).</p> <p>I can identify, flag and report inappropriate content.</p>	<p>conditions that govern their use.</p>	
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