

**Computer science** 

Information technology

**Digital literacy** 

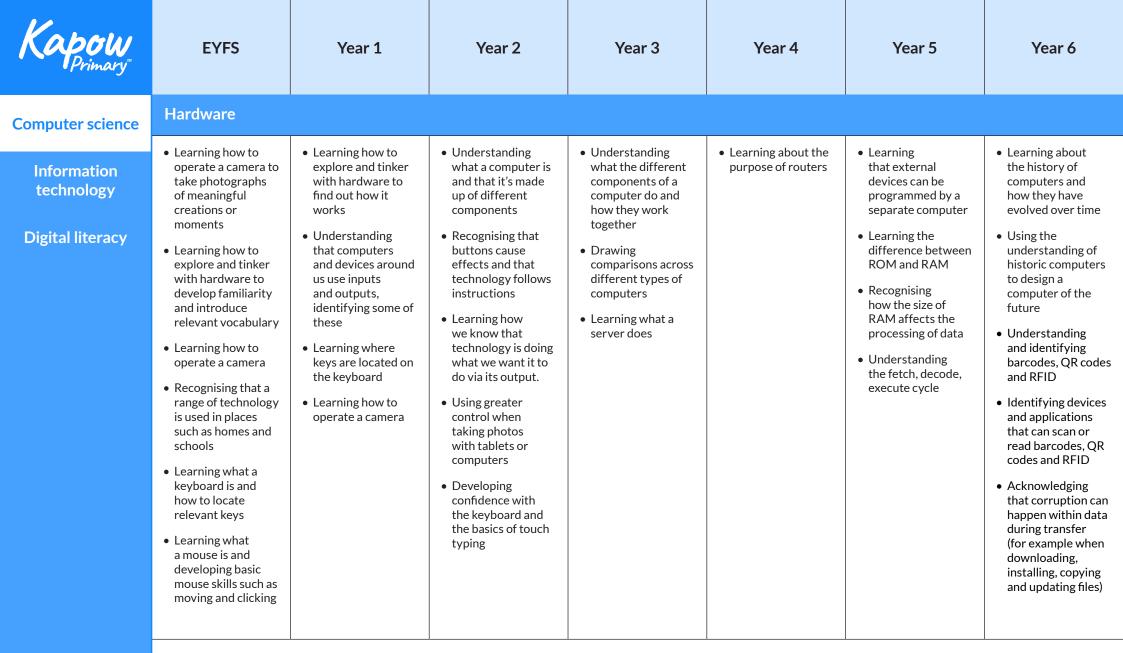


## Computing Progression of Skills

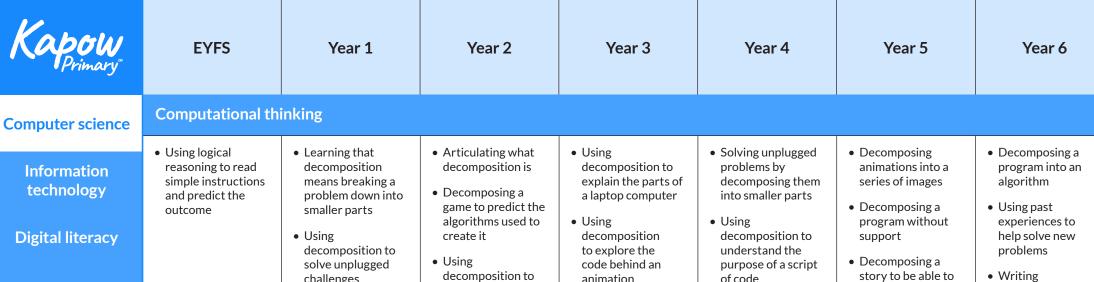
Computer science 02

Information technology 06

Digital literacy 09



Kapow Primary	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer science	Networks and dat	a representation					
Information technology  Digital literacy				Learning what a network is and its purpose      Identifying the key components within a network, including whether they are wired or wireless      Recognising links between networks and the internet      Learning how data is transferred	<ul> <li>Consolidating understanding of the key components of a network</li> <li>Understanding that websites &amp; videos are files that are shared from one computer to another</li> <li>Learning about the role of packets</li> <li>Understanding that computer networks provide multiple services, such as the World Wide Web, and opportunities for communication and collaboration</li> </ul>	Learning the vocabulary associated with data: data and transmit  Learning how the data for digital images can be compressed  Recognising that computers transfer data in binary and understanding simple binary addition  Relating binary signals (Boolean) to the simple character-based language, ASCII  Learning that messages can be sent by binary code, reading binary up to 8 characters and carrying out binary calculations  Understanding how bit patterns represent images as pixels	Understanding that computer networks provide multiple services



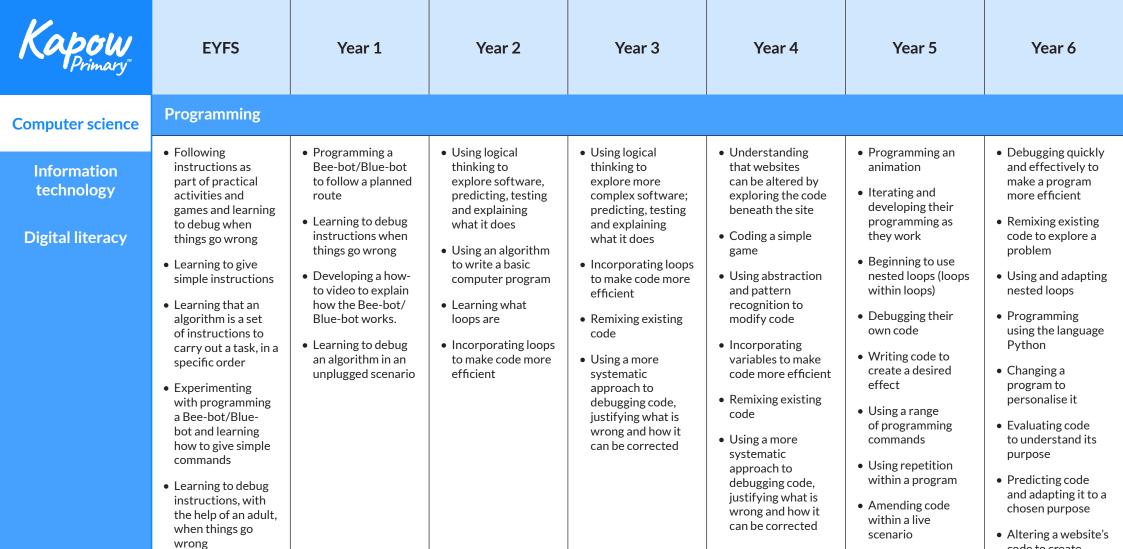
- challenges
- Using logical reasoning to predict the behaviour of simple programs
- Developing the skills associated with sequencing in unplugged activities
- Learning that an algorithm is a set of step by step instructions used to carry out a task. in a specific order
- Follow a basic set of instructions
- Assembling instructions into a simple algorithm

- decompose a story into smaller parts
- Learning what abstraction is
- Learning that there are different levels of abstraction
- Explaining what an algorithm is
- Following an algorithm
- Creating a clear and precise algorithm
- Learning that computers use algorithms to make predictions
- Learning that programs execute by following precise instructions
- Incorporating loops within algorithms

- animation
- Using repetition in programs
- Understanding that computers follow instructions
- Using an algorithm to explain the roles of different parts of a computer
- Using logical reasoning to explain how simple algorithms work
- Explaining the purpose of an algorithm
- Forming algorithms independently

- of code
- Using decomposition to help solve problems
- Identifying patterns through unplugged activities
- Using past experiences to help solve new problems
- Using abstraction to identify the important parts when completing both plugged and unplugged activities
- Creating algorithms for a specific purpose

- plan a program to tell a story
- Predicting how software will work based on previous experience
- Writing more complex algorithms for a purpose
- increasingly complex algorithms for a purpose



code to create changes

Kapow	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer science	Using software						
Information technology  Digital literacy	Using a simple online paint tool to create digital art	Using a basic range of tools within graphic editing software  Taking and editing photographs  Understanding how to create digital art using an online paint tool  Developing control of the mouse through dragging, clicking and resizing of images to create different effects  Developing understanding of different software tools	<ul> <li>Developing word processing skills, including altering text, copying and pasting and using keyboard shortcuts</li> <li>Using word processing software to type and reformat text</li> <li>Using software to create story animations</li> <li>Creating and labelling images</li> </ul>	Taking photographs and recording video to tell a story.      Using software to edit and enhance their video adding music, sounds and text on screen with transitions	<ul> <li>Building a web page and creating content for it</li> <li>Designing and creating a webpage for a given purpose</li> <li>Use Google online software for documents, presentations, forms and spreadsheets.</li> <li>Work collaboratively with others</li> </ul>	Using logical thinking to explore software more independently, making predictions based on their previous experience  Using software programme Sonic Pi to create music  Using the video editing software: to animate  Identify ways to improve and edit programs, videos, images etc.  Independently learning how to use 3D design software package TinkerCAD	Using logical thinking to explore software independently, iterating ideas and testing continuously  Using search and word processing skills to create a presentation  Planning, recording and editing a radio play  Creating and editing sound recordings for a specific purpose  Creating and editing videos, adding multiple elements: music, voiceover, sound, text and transitions to create a video advert  Using design software TinkerCAD to design a product
							Creating a website with embedded links and multiple pages

Kapow Primary	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6			
Computer science	Using email and th	Using email and the internet								
Information technology Digital literacy	Participating     in group image     searches, led by the     teacher	Searching and downloading images from the internet safely		<ul> <li>Learning to log in and out of an email account</li> <li>Writing an email including a subject, 'to' and 'from'</li> <li>Sending an email with an attachment</li> <li>Replying to an email</li> </ul>		Developing searching skills to help find relevant information on the internet      Learning how to use search engines effectively to find information, focussing on keyword searches and evaluating search returns	Understanding how search engines work			
	Using data									
	Representing data through sorting and categorising objects in unplugged scenarios     Representing data through pictograms     Exploring branch databases through physical games	<ul> <li>Introduction to spreadsheets</li> <li>Representing data in tables, charts and pictograms</li> <li>Sorting data and creating branching databases</li> <li>Identifying where digital content can have advantages over paper when storing and manipulating data</li> </ul>	<ul> <li>Collecting and inputting data into a spreadsheet</li> <li>Interpreting data</li> </ul>	<ul> <li>Understanding the vocabulary associated with databases: field, record, data</li> <li>Learning about the pros and cons of digital versus paper databases</li> <li>Sorting and filtering databases to easily retrieve information</li> <li>Creating and interpreting charts and graphs to understand data</li> </ul>	Designing a weather station which gathers and records sensor data	Understanding how data is collected	<ul> <li>Understanding how barcodes, QR codes and RFID work</li> <li>Gathering and analysing data in real time</li> <li>Creating formulas and sorting data within spreadsheets</li> </ul>			

Kapow Primary	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
Computer science	Wider use of technology								
Information technology Digital literacy		<ul> <li>Recognising common uses of information technology, including beyond school</li> <li>Recognising uses of technology beyond school</li> </ul>	Learning how computers are used in the wider world	Understanding the purpose of emails.	Understanding that software can be used collaboratively online to work as a team	Learning what a search engine is	<ul> <li>Learning about the Internet of Things and how it has led to 'big data'.</li> <li>Learning how 'big data' can be used to solve a problem or improve efficiency</li> </ul>		

Kapow Primary**	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer science Information technology Digital literacy	<ul> <li>Recognising that a range of technology is used in places such as homes and schools</li> <li>Learning to log in and log out</li> <li>When using the internet alongside an adult, or independently, learning what to do if they come across something that worries them or makes them feel uncomfortable</li> </ul>	Logging in and out and saving work on their own account      Understand the importance of a password      When using the internet to search for images, learning what to do if they come across something online that worries them or makes them feel uncomfortable	Understanding how to stay safe when talking to people online. Not sharing personal information and what to do if they see or hear something online that makes them feel upset or uncomfortable	Learning to be a responsible digital citizen; understanding their responsibilities to treat others respectfully and recognising when digital behaviour is unkind      Learning about cyberbullying      Learning that not all emails are genuine, recognising when an email might be fake and what to do about it	<ul> <li>Recognising         what appropriate         behaviour is when         collaborating with         others online</li> <li>Recognising that         information on the         Internet might not         be true or correct         and that some         sources are more         trustworthy than         others</li> </ul>	<ul> <li>Identifying possible dangers online and learning how to stay safe.</li> <li>Creating an animation about digital safety</li> <li>Recognising that information on the Internet might not be true or correct and learning ways of checking validity</li> <li>Learning to use an online community safely</li> </ul>	<ul> <li>Understanding the importance of secure passwords and how to create them</li> <li>Using search engines safely and effectively</li> <li>Recognising that updated software can help to prevent data corruption and hacking</li> </ul>