Year 6: Autumn

6.2 Online Safety

Enquiry Question	What are the positive and negative influences of technology?	
	Required Prior Knowledge	**Knowledge to be taught**
Declarative Knowledge	• It is important to log in to a site safely and to keep passwords safe. • Email is a way of communication and know that in this form of communication, as with others, you need to be considerate of the user. • The term digital footprint relates to information that a user puts online, and that this footprint may remain even when we think we have removed the information. • Blogs can help us to communicate our thoughts and ideas. • Everything put online leaves a trail known as a digital footprint. • The SMART rules are designed to keep children safe online. • Passwords need to be kept secure. • Sources should be referenced in work.	• A game can be created to encourage the player to think about online safety. • A digital footprint leaves a trail online to show their behaviour and this can have a negative impact. • It is important to balance game and screen time with other parts of our lives.
Procedural Knowledge	• It is important to log out when you have finished working as a way of securing personal accounts. • Can share work to a display board. • Know what is meant as a safe search. • Look at the ways to narrow down the search. • Set a password featuring a mix of letters, numbers and special characters. • Look for alternative ways to check the validity of information. • Consider why spoof websites exist. • Check PEGI / BBFC ratings to see if chosen media are suitable. • Define the word malware as a type of software designed	• Consider whether a digital footprint is positive or negative. • It may only be negative if what they have posted online may project a negative impression. • Contribute their information into a class database. • Analyse the data as a class. • Consider the positive and negative impact of technology on their education, well being and the environment.

	to cause viruses on your device or leave it unusable. Define a computer virus. • Think about the positive and negative influences of too much screen time. • Know the 5 different SMART rules and how these can keep users safe when online. Recover forgotten emails normally using email. • Keep passwords safe and secure and never share them. • Define what is meant by plagiarism.		
Vocabulary	**data analysis, digital footprint, inappropriate, location sharing, password, PEGI rating, phishing, print screen, screen time, secure websites, spoof**		
Learning Questions	**What are the risks online?**	**What is appropriate online behaviour and how can this protect me?**	**Can I identify the positive and negative influences of technology on health and the environment?**
Mastery Key	➢ Can identify the positive and negative influences of technology on health and the environment.		

Year 6: Autumn

6.4 Blogging

Enquiry Question	What is the purpose of writing a blog?	
	Required Prior Knowledge	**Knowledge to be taught**
Declarative Knowledge	• It is important to log in to a site safely and to keep passwords safe. • Work can be shared in a variety of ways. • Blogs can help us to communicate our thoughts and ideas. • Not everything online is factually correct, and some websites can be referred to as spoof websites. • Copying the work of others and presenting it as their own is called 'plagiarism'. • The SMART rules are designed to keep children safe online.	• A blog is an online vehicle for displaying thoughts and ideas in an informal style. • It is important to plan out the theme and content of a blog before writing it. • People can contribute to blogs by adding their own posts. • Blog posts written by others can be commented on.
Procedural Knowledge	• Tell a trusted adult if they search for something the results are inappropriate or upsetting. • Discuss with others that a digital footprint is a record of individuals' interactions online and that this is used to help search engines provide better results for individuals. • Use a blog or vlog to communicate ideas and thoughts. • Ascertain which information in a website maybe fake. • Be aware that a digital footprint can be positive or negative depending upon what they posted. • Identify plagiarism in text and talk about what it means. • Know the 5 different SMART rules and how these can keep users safe when online. Recover forgotten emails normally using email. • Consider what information should be shared online. • Define what is meant by plagiarism.	• Explain the difference between a blog and vlog. • Talk about the key features of a blog home page. • Talk about what makes a good blog post. • Plan out a blog post on a given theme using a concept map. • Open the blogging tool. • Create their own blog. • Add a comment to a blog post written by another student.
Vocabulary	**approval, archive, blog, blog post, collaborate, commenting, connections, nodes, vlog**	

Learning Questions	What is the purpose of a blog?	How do you plan the theme and content for a blog?	How does changing the visual properties of a blog have an effect on the audience?	Can I evaluate the blogs of my peers against success criteria? (2Blog)
Mastery Key	➢ Can create a blog that carefully considers the end user.			

Year 6: Summer

6.8 Understanding Binary

Enquiry Question	What is binary?	
	Required Prior Knowledge	**Knowledge to be taught**
Declarative Knowledge	• There are objects and action code block in the 2Code environment and that you can make a simple program using these. Each single instruction such as 'Object Right' is called a command. • An event is something that makes a block of code run such as a user pressing a key or clicking a screen. Event, object and action code blocks can be used together. • Computer programs need precise instructions to follow, and these are called algorithms. If instructions are vague, outcomes will vary for any given task. • The order of instructions for a task affects the results. • You can move a character (turtle) within specific computer programs around a computer screen such as 2Go by using direction keys. When a direction key is used it is known as a command. • A set of instructions is known as an algorithm. • Events in computer programs cause a block of code to be run. • Bugs are bits of code that are stopping a program from working how it was intended. • Debugging is the process of looking for any problems in code, fixing the problems and repeatedly testing them. • Flowcharts are a type of diagram that use specifically shaped labelled boxes and arrows to represent an algorithm as a diagram. • Objects can be sorted using yes/no questions and relate this to how computer binary databases work. • **If** statements are used to create selection in 2Code • **If/else** statements are a conditional command that tests a statement. • Simplified code runs faster and uses less processing	• Binary is a number system using only 1 and 0 and is how data in a computer is saved and used. • All denary numbers can be represented in binary. • It is possible to represent the state of an object in a game as active or inactive using the respective binary values of 1 or 0.

	memory, it is said to be more efficient. • A simulation is a model that represents a real or imaginary situation.	
Procedural Knowledge	• Explore the possible outcomes of following incorrectly sequenced instructions. • Find simple errors in a simple algorithm for making a sandwich. • Use the direction keys to make a character (turtle) on the screen move in different directions. Combine with diagonal commands. • Recognise the **timer block** and drag it into a program. • Recognise the **event command blocks.** • Insert a button into a design mode scene that contains other object types. • Run the code and check that the program is operating correctly. • Identify the point the flowchart starts. • Explain binary databases are also known as branching databases due to the branch-like structure. • Recognise how an **if** Statement in 2Code is being used to create selection within a simple program. Create selection within 2Code using **if** statement blocks within their own program. • Insert the if/else command within a program. Create an if/else statement using blocks of code. • Execute code with a variable within it. Use the variable watch to monitor how a variable changes as the program executes code. • Insert a **create function** and **call function** commands into a program and name it.	• Recall that anything that puts information into a computer is called an input. • Recall that the number system we use is based around 10 integers and known as denary. • Explain that computers use a binary system based around 2 integers - 0 and 1 and 0 refers to off and 1 refers to on. • Begin representing numbers in binary format. • Convert simple binary to denary and vice versa. • Use a program to convert their age to binary. • Make a simple program where objects are on or off.
Vocabulary	**Binary, bit, decimal, denary, digit, game states, integer, microprocessor, nanotechnology, nibble, byte, kilobyte, megabyte, gigabyte, terabyte, switch, transistor, variable**	

Learning Questions	**What is binary?**	**How do you count in binary?**	**How do you convert from decimal to binary?**	**Can I create my own program using binary and code? (2Survey)**
Mastery Key	➢ Can create own program using binary and code			

Year 6: Summer

6.9 Spreadsheets with Google

Enquiry Question	How can a spreadsheet help with planning an event?	
	Required Prior Knowledge	**Knowledge to be taught**
Declarative Knowledge	• Data is a collection of information, used to help answer questions. • A binary tree is a simple way of sorting information into two categories. • Graphs can be generated from data within a sheet. • A spreadsheet can be used to convert days into weeks or years. • A database can be used to search for information.	• There are key features of a spreadsheet, and they can enter data into cells. • Formulae can be entered into a spreadsheet, and this can save time. • A spreadsheet can be used to model a situation. • Sheets can make complex data clear by manipulating the way it is presented. • Formulae can be used for percentages, averages, max and min in spreadsheets. • A spreadsheet program can display a variety of graphs and charts. • They can use a spreadsheet to model a real-life situation.
Procedural Knowledge	• Represent data collected as a class using physically created pictograms. • Create a class pictogram using 2Count. • Use a pre-populated binary tree program such as 2Investigate to find answers. • Open a 2Investigate database and identify the records which make up a database. • Recall the different range of graphs and charts they have come across in other subjects as well as computing including pie and bar. • Switch to advanced or formula mode in a spreadsheet program. • Click in a given cell by using the cell address. • Complete a task to show their knowledge of cell addresses. • Are familiar with the look and feel of Google tools. • Write a simple formula. • Open up the formula toolbar. • Can represent data in 2Investigate. • Ask questions to encourage their peers to interrogate the	• Enter data into cells of the chosen program. • Write a simple formula related to the rules of calculation. • Use the series fill function. • Use formulae to change calculations automatically when data entered is changed. • Format cells as currency. • Define a delimiter and be aware of the different delimiter options. • Sort data in a sheet using the appropriate feature.

	database.					
Vocabulary	**Auto fit, calculation, computational model, conditional formatting, currency, data, delimiter, expense, filter, flash-fill, formatting, formula bar, horizontal axis, profit, range, template, text wrapping, vertical axis, workbook**					
Learning Questions	**What is a spreadsheet?**	**What is the series fill function?**	**What is the SUM function?**	**Can I use a spreadsheet to plan an event?**	**How do you use Sheets to create a variety of charts?**	**Can I use a spreadsheet to plan an event? (Google Sheets)**
Mastery Key	➢ Can create a spreadsheet to support the planning of an event					