Laneshaw Bridge Computing Curriculum Overview

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	Computing Systems and networks Technology around us I can recognise that there may be people online who could make someone feel sad, embarrassed or upset To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type To use the keyboard to edit text To create rules for using technology responsibly	Computing Systems and networks IT around us 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. To recognise the uses and features of information technology To identify information technology in the home To identify information technology beyond school To explain how information technology benefits us To show how to use information technology safely To recognise that choices are made when using information technology	Computing systems and networks Connecting Computers I can explain what is meant by the term 'identity'. I can explain how people can represent themselves in different ways online. I can explain ways in which someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media) and why. To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network	Computing systems and networks The Internet I can explain how my online identity can be different to my offline identity. I can describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. I can explain that others online can pretend to be someone else, including my friends, and can suggest reasons why they might do this. To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content	Computing systems and networks Sharing information Sharing Information I can explain how identity online can be copied, modified or altered. I can demonstrate how to make responsible choices about having an online identity, depending on context. To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online	Computing systems and networks Communication I can identify and critically evaluate online content relating to gender, race, religion, disability, culture and other groups, and explain why it is important to challenge and reject inappropriate representations online I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline. I can explain the importance of asking until I get the help needed. To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication
Autumn 2	Programming Moving a Robot I can give examples of when I should ask permission to do	Programming Robot algorithms Robot Algorithms	Programming Sequence in music I can describe ways people who have similar likes and interests can get together online.	Creating Media Photo Editing I can describe strategies for safe and fun experiences in a range of online	Creating Media Vector Drawing I can recognise online bullying can be different to bullying in the physical	Programming Variables in Games I can explain how sharing something online may have an

	something online and explain why this is important I can use the internet with adult support to communicate with people I know (e.g. video call apps or services).. I can explain why it is important to be considerate and kind to people online and to respect their choices. I can explain why things one person finds funny or sad online may not always be seen in the same way by others. To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem	I can explain who I should ask before sharing things about myself or others online. To describe a series of instructions as a sequence To explain what happens when we change the order of instructions To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written	I can explain what it means to 'know someone' online and why this might be different from knowing someone offline. I can explain what is meant by 'trusting someone online', why this is different from 'liking someone online', and why it is important to be careful about who to trust online including what information and content they are trusted with. To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description	social environments (e.g. livestreaming, gaming platforms) I can give examples of how to be respectful to others online and describe how to recognise healthy and unhealthy online behaviours. 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. To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image	world and can describe some of those differences. I can describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying. I can explain how anyone can get help if they are being bullied online and identify when to tell a trusted adult. I can identify a range of ways to report concerns and access support both in school and at home about online bullying. I can explain how to block abusive users. To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To evaluate my vector drawing	impact either positively or negatively 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. I can describe how things shared privately online can have unintended consequences for others. e.g. screen-grabs. 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. To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project
Spring 1	Creating Media Digital Painting I can recognise that information can stay online and could be copied I can describe what information I should not put online without asking a trusted adult first. To describe what different freehand tools do To use the shape tool and the line tools	Creating Media Making Music Science – Living Things and their Habitats I can explain how information put online about someone can last for a long time. I can describe how anyone's online information could be seen by others. I know who to talk to if something has been put online without consent or if it is incorrect.	Data and Information Branching Databases Science – Living Organisms I can explain why someone may change their mind about trusting anyone with something if they feel nervous, uncomfortable or worried. I can explain how someone's feelings can be hurt by what is said or written online. I can explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos	Data and Information Data Logging Science – States of Matter I can describe how to find out information about others by searching online. I can explain ways that some of the information about anyone online could have been created, copied or shared by others. To explain that data gathered over time can be used to answer questions	Programming Selection in physical computing DT - Mechanisms I can explain what is meant by 'being sceptical'; I can give examples of when and why it is important to be 'sceptical'. I can evaluate digital content and can explain how to make choices about what is trustworthy e.g. differentiating between adverts and search results I can explain key concepts including: information, reviews, fact, opinion,	Creating Media 3D modelling Art - Sculpture I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me. I can explain how someone would report online bullying in different contexts. To use a computer to create and manipulate three-dimensional (3D) digital objects

	To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper	To say how music can make us feel To identify that there are patterns in music To describe how music can be used in different ways To show how music is made from a series of notes To create music for a purpose To review and refine our computer work	To create questions with yes/no answers To identify the object attributes needed to collect relevant data To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To compare the information shown in a pictogram with a branching database	To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions	belief, validity, reliability and evidence.. I can identify ways the internet can draw us to information for different agendas, e.g. website notifications, pop-ups, targeted ads I can describe ways of identifying when online content has been commercially sponsored or boosted, (e.g. by commercial companies or by vloggers, content creators, influencers). I can explain what is meant by the term 'stereotype', how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes' may influence how people think about others. I can describe how fake news may affect someone's emotions and behaviour, and explain why this may be harmful I can explain what is meant by a 'hoax'. I can explain why someone would need to think carefully before they share. To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met, eg number of times To conclude that a loop can be used to repeatedly check whether a condition has been met To design a physical project that includes selection To create a controllable system that includes selection	To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model
Spring 2	Data and Information Grouping data Science – Everyday Materials	Data and information Pictograms Science – Living things and their Habitats	Creating Media Animation Science – Plants Geography – Investigation mountains and volcanoes	Creating Media Audio Editing Science - Sound I can recognise when someone is upset, hurt or angry online.	Programming Selection in quizzes I can describe ways technology can affect health and well-being both positively (e.g. mindfulness apps) and negatively.	Data and information Spreadsheets I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose.

	I can describe how to behave online in ways that do not upset others and can give examples. To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects	I can explain what bullying is, how people may bully others and how bullying can make someone feel. I can explain why anyone who experiences bullying is not to blame I can talk about how anyone experiencing bullying can get help. To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer	I can describe appropriate ways to behave towards other people online and why this is important.. I can give examples of how bullying behaviour could appear online and how someone can get support. To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation	I can describe ways people can be bullied through a range of media (e.g. image, video, text, chat). I can explain why people need to think carefully about how content they post might affect others, their feelings and how it may affect how others feel about them (their reputation). To identify that sound can be digitally recorded To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made	I can describe some strategies, tips or advice to promote health and wellbeing with regards to technology. 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 adults and professionals. I can explain how and why some apps and games may request or take payment for additional content (e.g. in-app purchases, lootboxes) and explain the importance of seeking permission from a trusted adult before purchasing. To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program	I recognise and can discuss the pressures that technology can place on someone and how / when they could manage this. I can recognise features of persuasive design and how they are used to keep users engaged (current and future use). I can assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise). To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data
Summer 1	Programming Introduction to animation I can recognise more detailed examples of information that is personal to someone (e.g where someone lives and goes to school, family names). To choose a command for a given purpose To show that a series of commands can be joined together	Creating Media Digital Photography Art – Digital Art I can use simple keywords in search engines I can demonstrate how to navigate a simple webpage to get to information I need (e.g. home, forward, back buttons; links, tabs and sections). I can explain what voice activated searching is and how it might be used, and know it is not a real person (e.g. Alexa, Google Now, Siri). I can explain the difference between things that are imaginary, 'made up' or 'make believe' and things that are 'true' or 'real'	Programming Events and Actions 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 To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context	Programming Repetition in Shapes I can explain how using technology can be a distraction from other things, in both a positive and negative way. 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. To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means	Creating Media Video Editing I can explain what app permissions are and can give some examples. To recognise video as moving pictures, which can include audio To identify digital devices that can record video To capture video using a digital device To recognise the features of an effective video	Programming Sensing Science – Functions of the Human Body I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser). I can explain what to do if a password is shared, lost or stolen. I can describe how and why people should keep their software and apps up to date, e.g. auto updates. To create a program to run on a controllable device

	To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program	I can explain why some information I find online may not be real or true. To know what devices can be used to take photographs To use a digital device to take a photograph To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that images can be changed	To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge	To modify a count-controlled loop to produce a given outcome To decompose a program into parts To create a program that uses count-controlled loops to produce a given outcome	To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video	To explain that selection can control the flow of a program To update a variable with a user input To use a conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device
Summer 2	Creating Media Digital Writing I can explain why it is important to always ask a trusted adult before sharing any personal information online, belonging to myself or others. To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare writing on a computer with writing on paper	Programming Introduction to quizzing I can explain and give examples of what is meant by 'private' and 'keeping things private'. I can describe and explain some rules for keeping personal information private (e.g. creating and protecting passwords). To explain that a sequence of commands has a start To explain that a sequence of commands has an outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved	Creating Media Desktop Publishing Geography – Looking at Europe I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable (e.g. age restricted gaming or web sites). To recognise how text and images convey information To recognise that text and layout can be edited: To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing	Programming Repetition in Games I can describe strategies for keeping personal information private, depending on context. I can explain that internet use is never fully private and is monitored, e.g. adult supervision. I can describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. I know what the digital age of consent is and the impact this has on online services asking for consent. To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design that includes two or more loops which run at the same time To modify an infinite loop in a given program	Data and Information Flat File Databases Geography – Climate across the World 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. To use a form to record information To compare paper and computer-based databases To outline how grouping and then sorting data allows us to answer questions To explain that tools can be used to select specific data To explain that computer programs can be used to	Creating Media Webpage Creation I can describe simple ways to increase privacy on apps and services that provide privacy settings. 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). I know that online services have terms and conditions that govern their use. To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages

				To design a project that includes repetition To create a project that includes repetition	compare data visually To apply my knowledge of a database to ask and answer real-world questions	To outline the need for a navigation path To recognise the implications of linking to content owned by other people

Red = safety objectives (one lesson per ½ term)

Black = computing

Green = cross curricular links