Computing overview and intent

At Colindale Primary School it is out intent to teach pupils computing skills that will support them in using computing across a broad variety of subjects and fields of learning.

- Pupils will learn how to work with programmable equipment and software and develop their own programs to solve problems.
- Pupils will use various software to develop literacy & mathematical skills as well as to develop a scientific approach to analyse data and question authenticity.
- Pupils will learn how to develop their own designs and creative outlets.
- Pupils will learn how to navigate themselves around different systems and make connections on different platforms to facilitate their learning and support their understanding of computing.
- Pupils will learn how to work safely on the Internet and will learn how to communicate appropriately with different audiences.

Pupils will develop their skills in these different areas as they move through the school. They will be encouraged to question how ideas are developed and how they can be improved. To look for emerging patterns and use various software to solve problems and develop their own creativity.

Many of our school platforms are accessible via secure logins, where parents and pupils are encouraged to access and use as part of our home learning approach to deepen learning.

<table>
<tr><td>Nursery</td><td><u>Various Hardware:</u>
Interactive Boards (touch screen)
Computers with Keyboard and Mouse
iPads with teachers
Digital Cameras
Beebots (programmable toy on wheels)
Remote control toys</td><td><u>Online Resources:</u>
Espresso
BBC
LGfL Resources (Busy Things, Talking Stories, Barnaby Bear, j2a)
Phonics Play
TES iBoard
ICT Games
Top Marks</td><td><u>Software:</u>
2Simple
Colour Magic
Tapestry</td></tr>
<tr><td>Reception</td><td>Torches
Lightboxes
Walkie Talkies
Microwave
Easi speaks
Talking tins</td><td></td><td></td></tr>
<tr><td></td><td>Autumn</td><td>Spring</td><td>Summer</td></tr>
<tr><td>Year 1</td><td>Typing Text <u>2Simple, Clicker, Word</u>

Drawing pictures <u>2Simple, Colour Magic</u>

Creating music <u>Compose World, 2Simple</u>

Coding/Control <u>Beebots, J2Code, 2Simple</u>

Making graphs <u>2Simple</u>

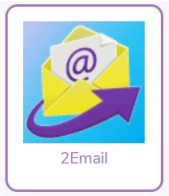
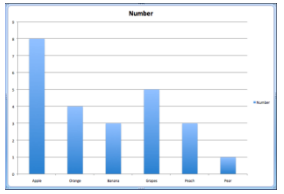
Online Safety

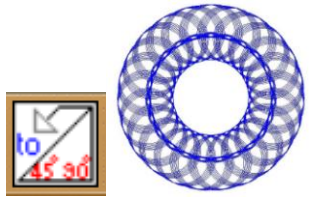
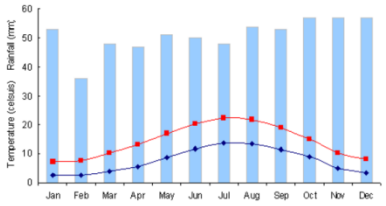
UNICEF article 17: Every child has the right to information from the media.</td><td><u>Resources:</u>
Espresso
LGfL for maths,
Talking Stories,
games
My World
Sound Recorder
Camera

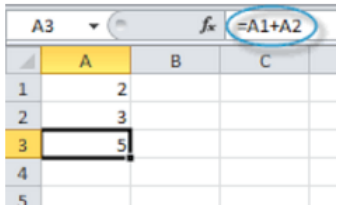
UNICEF article 29: Every child has the right to the goals of education.</td><td><u>Off Line activities:</u>
Giving instructions to one another (one child blindfolded)
Using the keyboard/calculator in creative play in ‘home corner’
Making check lists and collecting information
Explain a series of instructions that have a logical order
Organise objects according to shape/colour/size
Select items according to their properties

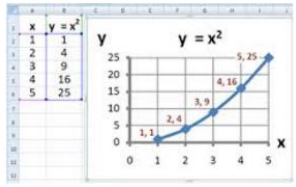
British Values: Rule of Law; Individual liberty.</td></tr>
</table>

	Autumn	Spring	Summer
Year 2	**PowerPoint** Create a presentation with text and graphics. Use the internet to search and copy and/or save images. ***English/History*** ***UNICEF article 17: Every child has the right to information from the media.*** **Colour Magic/2Simple** ***Art*** ***UNICEF article 13: Every child has the right to freedom of expression.*** 	Online Safety Week in February ***Computing*** ***UNICEF article 16: Every child has the right to privacy.*** **British Values: Rule of Law; Individual liberty.** **Beebots & Purple Mash** Give instruction that a computer would understand. Design a sequence of instructions for objects to travel from one position to another. ***Computing*** **Textease** Create databases on paper with fields and records. Ask questions and search records to retrieve information. Put information onto the database. Ask the same questions on the computer. Compare and contrast different ways of searching the database. ***Computing***	**2Simple Graphs** After collecting information and making class graphs and their own graphs, put data into 2Simple and create graphs on the computer. Compare and contrast different graphs ***Maths*** ***UNICEF article 29: Every child has the right to the goals of education.*** **Beebots/Textease Turtle/J2Code** Use Beebot skills to move a turtle onscreen around mazes and various maps. Begin to use a series of instructions. ***Computing*** 

	Autumn	Spring	Summer
Year 3	 **Email - Teams & 2Email** Use school intranet to improve communication and develop opportunities for learning. Open and respond to emails, learn how to use emails safely and learn how to add attachments. ***Computing/English*** ***UNICEF article 16: Every child has the right to privacy.*** ***UNICEF article 13: Every child has the right to freedom of expression.*** **Coding – 2Code** Explore program design and put computational thinking into practice. ***Computing/Maths*** 	**Online Safety Week in February** ***Computing*** ***UNICEF article 16: Every child has the right to privacy.*** **British Values: Rule of Law; Individual liberty.** **Branching Database – 2Question Databases** Create branching databases on given topics. Learn how to classify and query databases on the function of different skeletons and bones. ***Computing/Science*** ***UNICEF article 17: Every child has the right to information from the media.*** 	**Spreadsheets & Graphing - Excel** Creating graphs from data using Excel formulas. ***Computing/Maths*** ***UNICEF article 29: Every child has the right to the goals of education.***  **Simulations – Purple Mash – 2Simulate** Explore what a simulation is and understand their purpose. Analyse and evaluate simulations. ***Computing*** 

	Autumn	Spring	Summer
Year 4	**Online Communication - Teams** Use school intranet to improve communication and develop opportunities for learning. Respond to messages and assignments. ***Computing/Cross Curricular*** **Coding – 2Code** Explore program design and put computational thinking into practice. ***Computing/Maths***  **Animation** Visiting specialist using children's stories to create pictures of scenes and props, photographed with voice recordings to re-enact the story. Completed work published on You Tube. ***Computing/English*** ***UNICEF article 17: Every child has the right to information from the media.*** **British Values: Rule of Law; Individual liberty.** 	**Online Safety Week in February** ***Computing*** ***UNICEF article 16: Every child has the right to privacy.*** **British Values: Rule of Law; Individual liberty.** **Effective Searching – 2Connect** To locate information and search effectively. To assess whether an information source is true or false. ***Computing/Cross-Curricular***  **Coding LOGO** Create repeat rotation patterns. Changing the colour, shape and rotation. ***Computing/Maths*** ***UNICEF article 29: Every child has the right to the goals of education.***	**Spreadsheets & Graphing - Excel** Creating bar and line graphs about populations and weather ***Computing***  **Hardware** Name the different parts of a desktop computer. Know what the functions of the different parts of a computer are. Create a leaflet to show the function of computer parts. ***Computing*** **Writing for different audiences- Word** Creating linked pages with an Index Page. ***English/Science*** ***Computing*** ***UNICEF article 13: Every child has the right to freedom of expression.*** **British Values: Rule of Law; Individual liberty.**

	Autumn	Spring	Summer
Year 5	**Online Communication - Teams** Use school intranet to improve communication and develop opportunities for learning. Respond to messages and assignments. ***Computing/Cross Curricular*** **3D modelling – 2Design and Make** Explore how to edit 3D polygon models to design a 3D model for a purpose. Print a design as a 2D net and then create a 3D model. Explore the possibilities of 3D printing. ***Computing/Maths***  **Coding – 2Code** Explore program design and put computational thinking into practice. ***Computing/Maths*** 	**Online Safety Week in February** ***Computing*** ***UNICEF article 16: Every child has the right to privacy.*** **British Values: Rule of Law; Individual liberty.** **Databases- 2Investigate** Learn how to search for information on a database. To create a database around a given subject. ***Computing/Cross Curricular*** ***UNICEF article 17: Every child has the right to information from the media.*** **Game Creator – Scratch/Python** Review and analyse a computer game. Describe some of the elements that make a successful game. Design settings, character, animations and sounds for a game. Write informative instructions for their game so that other people can play it. ***Computing/Maths*** python™	**Word Processing- Word** Make a document from a blank page, insert & edit images, use page breaks, headers, and footers. Link pages using hyperlinks or an automated contents page. ***English/History*** ***UNICEF article 13: Every child has the right to freedom of expression.***  **Spreadsheets- Excel** Creating a budget using formulas ***Computing/Maths*** ***UNICEF article 29: Every child has the right to the goals of education.*** 

	Autumn	Spring	Summer
Year 6	**Blogging – 2Blog** Understand how a blog can be used as an informative text. Work collaboratively to plan a blog using key features. Understand the approval process that their posts go through to demonstrate an awareness of issues surrounding inappropriate posts and cyberbullying. ***Computing/English*** ***UNICEF article 13: Every child has the right to freedom of expression.***  2Blog **Coding – 2Code & Crumble** Explore program design and put computational thinking into practice. Design and code a light show using a Crumble controller and multiple Sparkle. ***Computing/D&T***   	**Online Safety Week in February** ***Computing*** ***UNICEF article 16: Every child has the right to privacy.*** **Networks- The Internet** Explore how networks work, understand computer networks including the internet, learn how they provide multiple services, such as the World Wide Web and explore the opportunities they offer for communication and collaboration. ***Computing*** ***UNICEF article 17: Every child has the right to information from the media.*** ***British Values: Rule of Law; Individual liberty.*** **Quizzing & Text Adventures 2Code/Python** Create a text-based adventure based upon a map. Use code concepts of functions and two-way selection (if/else statements). Make logical attempts to debug game code when it does not work correctly. ***Computing***  	**Binary – Scratch/Python** Recognise that digital systems represent all types of data using number codes that are ultimately patters of 1s and 0s (called binary digits, which is why they are called digital systems). ***Computing/Maths***  **Spreadsheets- Excel** Create graphs for algebraic equations. ***Maths*** ***UNICEF article 29: Every child has the right to the goals of education.***  **Microsoft Movie Maker** Use role play and film to create stories. Edit, add text, titles and music to develop presentations to create response in different audiences. ***Computing/English***