Computing Overview 2023 - 2024

Southwold Primary & Nursery School

Terms	Online Safety	Cycle B Y1&2	Cycle A Y1&2	Cycle B Y3&4	Cycle A Y3&4	Cycle B Y5&6	Cycle A Y5&6
1	SMART rules- 'S' Self-Image & Identity Privacy and security	**(CS) PROGRAMMING** **Moving a robot** 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. Beebots	**(CS) PROGRAMMING** **Robot algorithms** 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. Quickest journey for BeeBots	**(IT) MULTIMEDIA** **Desktop publishing** 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. 2Publish	**(IT) MULTIMEDIA** **Photo editing** 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. Editing digital images/ fake images on www.getpaint.net/	**(CS) PROGRAMMING** **Selection in physical computing** 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, e.g., 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. Micro:bit	**(CS) PROGRAMMING** **Variables in games** 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. Scratch Animated with sound
2	SMART rules 'T' Online Bullying (Basics to link in with National 'Anti-bullying Week')	**(IT) MULTIMEDIA** **Digital painting** To describe what different freehand tools do. To use the shape tool and the line tools. 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. '2Paint' Use variety of artists' techniques!	**(IT) MULTIMEDIA** **Digital photography** 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. Pixlr app	**(DL) TECHNOLOGY IN OUR LIVES** **Connecting computers** 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. Digital & non-Digital Devices, inputs, outputs, processes, Network by connecting devices.	**(DL) TECHNOLOGY IN OUR LIVES** **The internet** 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. To describe how content can be added and accessed on the World Wide Web. To recognise how the content of the WWW is created by people. To evaluate the consequences of unreliable content. Understand school network drive. WWW, evaluate online content.	**(IT) MULTIMEDIA** **Vector drawing** 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. Google Drawings, Microsoft Word	**IT) MULTIMEDIA** **Web page creation** 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 outline the need for a navigation path. To recognise the implications of linking to content owned by other people. Web page creation Sway Webpage on PurpleMash

3	**SMART rules- 'M'** **Online Reputation**	**(IT)** **HANDLING DATA** **Grouping data** 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. '2Investigate'- hoop sort	**(IT)** **HANDLING DATA** **Pictograms** 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. '2Count' to present information as a pictogram '2Investigate'- hoop sort	**CS) PROGRAMMING** **Sequencing Sounds** To explore a new programming environment. I can identify that each sprite is controlled by the commands I choose. 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. Intro Scratch to sequence sounds for a game	**(CS) PROGRAMMING** **Repetition in shapes** To identify that accuracy in programming is important. To create a program in a text-based language To explain what 'repeat' means. 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. 2Logo- Making shapes with repetition loops	**(IT)** **HANDLING DATA** **Flat-file databases** 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 compare data visually. To apply my knowledge of a database to ask and answer real-world questions. 2Investigate 2Calculate	**(IT)** **HANDLING DATA** **Spreadsheets** To identify questions which can be answered using data. To explain that objects can be described using data. To explain that formula 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. Plan an event using Excel / 2Calculate
4	**SMART rules 'A'** **Health, well-being, and lifestyle** **Copyright and ownership**	**(IT)** **MULTIMEDIA** **Digital writing** 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. 2Create a Story	**(IT)** **MULTIMEDIA** **Making music** 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. Music 2Beat or 2sequence to accompany a story	**(IT) MULTIMEDIA** **Stop-frame animation** 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. Stop Frame Animation/ 2Animate to retell a story	**(IT) MULTIMEDIA** **Audio editing** 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. Audacity / Busy Beat- Create Music to match a story.	**IT) MULTIMEDIA** **Video editing** 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. 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. Video editing- Greenscreen 'Do Ink' to produce a report about circulation system	**(IT) MULTIMEDIA** **3D modelling** To use a computer to create and manipulate three- dimensional (3D) digital objects. 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. 2Design & make / https://www.tinkercad.com/ - Produce 3D models

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| 5 | **SMART rules 'R'**

Online Relationships | **(DL) TECHNOLOGY IN OUR LIVES**

Technology around us
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. | **(DL) TECHNOLOGY IN OUR LIVES**

Information technology around us
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. | **(IT) HANDLING DATA**

Branching databases
To create questions with yes/no answers.
To identify the object attributes needed to collect relevant data.
To create a branching database.
To identify objects using a branching database.
To explain why it is helpful for a database to be well structured.
To compare the information shown in a pictogram with a branching database.
Play Guess Who

2Question branching database
2Investigate recycling- collect, input data & create a simple database, presenting in different ways. | **(IT) HANDLING DATA**

Data logging
To explain that data gathered over time can be used to answer questions.
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.
Google Science Journal app | **(DL) TECHNOLOGY IN OUR LIVES**

Systems and Searching
To explain that computers can be connected together to form systems.
To recognise the role of computer systems in our lives
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.
Transfer of info between systems & devices, collaborative online eco project-2Connect/2Blog | **(DL) TECHNOLOGY IN OUR LIVES**

Communication& collaboration
To explain the importance of internet addresses
To recognise how data is transferred across the internet.
To explain how sharing information online can help people to work together.
To evaluate different ways of working together online.
To recognise how we communicate using technology.
To evaluate different methods of online communication.
WWW as commuictaion tool, refined searches, share recycling info by Class blog 2Blog/ 2 Email |
| 6 | **4Rs**

Managing Online Information | **(CS) PROGRAMMING**

Introduction to animation
To choose a command for a given purpose.
To show that a series of commands can be joined together.
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.

Scratch Jr (2Code- laptops) | **(CS) PROGRAMMING**

Introduction to quizzes
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.

Scratch Jr (2Code- laptops)

design, test & debug, use coded blocks, repeat & timer blocks, extend algorithm. | **(CS) PROGRAMMING**

Events and actions
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.
To develop my program by adding features.
To identify and fix bugs in a program.
To design and create a maze-based challenge..
Scratch events & actions

Predict, improve algorithms.
by debugging and use sequences & repetition. | **(CS) PROGRAMMING**

Repetition in games
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 which includes two or more loops which run at the same time
To modify an infinite loop in a given program.
To design a project that includes repetition.
To create a project that includes repetition.
Scratch animated scene | **(CS) PROGRAMMING**

Selection in quizzes
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.
Scratch quiz | **(CS) PROGRAMMING**

Sensing
To create a program to run on a controllable device.
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.

Micro:bit. Sensing
create own design step counter, deconstruct & analyse a more complex template. |