

- 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

**Key Learning Objectives** 

- To code
- To connect
- To communicate
- To collect



Key Stage 1	Key Stage 2
• Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions.	• Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
• Write and test simple programs.	<ul> <li>Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate</li> </ul>
<ul> <li>Use logical reasoning to predict the behaviour of simple programs.</li> </ul>	inputs and predicted outputs to test programs.
<ul> <li>Organise, store, manipulate and retrieve data in a range of digital formats</li> </ul>	<ul> <li>Use logical reasoning to explain how a simple algorithm works, detect and correct errors in algorithms and programs.</li> </ul>
• Communicate safely and respectfully online, keeping personal information private and recognise common uses of information technology beyond school.	• Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration.
cecimology beyond schoon	• Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely.
	• Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.



WALT	Description and ideas
Save and retrieve digital content (files)	Learn how to log on to and where to save files on the school system in order to be able to find them in the future.
Use the internet	Show children some websites suitable for children's age. Discuss which websites children use at home. Allow them to navigate the pages. How do they know which pages are suitable for them? What should they do to avoid unsuitable pages and if they did come across anything inappropriate?
Write algorithms (instructions)	Talk about instructions children have to follow. Give instructions to each other. How specific do they have to be? Play Simon Says. Explain how to draw a picture etc. Discuss the fact that computers only follow very specific instructions. Program Probots/Beebots to go on journeys or draw simple shapes. Ext – Use Logo Can children identify things in their home or around school that are programed to follow instructions (dishwasher etc). All of these are computers.
Type on a keyboard and change the font and font size.	Use word processing software to make a card or other product (ideally to actually send/use) including text and images (either from clip art or the internet
Add images to a document	
Use a drawing package	Become familiar with some drawing software. Work on improving hand/eye coordination with the mouse and using a range of tools

WALT	Description and ideas
Use the internet to find information and pictures	Children to use search engines to find facts and images. Searches can be single word or a few words but shouldn't be full sentences. Children could save images or copy and paste them, along with some text.
Copy and paste	
Make posters	Use Microsoft Word or Publisher to produce a poster including text,
(or similar)	images and Word Art.
	Children could take photos to copy and paste in as well
Make graphs	Children to understand and produce branching databases. This may
and databases	be done on computers, but this is not essential. This could be
	combined with Science (sorting minibeasts for instance).
	Children to produce graphs to represent data.
Write	Children to use Probots to draw shapes. Allow children to experiment
algorithms with	with what they can draw initially then move onto trying to draw a

repeat loops	square. Aim to use repeat button. Children to insert a pen to dra the shape when they're happy with their instructions. Give childr instructions. Can children work out what the Probot will draw? Introduce Logo and language associated with it. Children will be learning a new language! Give children time to experiment with what they can do with Log then challenge to draw a square. Debugging may be needed. Giv children other shape challenges. Again work on debugging. Can children draw a picture? A house for example. They may nee use `pen up' or change colour.	
I can use the internet safely	ThinkUKnow 5-7 Unit	



## Computing

KS2

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Group						
3	Producing instruction s (code) with Crystal Rainforest and Logo Dance mat typing	Using the internet: Working on browsing safely, navigating websites, using Favourites, sending and receiving emails and saving things online with Fronter.	Writing algorithms and creating flow charts with 'if' statements in CoCo to control the clown. Dance mat typing	Using a range of tools in photo editing and Art software Dance mat typing	Stop frame animation. Creating images and using animation software to produce an animation.	Writing code to produce movement s and costume changes using Scratch.
4	Use Crystal Rainforest to create algorithms with component parts in procedures	Search Engines: Learning how to use them effectively, safely and understandi ng how Google works.	Producing code to create animations in Scratch. Produce a music video or lesson using linear	Spreadshee ts and databases: Producing graphs and using simple formulae in Excel and producing databases	Writing algorithms and creating flowcharts with 'if' and 'when' statements in CoCo to control the house and	Produce code to create a maze game using Scratch – use the range of control blocks: `when', `if',

		Learn about networks and how our school network works. Dance mat typing	instruction s and a range of stages for backgroun ds.	to sort data.	traffic lights.	`if else', `if touching'.
5	Focus on — debugging code in Scratch Progress to creating game with levels and a range of sprites, each with their own scripts	Dance mat typing	Create a 3D world for characters using Kodu Learn the different process for creating algorithms , but noting similarity in language and process	Learning to use the Internet. Understandi ng the importance of using social media safely and appropriatel y Leaning to use PowerPoint to create an interesting presentatio n	Learning the principles of computer science of binary code and how images are stored and sent between computers.	Extending the use of producing code and using creativity using Scratch or Kodu
6	Learning the principles of computer science of text compressi on and error detection and correction Dance mat typing	Creating presentatio ns using Prezi and Composing music using Audacity	Creating websites: Using Microsoft Expression Web and learning some HTML code to create a website suitable for publishing		Using Excel- writing formulae to calculate, writing 'if' and 'and' statements and sorting lists	Extending the use of code language using Code Academy python course Learning about blogging and social media, focusing on using these media sensibly and responsibly