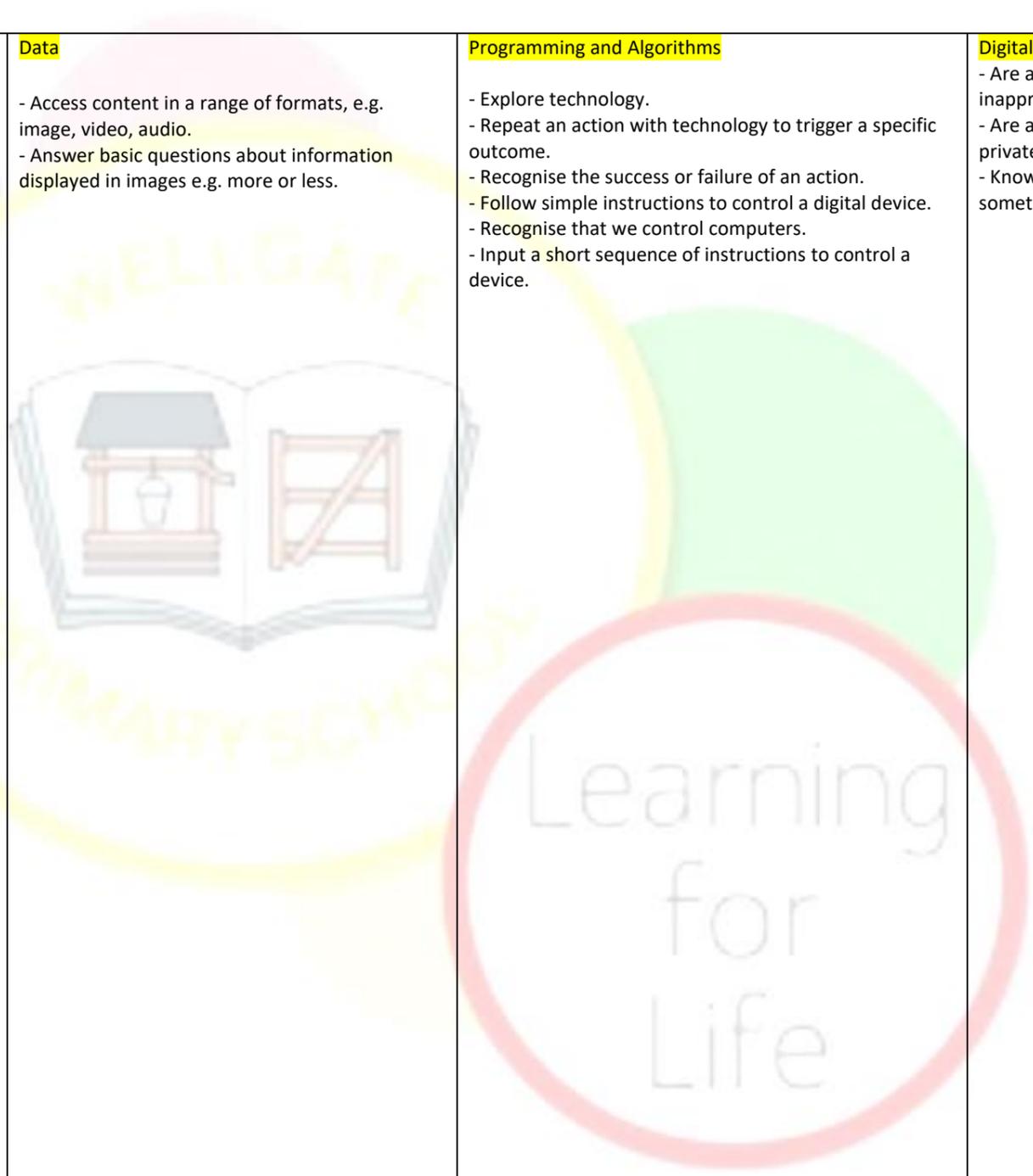


Wellgate Primary School: Progression of Computing

	INFORMATION TECHNOLOGY	COMPUTER SCIENCE	DIGITAL LITERACY		
FOUNDATION STAGE					
Statements: Understanding of the World:					
Instructions Computer Turn on/off Internet Safe Keyboard Mouse Screen Help picture	They select and use technology for particular purposes. Children recognise that a range of technology is used in places such as homes and schools.				
	What is a computer? <ul style="list-style-type: none"> - Use different digital devices. - Recognise that you can access content on a digital device. - Use a mouse, touchscreen or appropriate access device to target and select options on screen. - Recognise a selection of digital devices. - Recognise the basic parts of a computer, e.g. mouse, screen, keyboard. - Select a digital device to fulfil a specific task, e.g. to take a photo. 	Presenting Information and Multimedia <ul style="list-style-type: none"> - Use technology to explore and access digital content. - Operate a digital device with support to fulfil a task. - Create simple digital content, e.g. digital art. - Choose media to convey information, e.g. image for a poster. 	Data <ul style="list-style-type: none"> - Access content in a range of formats, e.g. image, video, audio. - Answer basic questions about information displayed in images e.g. more or less. 	Programming and Algorithms <ul style="list-style-type: none"> - Explore technology. - Repeat an action with technology to trigger a specific outcome. - Recognise the success or failure of an action. - Follow simple instructions to control a digital device. - Recognise that we control computers. - Input a short sequence of instructions to control a device. 	Digital Literacy <ul style="list-style-type: none"> - Are aware that some online content is inappropriate. - Are aware that information can be public or private. - Know to tell an appropriate adult if they see something on the computer that upsets them.



Wellgate Primary School: Progression of Computing

YEAR 1					
Statements					
<p>What is a computer? Computer Digital device Purpose Online tools Communicate Log on Save Open Presenting Information and Multimedia Videos Camera stills Sounds Image bank Word bank Space bar Data Photographs Data Pictogram Digitally Chart Modify present Programming and Algorithms Instructions Algorithm Sequence Command Buttons Robots debug Patterns Program Outcome Memory Digital Literacy Rules Online Private information Email</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p>	<p>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</p>	<p>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 /online technologies. Recognise common uses of information technology beyond school.</p>		
Progression in Outcomes					
	<p>What is a computer? Technology around us - Recognise a range of digital devices. - Select a digital device to fulfil a specific task e.g photo. - Name a range of digital devices, e.g. laptop, phone - Identify the basic parts of a computer, e.g. mouse, keyboard, screen. - Use a suitable access device (mouse, keyboard, touchscreen) to access and control a computer activity -Open key applications independently. - Save and open files with support.</p>	<p>Presenting Information and Multimedia Digital painting and writing - Log on to the school computer / unlock the school tablet with support. -Create digital content, e.g. digital art. - Choose media from a selection (e.g. images, video, sound) to present information on a topic. - Recognise that you can find out information from a website. - Recognise that you can edit digital content to change its appearance. - Select basic tools/options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush. - Add an image to a document from a given folder/source with support - Combine media with support to present information, e.g. text and images</p>	<p>Data Grouping data - Recognise different forms of digital content, i.e. text, image, video and audio. - Collect simple data (e.g. likes/dislikes) on a topic. - Present simple data using images, e.g. number of animals. - Recognise charts and pictograms and why we use them. - Explain information shown in a simple chart or pictogram. - Modify simple charts/pictograms, e.g. add title, item or labels. - Identify the key features of a chart or pictogram. - Collect data on a topic (eye colour, pets etc.) and present in a pictogram or chart.</p>	<p>Programming and Algorithms Moving a robot and animation - Recognise that computers don't have a brain. - Explain that we control computers by giving them instructions. - Create a simple program e.g. to control a floor robot. - Create a simple algorithm. - Predict the outcome of a simple algorithm or program. - Explain what an algorithm is - a sequence of instructions to make something happen. - Recognise that the order of instructions in an algorithm is important. - Debug an error in a simple algorithm or program e.g. for a floor robot. - Explain the effect of modifying values in code blocks. - Program multiple objects in a program.</p>	<p>Digital Literacy -Use a simple password when logging on, where relevant. - Explain why we use passwords. - Recognise examples of personal information e.g. name, image. - Know who to tell if concerned about content or contact online. - Recognise that digital content belongs to the person who created it. - Talk about their use of technology at home.</p>



Wellgate Primary School: Progression of Computing

YEAR 2					
STATEMENTS					
<p>What is a computer? Computer Digital device Input Output Information technology Communication Purposes Website content Image Presenting Information and Multimedia Paint effects Templates Animation Documents Index finger typing Enter/return Caps lock Backspace Data Capturing moments Magnified images Questions Data collection Pictogram Branching database Graphs Charts Save Retrieve Programming and Algorithms Forward, Backward Right-angle turn Algorithm Sequence Unambiguous instructions Outcome Program Debug Predict Digital Literacy Personal information Appropriate/inappropriate sites Cyber-bullying Digital footprint Keyword searching</p>	<p>Use technology purposefully to create, organise, store, manipulate and retrieve digital content.</p>	<p>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.</p>	<p>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.</p>		
Progression in Outcomes					
	<p>What is a computer? IT around us</p> <ul style="list-style-type: none"> - Recognise what a computer is (input > process > output). - Recognise that a range of digital devices contain computers, e.g. phone, games console, smart speaker. - Explain what the basic parts of a computer are used for. - Identify and use input devices, e.g. mouse, keyboard; and output devices, e.g. speakers, screen. - Save and open files to/from a given folder. - Add an image to a document from a given folder/source. - Resize an image in a document. - Recognise the purpose of different types of information technology. Name the benefits of using IT 	<p>Presenting Information and Multimedia Digital art and making music</p> <ul style="list-style-type: none"> - Create simple digital content for a purpose, e.g. digital art. - Recognise that we can use technology to record and playback audio or take and view photographs. - Apply edits to digital content to achieve a particular effect, e.g. emphasise part of a text. - Present ideas and information by combining media, e.g. text and images. - Explain that you can search for information on the internet. - Plan out digital content, e.g. a simple sketch or storyboard. - Identify the common features of digital content, e.g. title, images. - Recognise that we can use different types of media to convey information, e.g. text, image, audio, video. - Open key applications independently. - Highlight text and use arrow keys. - Capture media independently (e.g. take photos, record audio). 	<p>Data – Pictograms</p> <ul style="list-style-type: none"> - Identify different forms of digital content, i.e. text, image, video and audio. - Recognise charts, pictograms and branching databases, and why we use them. - Identify an object using a branching database - Recognise an error in a branching database. - Create a branching database using pre-prepared images and questions - Identify the features of a good question in a branching database. - Independently plan out and create a branching database. - Evaluate a given branching database and suggest improvements 	<p>Programming and Algorithms Robots and quizzes</p> <ul style="list-style-type: none"> - Explain that computers have no intelligence and we have to program them to do things. - Match two sequences with the same outcome. - Suggest more than one solution (algorithm) to achieve the intended outcome. - Create a program with multiple steps e.g. to control a floor robot. - Predict the outcome of an algorithm or program with multiple steps. - Recognise that the instructions in an algorithm need to be clear and unambiguous. - Identify and correct errors in a given algorithm or program, and recognise the term debugging. - Explain what an algorithm is, and that when inputted on a computer it is called a program. - Plan out a program by creating an algorithm, and evaluate its success. 	<p>Digital Literacy</p> <ul style="list-style-type: none"> - Remember a simple password to log onto the computer or a website. - Identify rules for acceptable use of technology in school. - Recognise what personal information is and the need to keep it private. - Recognise that spending a lot of time in front of a screen can be unhealthy. - Recognise that some information found online may not be true

Wellgate Primary School: Progression of Computing

VOCABULARY	INFORMATION TECHNOLOGY	COMPUTER SCIENCE	DIGITAL LITERACY
YEAR 3 STATEMENTS			
<p>What is a computer? School network Devices Computer parts Collaborate Appropriate online communication Search tools Appropriate websites Owner Network Switch WAP (wireless access point) Server. Router Presenting Information and Multimedia Multimedia Presentations Alignment Brush size Repeats Reflections Green screening Amend Copy Paste Spell check Data Questioning Database Construct Contribute Recording data Data logger Present data Programming and Algorithms Sequence instructions Sprite Command Event + action debugging Test + improve Programming Digital Literacy E-safety rules Secure passwords Report abuse button, Gaming</p>	<p>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.</p> <p>What is a computer? Connecting computers</p> <ul style="list-style-type: none"> - Describe what a computer is (input > process > output). - Explain the difference between input and output devices on a computer. - Know where to save and open files (e.g. in shared folder). - Use a search engine to find simple information. - Recognise that school computers are connected. - Understand what a computer network is <p>Explain the role of a switch, server and wireless access point in a network.</p>	<p>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.</p> <p style="text-align: center;">Progression in Outcomes</p> <p>Data- Branching database</p> <ul style="list-style-type: none"> - Recognise charts, pictograms and databases, and why we use them. - Present information using a suitable chart - Explore a record card database to find out information. - Use filters in a database to find out specific information. - Name the key parts of a database, e.g. record, field, search. - Answer questions about information in a database. - Name some benefits of using a computer to create charts and databases. - Recognise that search engines store information in databases. 	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</p> <p>Digital Literacy</p> <ul style="list-style-type: none"> - Explain why we need to keep our password safe. - Recognise that digital content belongs to the person who first created it, but we can give permission for others to use it. - Recognise when to share personal information and when not to. - Recognise that some people lie about who they are online. - Are aware that games and films have age ratings.

Wellgate Primary School: Progression of Computing

YEAR 4				
STATEMENTS				
<p>What is a computer? Different networks Information Content WWW (World Wide Web) Internet Website Reliability Owners Presenting Information and Multimedia Creating + modifying Specific purpose Crop Copy Paste Shortcut Photo modifying Audio Keyboard shortcuts Bullet points Constructive feedback Data Database creation Database searches Inaccurate data Software Present Programming and Algorithms Type + edit logo commands Sensors Repetition Count-controlled loop Infinite loop Decompose Open-ended problems Bugs in programs Complex programming Run Digital Literacy E-safety rules Secure passwords Report abuse button Gaming Blogs</p>	<p>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.</p>	<p>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.</p>	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</p>	
Progression in Outcomes				
<p>What is a computer? Internet</p> <ul style="list-style-type: none"> - Use a search engine to find specific information. - Recognise that school computers are connected together on a network. - Explain the difference between the internet and the World Wide Web - Recognise how content can be added to the WWW - Create content and modify existing content. - Suggest who owns content on websites. 	<p>Presenting Information and Multimedia – Audio and photo editing</p> <ul style="list-style-type: none"> - Recognise that you can organise files using folders. - Explain what a good file name would look like. - Delete and move files. - Use key parts of a keyboard effectively, e.g. shift, arrow keys, delete). - Know how to copy and paste text or images in a document. - Crop an image and apply simple filters. - Collect, organise and present information using a range of media. - Design and create digital content for a specific purpose, e.g. poster, animation. - Edit digital content to improve it according to feedback. - Identify the features of a good piece of digital content and apply these in own design. - Explain the benefits of using technology to present information. - Collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365, if available. 	<p>Data- Data logging</p> <ul style="list-style-type: none"> - Draw conclusions from information stored in a database, chart or table. - Design a questionnaire and collect a range of data on a theme. - Choose appropriate formats to present data to convey information. - Recognise that school computers are connected together on a network. - Recognise that the Internet is made up of computers and other digital devices connected together all around the world. - Know that you use a web browser to access information stored on the internet. - Appreciate that you need to use specific software to work with video, images, audio etc. 	<p>Programming and Algorithms Repetition in shape/games</p> <ul style="list-style-type: none"> - Create a program using a range of events/inputs to control what happens. - Recognise that we can decompose a problem into smaller parts to help solve it. - Explain when to use forever loops and count-controlled loops, and use them in programs. - Use a count controlled loop (e.g. repeat 3 times) to make a program more efficient. - Create examples of algorithms containing count controlled loops. - Recognise a forever loop in a program or algorithm. - Use a forever loop in a program to keep something happening. - Design a program for a purpose. - Recognise common mistakes in programs and how to correct them 	<p>Digital Literacy</p> <ul style="list-style-type: none"> - Remember and use an individual password. - Recognise what kinds of websites are trustworthy sources of information. - Recognise the benefits and risks of different apps and websites. - Recognise that the media can portray groups of people differently. - Can rate a game or film they have made and explain their rating. - Know where to find copyright-free content, e.g. creative commons images.

Wellgate Primary School: Progression of Computing

YEAR 5				
Statements				
<p>What is a computer? Input – process – output Computing devices Internet parts Collaboration Modify Responsibility Searching strategies Webpages Digital System Presenting Information and Multimedia Online sharing Multimedia effects Multimedia modification Transitions Hyperlinks Editing tools Refining Online sharing Data Spreadsheets Complex searches (and/or:) Problem solving Present answers Analyse information Question data Interpret Programming and Algorithms Explore procedures Sequence Repetition Selection, Condition Hardware + software control Change inputs Execute (Run) Different outputs Articulate solutions Commands Digital Literacy Responsible online communication Informed choices Virus threats Blogs Messaging</p>	<p>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.</p>	<p>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.</p>	<p>Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.</p>	
Progression in Outcomes				
<p>What is a computer? Sharing information</p> <ul style="list-style-type: none"> - Explain what makes a strong password. - Recognise that networked digital devices have unique (IP) addresses. - Create collaborative content using text and images. - Modify content online 	<p>Presenting Information and Multimedia Video editing and vector</p> <ul style="list-style-type: none"> - Type using fingers on both hands. - Use common keyboard shortcuts, e.g. ctrl C (copy), ctrl V (paste). - Use folders to organise files. - Know how to mute and unmute audio on a computer or tablet. - Identify and use appropriate hardware and software to fulfil a specific task. - Remix and edit a range of existing and their own media to create content. - Consider the audience when designing and creating digital content. - Recognise the benefits of using technology to collaborate with others - Identify success criteria for creating digital content for a given purpose and audience.] - Evaluate their own content against success criteria and make improvements accordingly 	<p>Data - Databases</p> <ul style="list-style-type: none"> - Explain the difference between data and information. - Appreciate that different programs work with different types of data, e.g. text, number, video. - Explain the difference between the Internet and the World Wide Web. - Know the difference between a search engine and a web browser. - Explain the basics of how search engines work, and that different search engines may give different results. - Perform complex searches for information using advanced settings in search engines. - Recognise the benefits and risks of sharing data online. 	<p>Programming and Algorithms Selection quiz and physical</p> <ul style="list-style-type: none"> - Name a range of sensors in physical systems. - Recognise that different solutions may exist for the same problem. - Predict what will happen in a program or algorithm when the input changes (e.g. sensor, data or event). - Recognise selection in a program or algorithm. - Use two-way selection in programs and algorithms, i.e. if...then...else... - Create programs including repeat until loops. - Evaluate a program and make improvements to the code or design accordingly. - Identify a condition in a program - Identify real-world examples of a condition starting an action. - Create an algorithm for a physical system containing a sensor 	<p>Digital Literacy</p> <ul style="list-style-type: none"> - Know where to find copyright free images and audio, and why this is important. - Critically evaluate websites for reliability of information and authenticity. - Demonstrate responsible use of a online services, and know a range of ways to report concerns. - Explain what makes a strong password and update own passwords regularly.

Wellgate Primary School: Progression of Computing

YEAR 6					
Statements					
What is a computer? Browser Search engine Influenced Limitations Keywords Rank Web crawlers Index	Use safe technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Use, select 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.	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 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concern about content and contact.		
Progression in Outcomes					
What is a computer? Communication Research strategies Search result rankings Acknowledge resources Presenting Information and Multimedia Appropriate online tools Audience Atmosphere Structure Copyright Information collection HTML code Storing Data Generate Process Interpret Present information Plausibility Appropriate data tool Programming and Algorithms Predicting outputs Plan, program, test & review a program Program writing Sequence, repetition, selection, variable, sensors Measure input Create variables Link errors Digital Literacy Responsible online communication Informed choices Virus threats Blogs Messaging	What is a computer? Communication - Recognise that different devices may have different operating systems. - Organise files effectively using folders and files names. - Recognise that there is more than one search engine, and they may produce different results. - Use a search engine effectively to find information and images. - Know how to search for an application on a computer/tablet - Use the advanced search tools when using a search engine to find specific information and images. - Explain how websites are ranked and explain some of the rules of a search engine. - Compare methods of communicating online. - Explain the basic function of an operating system. - Recognise a range of Internet services, e.g. email, VOIP (e.g. Skype, FaceTime), World Wide Web, and what they do.	Presenting Information and Multimedia 3D models and websites - Type efficiently using both hands. - Use a range of keyboard shortcuts. - Select, combine and remix a range of media to create original content. - Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.) - Identify the most effective tools to present information for a specific purpose. - Explain the benefits of using technology to collaborate with others. - Evaluate existing digital content in terms of effectiveness and design. - Recognise common file types and extensions e.g. jpeg, png, doc, wav	Data Spreadhseets - Recognise what a spreadsheet is and what it is used for. - Explain the difference between physical, mobile and wireless networks. - Use simple formulae in a spreadsheet to find out information from a set of data. - Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae. - Produce graphs from data in a spreadsheet to answer a question. - Analyse and evaluate data and information in a spreadsheet, chart or database. - Recognise that poor quality data leads to unreliable results.	Programming and Algorithms Variables and senses - Plan out a program in detail, including task, algorithm, code and execution level. - Explain common errors in programs and how to fix them. - Use nested selection statements in a program or algorithm effectively. - Combine a variable with relational operators (< = >) to determine when a program changes, e.g. if score > 5, say "well done". - Recognise key concepts (sequence, selection, repetition and variables) in a range of languages and contexts. - Use selection in algorithms in programs to alter what happens when a condition changes, e.g. if...then... - Recognise variables in a program and what they do. - Create and use simple variables, e.g. to keep score. -Design and program a physical computing system that uses sensors. - Recognise and use procedures (sub-routines) in programs. - Design, program, predict, test and evaluate a program using a physical device for a real-life scenario (fair ground)	Digital Literacy - Explain what makes a strong password and why this is important at school and in the wider world. - Explain how algorithms are used to track online activities with a view to targeting advertising and information. - Know that there are laws around the purchase of games; the production, sending and storage of images; what is written online; and around online gambling. - Explain that communication online may not be private.