Computing Planning and Progression of Skills

Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	What's going on?	*Dinosaurs*	*Animals around the World*	*Can you Dig it?*	*Art Attack*	*On Holiday with Barnaby Bear*
	Using technology and the internet safely		*Using technology and the internet safely*		*Coding: Blue-Bots*	
Computing	What we will learn: ① **Exploring Technology** Pupils will be able to say what we use technology for, at home and in school. They will have the opportunity to use iPads, laptops and Beebots to build on previous skills of exploring technology through play, whilst discovering the different features – on/off button, volume etc. ① **Flipgrid** Pupils will be able to respond to a video on Flipgrid. They will watch a video which poses a question, discuss the answer with the class and then respond. This skill will be transferable and developed across the curriculum. ① **Laptop basics** Pupils will be able to log into airhead and Education city with little support using the iPads/laptops. ① **Staying safe online** Through discussions, pupils will know what to do should they come across something inappropriate or have concerns regarding something they have seen online ① **Trusted Adult** Pupils to identify their trusted adult in school to report to if they	What we will learn: ① **Technology for Purpose** The pupils will understand that information technology can be used for multiple purposes, at home and at school - to make videos, to communicate, to record information, to find information, etc. ① **Safe Sites** Pupils will explore Student Launchpad recognising school approved websites and managing passwords. Pupils will be able to identify features which suggests a website is safe for them to access e.g. the safe site padlock. ① **Email** Pupils will explore the Email App and set up their Email. They will learn how to open an email from their teacher and open a link. Pupils will also learn to recognise the importance of never opening an email from someone they don't know and reporting anything they are unsure of. ① **Virtual Reality** Pupils will learn how to independently put on the VR headsets and use them to explore different objects and environments. Pupils will begin	What we will learn: ① **Safe searching** The pupils will use a search engine to search for facts about animals. They will continue to learn skills for safe searching and reporting concerns. ① **Microsoft word** The pupils will learn the purpose of Microsoft Word. Developing key features such as font size and how to open a word document. Pupils will create fact files using word to record information. ① **Keyboard skills** Pupils will use the space bar, a full stop button and backspace when writing sentences on a laptop/iPad. These skills will continue to be developed throughout the curriculum. ① **Inserting in Word** Pupils will have an understanding of how to insert an imagine onto a word document from a shared folder	What we will learn: ① **Technology for sharing** Pupils will create digital content independently. They will record videos on Flipgrid to answer a question or share their understanding. Considering how to behave when presenting themselves online. ① **Excel** Pupils will learn to open an Excel document and create a spreadsheet to record scientific data from growing a plant. ① **Presenting data** Using the Excel program pupils will use their gathered scientific data and present it in a simple chart. Pupils will begin to recognise a wider variety of ways technology can be used purposefully.	What we will learn: ① **PowerPoint** Pupils will learn to create digital content in the program PowerPoint to present their learning about famous artists. Inserting text boxes to type information and changing the background colour. ① **Safe searching for images** The pupils will use a search engine to search for images about Van Gogh and Constable to import into their PowerPoint. They will continue to learn skills for safe searching and reporting concerns. ① **What is an algorithm** Pupils will understand what the term algorithm means. Pupils will learn that programs execute by following precise and unambiguous instructions. They will work within the context of following instructions for creating an image. ① **Bluebot Coding Art** Pupils will continue to build on their understanding of algorithms. They will input given algorithms in to the Bluebot devices, to create images using the Bluebot devices.	What we will learn: ① **Coding the World** Pupils will begin to develop their own algorithms to code their Bluebot to different parts of the map. ① **Debugging** Pupils to use coding cards to build an algorithm and with support recognise a bug in the programming. With support pupils will begin to debug. ① **Logical Thinking** Pupils will develop their logical thinking by predicting the destination of the Bluebot, from an algorithm and testing their theories.

	are concerned or worried about anything. Pupils to be made aware of OSC and Online Safety Coordinator.	recognising the differences between reality and virtual reality.				

Year 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Discovering London		*All creatures great and small*		*Exciting Explorers*	
	Using technology and the internet safely		*Coding: Blue-Bots*		*Coding: Scratch*	
Computing	Previous learning Pupils will have learnt the common uses of technology within the home and school. They would also have experienced creating digital content. What we will learn: ♪ **Laptop Basics – Security** Use technology safely and keep personal information private ·Set up personal launchpads and passwords. Learn to logon and off safely and protecting passwords. ♪ **Technology for recording** Pupils will learn various ways technology can be used to record experiences. During the school trip pupils will take photos and learn how to upload, store and manipulate. They will also use Flipgrid to record experiences. Pupils will learn about what is safe to share in an image and what to avoid, in order to keep personal information safe. ♪ **PowerPoint – Images** Import images and create a presentation of trip experience. Look at manipulation of images: resize/flip/rotate. Considering always, which images are appropriate to use and using technology respectfully.	Previous learning Pupils will have identified trusted adults within school and home and encouraged to seek help when they experience something worrying online. What we will learn: ♪ **OneNote - Basic Skills** Pupils will be introduced to using OneNote as a tool for learning. Navigate and discuss advantages of using OneNote. Pupils will also develop typing skills**.** ♪ **OneNote Collaboration Space** Develop collaborative rules. Pupils will learn to open program, navigate sections and develop typing skills. ♪ **Sway – Great Fire of London** Pupils will build on previous PowerPoint skills to create a Sway about the Great Fire of London. Pupils will make link to Non-chronological reports. They will learn to Import photos from a shared file. Open files and develop typing skills. ♪ **Sway - Safe Search** Pupils will learn to import online images and media using the built-in online search. Pupils will consider online safety practises, knowing how to report anything that causes them concern. . ♪ **Which one?**	Previous learning Pupils will have learnt the to begin predicting the behaviour of simple programs. What we will learn: ♪ **What is an algorithm?** Explore algorithms without technology. Why do we need to be precise? Pupils will analyse algorithms to understand that computers cannot think for themselves and need to have precise and unambiguous instructions. ♪ **Follow an algorithm** Follow simple algorithms to program the Bluebot. ♪ **De-bugging** Program Bluebot and identify errors in the algorithm. Test ways to resolve and develop logical reasoning. ♪ **Logical Reasoning** Develop logical reasoning to predict actions of a code. Test theories and identify bugs in the programming.	Previous learning Pupils will have begun developing algorithms. What we will learn: ♪ **Create a simple algorithm** Create own map based on the topic and build own algorithm to program the Blubot. Pupils will use logical reasoning to predict the actions of the Bluebot. ♪ **Which is the best route?** Pupils will continue to develop their logical reasoning by exploring how to make algorithms more effective. Consider which route is quicker, which route uses the least amount of commands etc. ♪ **Complex algorithms** Include obstacles into the pathways and develop logical reasoning and computational thinking to predict and create an increasingly more complex algorithm. ♪ **De-bugging 2.0** Develop more complex algorithms and adapting to suit the given needs of the project. Identify errors and use logical reasoning to improve.	Previous learning Pupils will have learnt what an algorithm is and how they are implemented. What we will learn: ♪ **Block Coding** Pupils will transition from coding cards to block coding on the laptop. Begin with initial coding, create a scene and a sprite. Program sprite to move left to right. ♪ **Develop Block Coding** Create a sprite and write a Simple algorithm to program the sprite to move in any direction. Develop a sequence of commands. ♪ **Making Shapes** Making links to mathematical learning of shape, pupils will create more complex algorithms to create a shape. ♪ **Multiple Algorithms** Create multiple action algorithms. Increasing the complexity of algorithms, pupils will use block coding to change colour and use sound. Pupils will also learn to use code to repeat actions.	Previous learning Pupils will have begun developing more complex algorithms. What we will learn: ♪ **Design Explorer Maze Game** Pupils will use their current learning of block coding to design their own game. Explore other games to inspire own design. ♪ **Create Explorer Maze Game** Pupils will use the program's art feature to create a background and maze. Predicting the sprites movement. ♪ **Program Sprite** Pupils will create an algorithm to get the spite through the maze. Use logical reasoning to predict the movements of the sprite and testing. ♪ **Test, Debug, Evaluate** Pupils will challenge a partner to play their game. Do they have the same algorithm? Do they have a more efficient algorithm? Pupils will evaluate their game using logical reasoning to consider improvements.

	ِ **PowerPoint - Safe Search** Import online images using internet search. Discuss and demonstrate safety rules for searching online. ِ **Trusted Adult** Pupils to identify their trusted adult in school to report to if they are concerned or worried about anything. Pupils to be made aware of OSC and Online Safety Coordinator.	Pupils will consider and compare the benefits of each program to inform future independent choices.			

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3						
	Discovering Dinosaurs		*Opposites Attract*		*Bella Italia*	
	Using technology and the internet safely		**Coding: MakeCode Micro:bits**		**Coding: Minecraft The Agent**	
Computing	Previous learning Pupils will have learnt the common uses of technology outside of the school environment. They would also have experienced creating and manipulating a range of digital content. What we will learn: ⚭ **Collaboration and respect** Children to learn how to present information in a collaborative space, respecting each other's space and work. Pupils will develop positive online behaviours and etiquette. ⚭ **Safe searching** Importing images and video using the search engine safely. Recognise the safe site padlock but also that other checks need to be made as well to ensure reliability of the sources ⚭ **Input Output** Pupils will recognise that certain devices input data to the computer and others output. They will make effective use of input devices such as cameras and microphones to record information about their learning. ⚭ **Sharing Information** Children to be shown correct use of MS TEAMS. Discuss	Previous learning Pupils will have learnt the what private information is and recognise the importance of keeping this information safe. What we will learn: ⚭ **Cyberbullying** Explore what cyberbullying is, how to recognise cyberbullying and how to report concerns. ⚭ **Emailing** Discuss email as a form of communication. Identify features of dangerous emails and when it is safe to open an email. Pupils to be taught how to write and send an email. Pupils to be aware of email as another way of communicating with trusted their adult. ⚭ **Online Communication** Pupils will identify different forms of online communication. Compare communicating online and communicating in real life. Pupils will recognise that networks enable the sharing of data and understand that the internet is a large network of computers and that information can be shared between computers. ⚭ **Reporting** Identify the website Think U Know and its purpose. Learn how to navigate the website. Identify age appropriate area for pupils to explore. Pupils to learn about reporting concerns,	Previous learning Pupils will have begun to develop logical reasoning to predict the behaviour of simple programs. They also will have begun creating their own algorithms. What we will learn: ⚭ **LED's** Pupils will learn about LED's and what they are used for. Using block coding children will follow a simple code to manipulate LED's on the Micro:bit. Pupils will go on to modify the code and will use the 'loop' command. Pupils will use logical reasoning to explain how the algorithm works. ⚭ **Accelerometer** Pupils will learn how an accelerometer is used and code a Micro:bit using the 'shake' feature. Pupils will follow a simple code to create a dice for a purpose. Pupils will be encouraged to modify the code to suit individual needs. Pupils will recognise that the code is transferred from the laptop to the Micro:bit and remains on the Micro:bit despite being disconnected. ⚭ **Code a Game** Pupils to build on their learning about accelerometer and follow a more complex code to create the 'Rock, Paper, Scissors' game on the Micro:bit. Following success Pupils will design and code their own game. They will use logical reasoning to explain how the algorithm works.	Previous learning Pupils will have begun to develop logical reasoning to debug simple programs. What we will learn: ⚭ **Radio Micro Chat** Considering input and output devices for communication, pupils will use the radio feature. Pupils will follow a code to send messages back and forth across two Micro:bits. ⚭ **Light Meter** Combining coding with Science learning, children will code the Micro:bit to measure the level of light. Pupils will test their increasingly more complex code and debug using logical reasoning. Pupils will also combine with Microsoft Excel to record data. ⚭ **Design and code** Applying all their previous coding and combining with their Science learning Pupils will design their own code to simulate a virtual event. Using logical thinking to debug and explain their algorithm.	Previous learning Pupils will have learnt to recognise the importance of unambiguous instructions for an algorithm to be successful. What we will learn: ⚭ **Introduction to Minecraft Coding** Pupils will select and combine different programs to access learning and accomplish goals. They will also use hyperlinks to download digital content. Pupils will begin by becoming familiar with the program, exploring commands. Coding begins to make links between block coding and written code. ⚭ **Code a conversation** Create a simple algorithm to interact with the agent through written conversation and test for errors. Use logical reasoning to debug and explain algorithm. ⚭ **Teleportation** Create a simple algorithm to teleport the agent to a chosen location. Use logical reasoning to debug and explain algorithm. ⚭ **Rotation** Create an increasingly more complex algorithm to rotate and then test for errors. Use logical reasoning to debug and explain algorithm.	Previous learning Pupils will have developed logical reasoning to create, test and debug simple programs, progressing to more complex algorithms. What we will learn: ⚭ **Movement** Create an increasingly more complex algorithm to allow a variety of movement and test for errors. Use logical reasoning to debug and explain algorithm. ⚭ **Sequence actions** Create an increasingly more complex algorithm to command the agent to perform a sequence of tasks, including previous learning and test for errors. Use logical reasoning to debug and explain algorithm ⚭ **Code to build** Create alternate algorithms to build a structure. Test for errors, use logical reasoning to debug and explain algorithm. ⚭ **Bring it all together!** Apply, modify and develop coding to simulate a virtual event based on the current topic of learning. Present and explain their algorithms.

	Private and Public chat – differences and security. Identify which information should be kept private and what information is safe to share. Pupils to be taught how to access and use private channel within TEAMS. 🌙 **Trusted Adult** Pupils to identify their trusted adult in school to report to if they are concerned or worried about anything. Pupils to be made aware of OSC and Online Safety Coordinator.	identifying online icons for reporting.				
	Outside of computing lessons children select and use programs appropriate to their lessons purpose. For example: OneNote is used across the curriculum to access teaching and learning. Word is used in English lessons and other curriculum areas when appropriate. Children will develop Microsoft skills through the use of the Basic Skills Policy. Teachers address online safety throughout the curriculum when appropriate, ensuring it becomes everyday practise.					

Year 4

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	The Americas		*Invaders and Settlers*		*George's Marvellous Medicine*	*The Awesome Egyptians*
	Using technology and the internet safely		*Coding: Minecraft City Planner*		*Coding: Lego We Do 2.0*	
Computing	Previous learning Pupils will have become familiar with a range of input and output devices. Through support pupils have begun recognising the benefits of available software to achieve a goal and begin using this information to select appropriate software. What we will learn: » **Online Community** Pupils will explore how to be a good digital citizen and explore how this should be applied when using email and TEAMs. Pupils will understand that communication may be seen by others and consider what should be kept private. They will take responsibility for their actions and sign the digital citizenship agreement. » **Selecting software and shortcuts** Pupils will research careers that they are interested in using appropriate websites and select appropriate software to gather information. Pupils will learn to resize and wrap a text and speech bubble in chosen software, explaining their interest in their chosen career. Pupils will learn copy and paste shortcuts to copy and paste information and images. **Combining Software** Pupils will use a variety of software, combining their key features to accomplish a given goal. Pupils will explore websites used to support learning about the Americans and	Previous learning Pupils will have begun to recognise appropriate and inappropriate behaviour online and started build an online etiquette. Pupils will have knowledge of where to seek help if they are concerned about online content or contact. What we will learn: » **Cyberbullying** Pupils will learn to recognise how to use technology safely and responsibly and consider how online messages can be hurtful and how to respond to hurtful messages. Pupils will be able to accurately report computing concerns. » **Select and Rank** Pupils will learn how results are selected and ranked and accurately use a search engine to find information. Pupils will evaluate how this information could be used to input data, such as through images and outputting data, through printing. » **Too much information** Pupils will create a safe online game profile and highlight information which is acceptable to include. Pupils will recognise what is deemed 'private information' and the differences between usernames and real names.	Previous learning Pupils will have experience of using block coding in Minecraft and understand simple algorithms. What we will learn: » **Efficient Coding** Pupils will be introduced to two new coding tools, fill and positions, enabling them to build structures more efficiently than previous. » **Loops** Whilst reinforcing previous skills with Agent, pupils will extend these tools with loops. » **Cloning** Pupils will be introduced to the clone function from the block menu, in order to replicate structures. » **Coding a city** Pupils will code road markings for the middle of the road, junctions and pedestrian crossings and create a series of bus stops around the city. Pupils will apply logical reasoning to detect and correct errors.	Previous learning Pupils will have developed logical reasoning to predict the actions instructed by the code. What we will learn: » **Programming co-ordinates accurately** Pupils will program animals to a precise location using three co-ordinates. » **Repeating loops** Pupils will explore how they can adapt a set of instructions to repeat and change the number of repetitions. » **No undo** Pupils will decompose their code into small chunks to make it easier to apply logical reasoning and identify errors. » **Making coding easier** Pupils will explore how they can design structures and materials on grid paper before creating digitally, to spot problems before they code.	Previous learning Pupils will have experience of inputting an algorithm into Bluebots devices and writing block code. This will give a foundation to using block coding to control a robot. What we will learn: » **Coding Robotics** Pupils will begin to explore taking the code from the screen to controlling a physical robot. Pupils will begin with research. Using a search engine, pupils will explore different ways in which scientists and engineers can reach remote places. » **Coding a set of instructions** Pupils will create and program Milo the Science Rover to discover a special plant specimen. » **Sequence of algorithms** Pupils will generate a sequence of algorithms to program a robot to carry out a given task. » **Motion sensor** Pupils will learn about sensors as input devices. They will create and program Milo's object-detector arm using the Motion Sensor Input.	Previous learning Pupils will have learnt to design and write simple programs to stimulate virtual events. They will have developed logical reason to explain an algorithm and debug simple algprithms. What we will learn: » **Audio recording** Pupils will continue to explore input devices and coding. Using a microphone the pupils will record a sound and develop their code to use the sound to signify the rover's discovery. » **Recoding** Using the input device, the camera, pupils will record themselves programming their robot finding the plant specimen, to be used in future projects. » **Tilt Sensor** Pupils will create and program Milo's messaging arm using the Tilt Sensor and screenshot the final program.

	create bar charts and pie charts of the data on Excel. They will also use the Snipping Tool and OneNote to annotate what the charts show. 💭 **Presenting Learning** Pupils will design and create a SWAY on Native America, applying copy and paste shortcuts and their knowledge of resizing images. SWAYs on Native America, American landmarks and their chosen profession from their learning. 💭 **Trusted Adult** Pupils to identify their trusted adult in school to report to if they are concerned or worried about anything. Pupils to be made aware of OSC and Online Safety Coordinator.	💭 **Severs and Networks** Children will understand what servers are and how they provide services to the network.			💭 **Collaborate** Pupils will bring all their learning together to create and program a device to move the plant sample. Using a variety of input and output devices pupils will document and present a summary of Milo's mission.
	Outside of computing lessons children select and use programs appropriate to their lessons purpose. For example: OneNote is used across the curriculum to access teaching and learning. Word is used in English lessons and other curriculum areas when appropriate. Children will develop Microsoft skills through the use of the Basic Skills Policy. Teachers address online safety throughout the curriculum when appropriate, ensuring it becomes everyday practise.				

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5					*Mother Nature: Out of Control?*	*On the move!*
	To infinity and beyond…		*The Maya Civilisation*	*The Terrible Tudors*		
	Using technology and the internet safely		*Coding: Lego We Do 2.0: Dancing Robots and Sound machine*		*Minecraft: Python -Park and Recreation*	
Computing	Previous learning

Pupils will have learnt how to use technology responsibility and developed strategies to protect their personal information.

What we will learn:

⚭ **Safe sharing**
Use technology safely, respectfully and responsibly. Pupil to be made aware of how to search information on the internet and share with class using Microsoft Teams or Outlook being wary of spams and how to deal with it.

⚭ **Paint 3D**
Independently select, use and combine a variety of software to design and create content for space themed learning. Pupils will explore the contrast and benefits of 2D and 3D imaging.

⚭ **Age Appropriate**
Age Appropriate Pupils to be shown the age appropriate section of Think U Know website. They will learn the importance of age restriction and recognising which apps are appropriate for their age.

⚭ **Trusted Adult**
Pupils to identify their trusted adult in school to report to if they are concerned or worried about | Previous learning

Pupils will have learnt that communication online can be seen by others and where to go to for help and support when they have concerns about content or contact on the internet or other online technologies.

What we will learn:

⚭ **Cyberbullying**
Pupil to be made aware of responsible use of chats and private channels on Teams and Apps. Show possible real-life events to reinforce how cyberbullying could affect and hurt someone. Identify ways to report concerns about content and contacts.

⚭ **Effective research**
Pupils will learn to recognise and select appropriate websites for research in writing. Learn ability to filter through the search engine safely to access content

⚭ **Presenting**
Independently choose a topic of interest from Space theme, research responsibly to create a presentation to share with peers. Pupils will independently select, use and combine a variety of software. They will consider the benefits of each program from previous learning | Previous learning

Pupils will have learnt the basic skills in coding through Lego WeDo 2.0.

What we will learn:

⚭ **Project Design: Dancing Robots**
Making links across the curriculum pupils will explore cultural dances (Mayas), movement linked to dancing to enable pupil to plan and design their coding project based on the topic.

⚭ **Collaborative design**
Pupils are encouraged to work collaboratively to build ideas using the Core We Do set and explore model library to see different type of dances they can programme to get inspiration.

⚭ **Sequence, select, repeat**
Pupils will explore how to use sequence, selection and repetition in a program to create a complex algorithm.

⚭ **Evaluate and debug**
Pupils will evaluate their project and debug the program to ensure the specific goal is achieved, by identifying the improvements to be made on | Previous learning

Pupils will have learnt to decompose programs into smaller parts to aid identifying errors.

What we will learn:

⚭ **Project Design: Sound Machine**
During learning across the curriculum pupils will explore different instruments. They will use this to influence their coding project and identify the objective. Pupils will use 'connect' images and questions to facilitate collaborative discussion and ideas to identify a problem to solve.

⚭ **Explore Variables**
Pupils will keep documentation of their project by selecting and using a range of software. Pupils will review their design and explore working with variables.

⚭ **Test and Analyse**
Pupils will carry out their design using a range of resources. They will test and analyse constantly during the making process to build an efficient model and algorithm. Pupils to amend their designs and record | Previous learning

Pupils will have experience using block coding in Minecraft and MakeCode providing a foundation of understanding of writing code.

What we will learn:

⚭ **Transition to python**
Confident coders will be encouraged to develop script computer language: python. The program allows for both block coding and script, to allow pupils to develop confidence in coding at their own pace.

⚭ **Coding Loops**
Pupils will become familiar with the basics of python coding and begin by writing and testing a simple program following a sequence of instruction to create a loop. Then allow the instruction to repeat and test the code

⚭ **Code a sequence of instructions**
Pupils will design, write and test simple programs that follow a sequence of instructions or allow a set of instructions to be repeated and controlled by user. | Previous learning

Though previous coding lessons pupils will have learnt to writ more complex and efficient coding and will apply this to Python.

What we will learn:

⚭ **Code the different seasons for the park**
Pupils will write and test a simple program following a sequence of instructions to create a loop and then allow the instruction to repeat and test the code.

⚭ **Create code to animate the water feature**
Using logical reasoning, pupils will write, input and test an increasingly complex set of instructions to create loop and then allow the code to repeat and test the code

⚭ **Code to create**
Pupils will design, write and test a simple program that follows a sequence of instructions or allow a set of instructions to be repeated and controlled by user. |

	anything. Pupils to be made aware of OSC and Online Safety Coordinator.	to determine the most appropriate.	the programming. Pupils will apply logical reasoning to solve bugs and explain their algorithm beginning to recognise how their algorithm works to ensure efficiency.	any detected errors in their journey. **Presentation and Explanation** Pupils will present their project journey using a range of software, considering their audience. Pupils are encouraged to take pride in finding errors and making improvements. Pupils will be challenged to explain why their algorithm is efficient.		
	Outside of computing lessons children select and use programs appropriate to their lessons purpose. For example: OneNote is used across the curriculum to access teaching and learning. Word is used in English lessons and other curriculum areas when appropriate. Children will develop Microsoft skills through the use of the Basic Skills Policy. Teachers address online safety throughout the curriculum when appropriate, ensuring it becomes everyday practise.					

Year 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	The World at War		*Ancient Greece*	*We are Scientists*	*Brilliant Business*	*Showtime*
Computing	Using technology and the internet safely		Online safety: Gaming	Using technology purposefully	Minecraft: Variables (Python)	

Autumn 1

Previous learning

Pupils will have learnt what is appropriate and inappropriate behaviour online. They will have developed strategies for reporting concerns.

What we will learn:

- **Respect Each Other** Demonstrate ways to build positive and healthy online relationships and friendships. Describe strategies that can be used to respond to hurtful online behaviour, in ways that keep them safe and healthy. Identify sources of support that can help friends and peers if they are experiencing hurtful behaviour online.

- **Check it's for real** Pupils will learn ways to critically evaluate what they see on social media and when researching. They will recognise that social media can mislead or misrepresent reality and identify different types of online scams people their age may experience, including 'phishing'. Pupils will identify sources of support outside of the academy for when they are worried about anything online.

- **Protect Your Stuff!** Pupils will learn why it is important to keep personal information private online. They will learn ways to keep personal

Autumn 2

Previous learning

Pupils will have developed using filters to help identify 'fake news' and considering to legitimacy of information online.

What we will learn:

- **Think Before You Share** Pupils will learn what it means to have a positive digital footprint. Using programs such as OneNote and Teams, pupils will learn how to communicate and collaborate respectfully. Considering what information is appropriate to share and how comments can affect others.

- **The Internet** Pupils will understand how computer networks enable computers to communicate and collaborate. Pupils will also learn how to transfer data and information safely and responsibly to a third party via Teams.

- **OneNote – Hyperlinks** Pupils will learn how to insert work into their OneNote by using hyperlinks. These hyperlinks will be to various other documents as well as web pages. Pupils will demonstrate this knowledge during the creation of their WW2 fact file.

- **Collect, Analyse, Evaluate and Present** Pupils will use a variety of computer software and programs

Spring 1

Previous learning

Pupils will have learnt about age restrictions and the importance reporting inappropriate content and behaviour online.

What we will learn:

- **Gaining trust** Pupils will be taught to recognise identifying markers that may suggest someone may be lying online and that not everyone is who they say they are. They will be taught to recognise the dangers of private chat and the benefits of public chat. Pupils will learn how to use block and report within online programs to keep themselves safe.

- **Identifying inappropriate requests** Pupils will identify inappropriate requests that may make them feel uncomfortable and know how to respond to keep themselves safe. Pupils will be taught about self-respect and understand to ask for help when they need to.

- **Bribery** Pupils will learn to recognising when someone is pressuring them to do something, they don't feel comfortable doing. They will know that this behaviour is unacceptable and how to report unwanted behaviour.

Spring 2

Previous learning

Pupils will have developed their knowledge of a wide range of software to begin independently selecting software to achieve a given goal.

What we will learn:

- **Data collection** Pupils will select and combine appropriate software to collect scientific data.

- **Format data using Excel** Pupils will learn to format scientific data using conditional formatting and creating rules. Pupils will also learn how to format numbers and dates, to better aid analysis.

- **Analyse data using Excel** Using advanced filters on Excel, pupils will sort and analyse a range of data. Use advance formulae across sheets to inform scatter-graphs and the advanced sorting of columns.

- **Evaluate and present data** Pupils will evaluate their data and present by independently selecting and combining a range of software. Pupils will consider their audience when making their choices about software and tools.

Summer 1

Previous learning

Pupils will have developed their block coding and computational thinking. They will also have been exposed to python.

What we will learn:

- **Intro to Python** Children will have opportunity to explore python in more depth and how it differs from bock coding. Pupils will explore the purpose of script language for coding over block coding.

- **Loops and repetition** Pupils will create code using loops and repetitions. Applying computational thinking and developing more complex algorithms.

- **Positions** Pupils will develop their code to use Coordinates and fill options. Exploring a range of variable to develop more complex algorithms.

- **Efficient Builder** Pupils will consider the range of available code to develop efficient algorithms. They will use a wide range of variables

Summer 2

Previous learning

Pupils will have experience the available code in Minecraft and how to use them their knowledge of a wide range of software to begin independently selecting software to achieve a given goal.

What we will learn:

- **Independent Coding project** Pupils will design an independent coding project and solve problems by decomposing them into smaller parts. They will create programs which use variables. The project will use their coding skills to mimic a wind farm, exploring renewable energy and importance of computer coding in the real world. They will begin by designing the physical attributes and the code they will use. Then using the previous knowledge of the program and coding the pupils will code to build their design.

- **Animate the wind farm** Pupils will bring their design to life, by creating a code using sequences, selection and repetition to mimic wind variation. They will use variables to indicate wind and generate power. Pupils will then test the

information private online by using safety tools and privacy settings. Pupils will know how to find and ask for help if someone feels unsafe online. ۞ **Trusted Adult** Pupils to identify their trusted adult in school to report to if they are concerned or worried about anything. Pupils to be made aware of OSC and Online Safety Coordinator.	to design and create a range of programs, systems and content for a specified audience. The pupils will then analyse their chosen medium for efficiency. ۞ **Filtering digital content** The pupils will use filters in search technologies effectively. They will also be taught to be discerning when evaluating the legitimacy of digital content and information.	and regularly test and debug their programs.	code and use logical reasoning to debug and evaluate. ۞ **Code an output** Pupils will develop their previous coding to create an output of the power generated. Pupils will choose a purpose for the energy created by the windfarm then design and code this using a range of variables. Pupils will test their program and debug using logical reasoning. ۞ **Present Project** Pupils will present their project, explain their computational thinking and evaluate their project.

Outside of computing lessons children select and use programs appropriate to their lessons purpose.
For example:

Pupils will have the opportunity to increase the speed of their touch typing in every lesson.
OneNote is used across the curriculum to access teaching and learning.
Word is used in English lessons and other curriculum areas when appropriate.
Children will develop Microsoft skills through the use of the Basic Skills Policy.
Teachers address online safety throughout the curriculum when appropriate, ensuring it becomes everyday practise.