South Brent Primary School - Subject Overview

COMPUTING

At South Brent Primary School we aim for each pupils to have - Essential Computing Characteristics:

- Competence in coding for a variety of practical and inventive purposes, including the application of ideas within other subjects.
- The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity.
- An understanding of the connected nature of devices.
- The ability to communicate ideas well by using applications and devices throughout the curriculum.
- The ability to collect, organise and manipulate data effectively.

COMPUTING						
Cycle	**A**			**B**		
	Autumn	**Spring**	**Summer**	**Autumn**	**Spring**	**Summer**
Unit 1&2	We are Treasure Hunters We are Zoologists	We are Celebrating We are Photographers	We are Collectors We are Detectives	We Are Story Tellers We are Astronauts	We are Painters We are Games Testers	We are TV Chefs We are Researchers
Unit 3&4	Programming an Animation Finding and correcting bugs in programs	Communicating safely on the internet Exploring computer networks, including the internet	Collecting and analysing data Video a performance	Programming an Animation Finding and correcting bugs in programs	Communicating safely on the internet Exploring computer networks, including the internet	Collecting and analysing data Video a performance
	Software Development Producing Digital Music	Presenting the Weather We are toy designers	Writing and Editing HTML Producing a WIKI	Software Development Producing Digital Music	Presenting the Weather We are toy designers	Writing and Editing HTML Producing a WIKI
Unit5&6	Planning the creation of a mobile app We are project managers	We are market researchers We are interface designers	We are app developers We are marketers	Developing an interactive game Cracking codes	Fusing geometry and art Creating a website about cyber safety	We are bloggers We are architects

	Milestone 1 - (Years 1&2)	**Milestone 2 -** (Years 3&4)	**Milestone 3 -** (Years 5&6)
Code - This concept involves developing an understanding of instructions, logic and sequences.			
Motion	• Control motion by specifying the number of steps to travel, direction and turn.	• Use specified screen coordinates to control movement.	• Set IF conditions for movements. Specify types of rotation giving the number of degrees.
Looks	• Add text strings, show and hide objects and change the features of an object.	• Set the appearance of objects and create sequences of changes.	• Change the position of objects between screen layers (send to back, bring to front).
Sound	• Select sounds and control when they are heard, their duration and volume.	• Create and edit sounds. Control when they are heard, their volume, duration and rests.	• Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
Draw	• Control when drawings appear and set the pen colour, size and shape.	• Control the shade of pens.	• Combine the use of pens with movement to create interesting effects.
Events	• Specify user inputs (such as clicks) to control events.	• Specify conditions to trigger events.	• Set events to control other events by 'broadcasting' information as a trigger.
Control	• Specify the nature of events (such as a single event or a loop).	• Use IF THEN conditions to control events or objects.	• Use IF THEN ELSE conditions to control events or objects.
Sensing	• Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).	• Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).	• Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
Variables and lists	• **From Year 3 onwards.**	• Use variables to store a value. • Use the functions define, set, change, show and hide to control the variables.	• Use lists to create a set of variables.
Operators	• **From Year 3 onwards.**	• Use the Reporter operators () + (), () - (), () * () and () / () to perform calculations.	• Use the Boolean operators () < (), () = (), () > (), ()and(), ()or(), Not() to define conditions. • Use the Reporter operators () + (), () - (), () * () and () / () to perform calculations. Pick Random () to (), Join () (), Letter () of () Length of () This reports the remainder after a division calculation, Round () () of ().

Connect - This concept involves developing an understanding of how to safely connect with others.			
	• Participate in class social media accounts. • Understand online risks and the age rules for sites.	• Contribute to blogs that are moderated by teachers. • Give examples of the risks posed by online communications. • Understand the term 'copyright'. • Understand that comments made online that are hurtful or offensive are the same as bullying. • Understand how online services work.	• Collaborate with others online on sites approved and moderated by teachers. • Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. • Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. • Understand the effect of online comments and show responsibility and sensitivity when online. • Understand how simple networks are set up and used.

Communicate - This concept involves using apps to communicate one's ideas.			
	• Use a range of applications and devices in order to communicate ideas, work and messages.	• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.	• Choose the most suitable applications and devices for the purposes of communication. • Use many of the advanced features in order to create high quality, professional or efficient communications.
Collect - This concept involves developing an understanding of databases and their uses.			
	• Use simple databases to record information in areas across the curriculum.	• Devise and construct databases using applications designed for this purpose in areas across the curriculum.	• Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.