Bury and Whitefield
JEWISH PRIMARY SCHOOL

Computing

Curriculum Overview

Our Curriculum Celebrates

Resilience

Creativity

Critical Thinking

Curiosity

Challenge

Culture

Cycle A							
Autumn							
EYFS		**KS1**		**LKS2**		**UKS2**	
Computing through continuous provision	Using a computer	Improving Mouse Skills	Algorithms	Emailing	Programming: Scratch	Micro:bit	Mars Rover
Spring							
EYFS		**KS1**		**LKS2**		**UKS2**	
All about instructions	Exploring Hardware	Rocket To The Moon	What is a computer?	Video Trailers	Website Design	Mars Rover	Bletchley Park
Summer							
EYFS		**KS1**		**LKS2**		**UKS2**	
Programming Bee Bots	Introduction to Data	Algorithms and Debugging	Word Processing	Coding: Scratch	Computational Thinking	Exploring AI	Inventing a Product

Online Safety will be taught throughout each year group with a lesson each half term.

Streetwise will deliver sessions about Online Safety to each year group throughout the year.

Units are planned to involve recapping of previous skills before building on these to deepen understanding and further learning through teaching of new objectives and/ or using skills in different contexts. Whilst our year groups are combined, learning is differentiated to ensure older children's learning is built on from prior units and younger children are supported and introduced to the topic. Additional objectives are also given to older children to ensure challenge and depth.

Cycle B							
Autumn							
EYFS		**KS1**		**LKS2**		**UKS2**	
Computing through continuous provision	Using a computer	Bee Bots	Digital Imagery	Networks and the Internet	Comparison cards databases	Programming Music	Stop Motion Animation
Spring							
EYFS		**KS1**		**LKS2**		**UKS2**	
All about instructions	Exploring Hardware	Introduction to Data	Scratch Jr	Journey inside a computer	Collaborative Learning	Search Engines	Big Data
Summer							
EYFS		**KS1**		**LKS2**		**UKS2**	
Programming Bee Bots	Introduction to Data	Stop Motion	International Space Station	Investigating Weather	HTML	Big Data	Python

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Cycle A - EYFS		
Autumn	**Spring**	**Summer**
Topic: Computing Through Continuous Provision	Topic: All About Instructions	Topic: Programming Bee Bots
Overview:	Overview: In this computing unit, students will develop foundational skills in following and giving instructions through a series of engaging activities. They will navigate an obstacle course with a partner, enhancing their ability to provide clear, simple directions. By participating in a dressing-up game and a handwashing activity, pupils will further refine their instructional skills and learn to troubleshoot and debug when challenges arise. Additionally, students will be introduced to the concept of algorithms as a set of sequential instructions to achieve a specific task. Through logical reasoning, they will read and interpret basic instructions, predict outcomes, and understand the importance of order in completing tasks effectively.	Overview: In this unit on computing, children will explore the concepts of directional arrows and follow basic sequences of instructions to understand programming fundamentals. They will engage with Bee-Bots, experimenting with simple commands and manipulating hardware to build familiarity and introduce relevant vocabulary. Through interactive activities, including an unplugged game where they follow algorithms and debug instructions, children will develop problem-solving skills. Guided by an adult, they will learn to correct errors in their commands, enhancing their understanding of programming and debugging processes.
Topic: Using a Computer	Topic: Exploring Hardware	Topic: Introduction To Data
Overview: In this unit, students will gain foundational computing skills by learning to identify and use keyboard keys effectively, and understanding the process of logging in and out of systems. They will be introduced to the mouse, developing essential skills such as moving, clicking, and using an online paint tool. Progressing further, students will enhance their mouse control by practising clicking and dragging,	Overview: In this unit on computing, pupils will engage in hands-on exploration and manipulation of various hardware, becoming familiar with relevant terminology. They will investigate the presence and use of technology in familiar environments such as their homes and schools. The unit will also introduce basic camera operation, enabling children to capture images of their independent play. As their	Overview: In this computing unit, children will develop foundational skills in sorting and categorising by first organising objects and themselves into groups based on predefined categories. Following this guided practice, they will engage in independent activities to further enhance their sorting abilities. To introduce the concept of branching databases, children will respond to yes/no questions, which will facilitate their understanding of

which will help them navigate and interact with digital environments more proficiently.	photography skills develop, they will take photos of their discoveries during a walk around the school grounds. Finally, with adult guidance, the children will create a class gallery by taking selfie photographs.	this digital tool. They will solidify their grasp of branching databases through hands-on physical sorting and categorising exercises. Additionally, students will be introduced to basic data representation by learning to interpret simple pictograms, thereby broadening their data literacy.

Cycle A – Year 1 & 2		
Autumn	**Spring**	**Summer**
Topic: Improving Mouse Skills	Topic: Rocket To The Moon	Topic: Algorithms and Debugging
Overview: In this unit, students will develop purposeful use of computers by learning to log in and navigate the system efficiently. They will gain proficiency in fundamental mouse operations such as dragging, dropping, clicking, and controlling the cursor. Additionally, students will explore software tools to create digital art, enhancing their creative and technical skills in a computing environment.	Overview: In this unit, students will engage with computing skills by first learning to use a computer to create and organise lists, understanding and articulating the benefits of digital list-making. They will then explore basic tools in graphics editing software to design a model rocket, applying their skills in sequencing and following instructions to construct their physical models. Finally, students will input data related to their rockets into a table or spreadsheet, reinforcing their data management and computational thinking skills.	Overview: In this computing unit, students will learn to decompose a game to predict the underlying algorithms, starting with an understanding of 'decomposition' as the process of breaking down complex problems into more manageable parts. They will be guided to write clear and precise algorithms and create algorithms specifically designed to solve various problems. The unit will also cover the use of loops in algorithms to enhance code efficiency. Additionally, students will be introduced to the concept of abstraction, learning to explain and apply it in the context of computational thinking.
Topic: Algorithms Unplugged	Topic: What is a computer?	Topic: Word Processing
Overview: This unit introduces students to fundamental concepts in computing by exploring algorithms, which are step-by-step instructions for solving problems. Students will learn to explain what algorithms are and write clear, effective ones. They will practice following algorithms accurately and understand the roles of inputs and outputs within these processes. The unit also covers creating achievable programs by breaking down designs into manageable steps. Additionally, students will develop	Overview: In this unit, students will begin by identifying various computer peripherals and understanding their functions. They will explore the cause-and-effect relationship of buttons and the operations they trigger. The concept that technology operates by following instructions will be introduced, alongside recognising different forms of technology present in everyday life. Students will then apply their knowledge creatively by designing an invention that incorporates inputs and outputs. Finally, they will gain an appreciation of the significant role computers play	Overview: In this unit, students will learn essential keyboard skills, including identifying and utilising the home row keys for efficient typing, as well as the correct use of the spacebar and backspace. They will gain proficiency in using a word processor to type text and make simple modifications using various buttons. Additionally, students will develop the ability to search for, import, and edit suitable images to enhance their text documents. They will practise modifying text within a document and using the copy and paste functions to transfer text between documents. Finally, students will

skills to identify and fix bugs in algorithms, enhancing their problem-solving and debugging abilities.	in the world around them, underpinning modern society and various industries.	explore online safety by understanding what information is appropriate to share on the internet.
Topic: Online Safety		
Overview: In this unit on internet safety and responsible use, students will explore what the internet is and the various ways it can be utilised. They will recognise how internet use can influence their mood and emotions, as well as understand the impact their online actions may have on others. Furthermore, students will learn to identify appropriate and inappropriate information to share and post online, fostering a sense of digital citizenship and promoting respectful and thoughtful internet use.		

Cycle A – Year 3 & 4		
Autumn	**Spring**	**Summer**
Topic: Emailing	Topic: Video Trailers	Topic: Coding: Scratch
Overview: This unit will equip students with essential email skills and online safety awareness. Students will learn to log in and out of email accounts, send simple emails with a subject, and correctly include 'To' and 'From' information in the body of the text. They will practice editing emails, typing email addresses accurately, and sending emails. Additionally, students will learn how to add attachments to emails and write messages using positive language, considering the recipient's feelings. The unit will also cover recognising unkind behaviour online, reporting it, offering advice to victims of cyberbullying, and identifying potentially fake emails with an explanation of the indicators used to recognise them.	Overview: In this unit, students will explore the role and purpose of a trailer, learning how to craft an engaging storyboard for a book trailer. They will gain practical skills in photography and videography by considering effective camera angles, importing multimedia into film editing software, and incorporating various elements such as sound, text, and transitions into their videos. Additionally, students will critically evaluate their own and their peers' trailers, providing and receiving constructive feedback to refine their projects. This comprehensive overview aims to develop both technical and creative competencies in multimedia production.	Overview: In this unit, students will explore the fundamentals of computing by learning to create a basic script using Scratch. They will gain skills in adding or modifying sprites and ensuring they remain fixed in position, avoiding unintended rotation. Through decomposition, students will identify essential features and actions necessary for developing a functional quiz game. They will also learn the concept of variables, including how to utilise the 'say' and 'ask' blocks effectively. By creating and employing variables to track scores, students will deepen their understanding of how variables function within a programme and their practical applications.
Topic: Programming: Scratch	Topic: Website Design	Topic: Computational Thinking
Overview: In this unit, students will delve into the fundamentals of computing through Scratch programming. They will explore the functionality of various blocks in Scratch and understand how to incorporate loops into their programs. Additionally, students will learn to enhance existing programs by remixing code and suggesting creative additions. They will develop the ability to recognise elements on screen that are controlled by code and apply a	Overview: In this computing unit, students will develop their skills by creating a dynamic web page using Sway. They will start by crafting a Sway presentation with a title, image, and a well-developed first header section. Following this, students will devise a detailed plan for their web page, incorporating a range of features to enhance its functionality and style. The focus will be on producing a professional-looking web page that presents	Overview: In this unit, students will explore how computational thinking can simplify problem-solving by applying concepts such as pattern recognition and abstraction. They will gain hands-on experience with coding by understanding the function of various code blocks and creating a simple game. Additionally, students will develop practical skills by designing a Scratch programme that draws a square and at least one other shape. By the end of the unit, they will

systematic approach to identify and resolve bugs. Throughout the unit, students will grasp the concepts of decomposition and algorithms, understanding their significance in crafting precise and effective code.	information clearly and is user-friendly. By referring to their checklist, students will ensure their web page includes various sections and features, making it both informative and accessible.	recognise how computational thinking aids in resolving challenges and will be equipped to apply these strategies to real-world problems.

Topic: Online Safety

Overview: In this computing unit, students will explore how to differentiate between fact, opinion, and belief in the digital realm, enabling them to navigate online information critically. They will learn strategies for handling upsetting or harmful online content and understand how digital devices communicate to share personal information. The unit will also cover the purposes of social media platforms and the reasons behind their age restrictions, providing a comprehensive overview of responsible online behaviour and digital literacy.

Cycle A – Year 5 & 6		
Autumn	**Spring**	**Summer**
Topic: Micro:bit	Topic: Mars Rover 2	Topic: History of computers
Overview: In this unit, students will engage with computational thinking by connecting new programming concepts to their previous experience, such as with Scratch. They will practise combining clip blocks to predict outcomes and create their own images for animations, while learning to distinguish between 'on start' and 'forever' commands. Students will build on their understanding by identifying familiar blocks, recognising inputs and outputs, and predicting the behaviour of variables. They will also select suitable blocks to complete various programming challenges independently. Furthermore, learners will develop their problem-solving skills by breaking down programs into smaller steps, suggesting appropriate blocks, and ensuring their algorithms align with the intended outcomes.	Overview: In this computing unit, students will start by creating a pixel picture to understand that a pixel is the smallest element of a digital image, and that binary code is used to encode and transmit this data. They will then save a JPEG as a bitmap, recognising the difference in file size and how pixels are crucial for transferring image data. The unit will cover the 'fetch, decode, execute' cycle, drawing parallels to real-world situations to elucidate this fundamental concept. Students will also create a profile with a secure and appropriate username and password while beginning to use 3D design tools. They will independently engage with tutorial lessons to apply their learning to their designs and understand the importance of participating responsibly in online communities.	Overview: In this unit, students will explore various aspects of computing through practical and research-based tasks. They will learn to record sounds and integrate sound effects, culminating in the production of a simple radio play that showcases their ability to use software for sound editing. Additionally, students will create a document detailing the historical impact of computers, including accurate dates and significant facts. They will demonstrate a thorough understanding of their devices, researching and presenting information on how these technologies influenced modern computing, while critically assessing the reliability of their sources. The unit will also cover the essential features of computers, including RAM, ROM, hard drives, and processors, with an emphasis on understanding specifications that exceed current standards.
Topic: Mars Rover 1	Topic: Bletchley Park	Topic: Inventing a Product
Overview: In this computing unit, students will explore the Mars Rover's data collection and transmission processes, including identifying the various types of data it gathers, such as photos, and understanding the challenges associated with transmitting this data back to Earth. They will learn to read binary numbers up to	Overview: In this unit, students will explore the multifaceted uses of codes, including their role in message encoding and decoding, and learn the principles of creating secure passwords. They will apply their knowledge by designing a basic website dedicated to Bletchley Park, highlighting the	Overview: In this unit, students will develop their computing skills by evaluating and adapting code to suit specific purposes, enhancing their ability to debug and optimise programs through the use of sequences, selections, repetitions, and variables. They will also design functional and aesthetically pleasing product

eight bits, and gain an understanding of binary addition. The unit will also cover the fundamental concepts of input, processing, and output as applied to the Mars Rover, and how binary signals, or Boolean logic, relate to a character-based language like ASCII. This overview will provide students with a comprehensive understanding of both the practical and theoretical aspects of data handling and representation in space exploration technology.	development of electronic thinking machines essential for solving cipher codes. The unit will also delve into the significant contributions of key historical figures to the field of computer science, with students tasked to present their findings on these figures in an engaging and informative manner.	housing using CAD software, incorporating any necessary input or output devices. Students will create a compelling website that effectively communicates the features and benefits of their product to their target audience using persuasive language. Additionally, they will produce an edited video showcasing the project's key advantages and learn to search for information online, critically assessing the accuracy and reliability of the results they find.
Topic: Online Safety		
In this unit, students will develop a comprehensive understanding of digital safety and communication. They will learn the importance of creating strong passwords and recognise that apps require passwords to ensure security. Students will identify various types of online communication and know whom to approach for assistance with any online interaction issues. They will also acquire skills to search for basic information about individuals, such as their birthdays or significant life events. Additionally, students will be introduced to the concept of bullying, including its occurrence both online and offline, and will learn to recognise how online activities can impact their health and well-being. Finally, students will be equipped with practical advice and strategies to mitigate the negative effects of online use and promote positive digital experiences.		

Cycle B – EYFS		
Autumn	**Spring**	**Summer**
Topic: Computing Through Continuous Provision	Topic: All About Instructions	Topic: Programming Bee Bots
Overview:	Overview: In this computing unit, students will develop foundational skills in following and giving instructions through a series of engaging activities. They will navigate an obstacle course with a partner, enhancing their ability to provide clear, simple directions. By participating in a dressing-up game and a handwashing activity, pupils will further refine their instructional skills and learn to troubleshoot and debug when challenges arise. Additionally, students will be introduced to the concept of algorithms as a set of sequential instructions to achieve a specific task. Through logical reasoning, they will read and interpret basic instructions, predict outcomes, and understand the importance of order in completing tasks effectively.	Overview: In this unit on computing, children will explore the concepts of directional arrows and follow basic sequences of instructions to understand programming fundamentals. They will engage with Bee-Bots, experimenting with simple commands and manipulating hardware to build familiarity and introduce relevant vocabulary. Through interactive activities, including an unplugged game where they follow algorithms and debug instructions, children will develop problem-solving skills. Guided by an adult, they will learn to correct errors in their commands, enhancing their understanding of programming and debugging processes.
Topic: Using a Computer	Topic: Exploring Hardware	Topic: Introduction To Data
Overview: In this unit, students will gain foundational computing skills by learning to identify and use keyboard keys effectively, and understanding the process of logging in and out of systems. They will be introduced to the mouse, developing essential skills such as moving, clicking, and using an online paint tool. Progressing further, students will enhance their mouse control by practising clicking and dragging,	Overview: In this unit on computing, pupils will engage in hands-on exploration and manipulation of various hardware, becoming familiar with relevant terminology. They will investigate the presence and use of technology in familiar environments such as their homes and schools. The unit will also introduce basic camera operation, enabling children to capture images of their independent play. As their	Overview: In this computing unit, children will develop foundational skills in sorting and categorising by first organising objects and themselves into groups based on predefined categories. Following this guided practice, they will engage in independent activities to further enhance their sorting abilities. To introduce the concept of branching databases, children will respond to yes/no questions, which will facilitate their understanding of

which will help them navigate and interact with digital environments more proficiently.	photography skills develop, they will take photos of their discoveries during a walk around the school grounds. Finally, with adult guidance, the children will create a class gallery by taking selfie photographs.	this digital tool. They will solidify their grasp of branching databases through hands-on physical sorting and categorising exercises. Additionally, students will be introduced to basic data representation by learning to interpret simple pictograms, thereby broadening their data literacy.

Cycle B – Year 1 & 2		
Autumn	**Spring**	**Summer**
Topic: Bee Bots	Topic: Introduction to Data	Topic: Stop Motion
Overview: In this unit, students will explore basic programming concepts through hands-on activities with a Bee-Bot robot. They will recognise cause and effect by pressing buttons on the Bee-Bot and engage in discussions and demonstrations to understand its functionality. Students will also practise recording video footage, ensuring that all participants are visible, and learn to give a series of clear, sequential instructions to programme the Bee-Bot to navigate to a specific destination. Additionally, they will develop problem-solving skills by identifying and correcting errors in their programming tasks.	Overview: In this unit, students will explore various methods of representing animal-themed data using both traditional and technological tools. They will develop their computer skills by logging in and effectively using the mouse and keyboard to navigate digital environments. Students will learn to represent data through pictograms, tables, and charts, and will practice collecting and digitally representing data using tally charts. Additionally, they will use click-and-drag techniques to sort data within a branching database. Throughout the unit, students will also consider the different types of input necessary for gathering various forms of data, enhancing their understanding of data collection and representation in the context of designing their own inventions.	Overview: In this unit, students will explore the fundamentals of animation by first creating a flip book animation to understand basic motion principles. They will then decompose a story into manageable segments, using this breakdown to plan and develop a stop motion animation project. Finally, students will create their own stop motion animations, focusing on making small, deliberate changes between images to bring their stories to life with smooth, fluid motion.
Topic: Digital Literacy	Topic: Scratch Jr	Topic: International Space Station
Overview: In this unit, students will explore the process of creating a pictorial story by planning and sequencing photographic images. They will learn how to take clear and effective photos using a device and will practice editing these images through cropping, filtering, and resizing. Students will also acquire skills in searching for and importing images from the internet, while understanding the importance of	Overview: In this unit overview, students will independently explore a new application, gaining proficiency in its features and functionalities. They will delve into ScratchJr, explaining the purpose of various blocks and applying them effectively to achieve specific goals. The curriculum will focus on recognising and utilising loops in coding to understand their significance in simplifying repetitive tasks. Students	Overview: In this computing unit, students will explore the essential aspects of astronauts' survival aboard the International Space Station (ISS), starting with understanding how their basic needs are met and how to digitally represent these needs through drawing. They will learn to accurately read and interpret temperature measurements and design a comprehensive display for monitoring various ISS

online safety and knowing how to respond to discomfort online. Finally, they will organise and orientate images on a page to effectively convey their story.	will apply their skills to create an animation featuring an animal's movement, employing code to follow and construct algorithms. Additionally, they will programme code to activate upon 'tap' and articulate the role and functionality of each block within their created programs, fostering a deeper understanding of coding principles and practices.	sensors. Students will also develop algorithms to cater to the needs of plants in space and assess the broader impacts of space exploration on life on Earth. Additionally, they will analyse data to evaluate the habitability of distant planets, integrating their knowledge into practical computing tasks.

Topic: Online Safety

Overview: In this computing unit, students will explore the concept of online information and learn to identify what information is safe to share. They will understand the importance of passwords, including what constitutes a strong password and why it is necessary to use them. The unit will also cover the need to seek permission before sharing content online and the right to refuse the sharing of their personal information. Students will be introduced to sources of help for online concerns and will develop strategies to assess the reliability of online information.

Cycle B – Year 3 & 4		
Autumn	**Spring**	**Summer**
Topic: Networks and the Internet	Topic: Journey Inside A Computer	Topic: Investigating Weather
Overview: In this unit, students will explore the fundamental concepts of computer networks, focusing on the definition of a network as two or more interconnected devices and its primary purpose. They will identify the key components that constitute their school's network and distinguish between wired and wireless connections. The unit will cover the role of servers in saving files and facilitating website requests, while also detailing the journey of a website's data as it travels to their computer. Students will recognise the function of routers in transmitting information and understand that data is transmitted in packets.	Overview: In this computing unit, students will explore the fundamental concepts of how computers operate, including the identification of inputs and outputs and the process of information exchange between a computer and its peripherals. They will gain an understanding of how various components of a laptop work in harmony, each serving a distinct purpose, and will learn what an algorithm is and its significance in computing. Additionally, students will discuss the role of memory within a computer, understanding its function and importance, and will make comparisons between different types of computers to grasp their varying capabilities and uses.	Overview: In this unit, students will develop skills in efficiently searching the web to find and accurately record the temperatures of various cities. They will design a weather station that collects and records sensor data, detailing its operational mechanics and the units of measurement involved. Additionally, students will create an automated machine that employs selection processes to respond to sensor data. They will also search for and record weather forecast information in a spreadsheet, providing an explanation of the data collection methods used. Finally, students will produce a video that incorporates and presents weather forecast information.
Topic: Comparison Cards Databases	Topic: Collaborative Learning	Topic: HTML
Overview: In this computing unit, students will explore key concepts such as 'field,' 'record,' and 'data,' gaining a fundamental understanding of data organisation. They will compare paper-based and computerised databases to appreciate the advantages and limitations of each. Practical skills will be developed through entering values into a spreadsheet, and students will learn to sort, filter, and interpret this data effectively. Additionally, they will create graphs to visually represent data and	Overview: In this computing unit, students will explore the importance of thoughtful collaboration when working on shared documents, learning to use comments effectively to suggest and resolve changes. They will plan and create a survey using Microsoft Forms, incorporating various question types such as text, multiple choice, and numerical values to gather diverse responses. Additionally, students will export survey data to a spreadsheet, applying conditional formatting to highlight key information and	Overview: In this computing unit, students will explore the essential role of HTML in constructing web pages by learning to recognise and modify its key elements. They will begin by adding text between heading and paragraph tags and then use the inspect tool to explore and alter web page content. Through practical activities, students will gain hands-on experience in replacing text and images on a web page, and will explain the changes they have made to enhance their understanding of HTML's function in web design. By the

understand the purpose of these visualisations in enhancing data comprehension and communication.	performing calculations to determine averages and sums. This overview emphasises the integration of collaborative tools with data analysis skills to enhance digital literacy.	end of the unit, students will be proficient in using these tools to edit and customise web page elements effectively.
Topic: Online Safety		
Overview: In this computing unit, students will explore essential skills for navigating the digital world effectively. They will learn how to conduct searches across various platforms while critically assessing the accuracy of the information retrieved. The unit will also cover techniques used in online marketing to influence purchasing decisions and delve into distinguishing between fact, opinion, and belief in online content. Students will gain an understanding of bots, including their different types and functions. Additionally, they will examine the impact of technology on their lives, identifying both positive and negative distractions, and develop practical strategies for managing and reducing technology usage.		

Cycle B – Year 5 & 6		
Autumn	**Spring**	**Summer**
Topic: Programming Music	Topic: Search Engines	Topic: Big Data 2
Overview: In this computing unit, students will engage in an iterative process, continually testing and refining their ideas throughout the lesson. They will learn to explain the function of basic commands and how their programme aligns with a given theme. Each student will incorporate a loop and demonstrate an understanding of its role, while also correcting their own simple errors. They will describe their scene within a story, linking it to musical concepts, and include a repeat function to enhance the music. By coding a piece of music with diverse structures and utilising loops, students will recognise that programming music is an effective way to apply their skills creatively.	Overview: In this unit on computing, students will explore the fundamentals of search engines by identifying various examples and learning how to effectively utilise them to locate websites and information. They will critically assess online content, understanding that not everything on the internet is accurate, and develop skills to verify the credibility of sources. The importance of keywords and the TASK strategy for effective searching will be explained. Students will also gain insight into copyright and fair use and apply this knowledge by creating a poster that combines text and images. Additionally, the unit will draw comparisons between traditional book searches and internet searches, elucidating the function of web crawlers and the process of ranking search results.	Overview: In this computing unit, students will explore the concept that data within a network can become corrupted, with an emphasis on the robustness of data sent in packets and the importance of keeping devices and software updated. They will differentiate between mobile data and WiFi, using spreadsheets to analyse and compare high-use and low-use data activities. The unit will also cover the connection between the Internet of Things (IoT) and Big Data, illustrating how data analysis can enhance processes such as town planning. Students will then apply IoT and Big Data principles to propose solutions or improvements within their school, preparing presentations that consider data privacy. Finally, they will present their ideas, receive feedback, and critique their peers' presentations to refine their understanding and communication skills.
Topic: Stop Motion Animation	Topic: Big Data 1	Topic: Python
Overview: In this unit, students will engage in the creation of a toy incorporating basic images and a single movement and develop a short stop-motion animation by making small incremental changes between frames. They will conceptualise a straightforward story for their animation, breaking it down into manageable components to construct a	Overview: In this computing unit, students will explore the origins and purposes of barcodes and QR codes, learning to generate and scan their own QR codes using an online tool. They will investigate how infrared technology can transmit Boolean signals and gain an understanding of RFID technology, including its applications and how to input relevant data into	Overview: In this computing unit, students will engage in iterative development by testing and refining their ideas throughout the lesson, clearly explaining their program's functionality. They will incorporate nested loops into their designs, justifying the necessity of multiple repetitions. By modifying a house drawing using Python commands and employing comments,

storyboard featuring simple characters. Emphasis will be placed on refining their models for smooth animation and removing redundant frames. Students will also enhance their animations by adding effects such as extending parts and incorporating titles. Additionally, they will offer constructive feedback to their peers, fostering collaborative improvement and refinement of their animations.	spreadsheets. By collecting real-time data and entering it into spreadsheets, students will present their findings in response to specific questions, appreciating the significance of data analysis. Finally, they will analyse and evaluate transport data to understand its value in providing essential services to commuters.	students will demonstrate their comprehension of the code's purpose. They will also explore the mechanics of loops in Python, articulating the roles of different loop components. Additionally, students will understand the concept of random number generation in computing, decompose a program into a step-by-step algorithm, and personalise their program through modification.
Topic: Online Safety		
Overview: In this computing unit, pupils will explore the various issues that can arise online, including the emotional impacts of online interactions and the strategies available to seek help when feeling sad, frightened, or uncomfortable. They will investigate both the positive and negative consequences of sharing content online, and learn the importance of obtaining consent before sharing others' material, as well as understanding how content may be shared even if privacy settings are applied. The concept of digital reputation will be examined, including its components and significance. Pupils will gain practical skills in capturing evidence of online bullying using school devices and will learn effective password management techniques, including the use of two-factor authentication. They will also understand the steps to take if passwords are shared, lost, or stolen, identify strategies to spot scams, and learn how to enhance privacy settings while keeping software updated for optimal security.		