Limitless Dreams,
Endless Opportunities

Manor Park School & Nursery

Computing Curriculum

Subject Leader: Laura Power

Subject Specific Planning Documents Computing 2022-23 – Cycle A

Contents of this scheme of work:

Intent

At Manor Park we intend to prepare children to fulfil their potential with a high-quality computing education. This will equip pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Implementation

Our curriculum is implemented through discreet weekly lessons alongside an expectation and opportunity for pupils to use and apply their knowledge and skills in other curriculum areas, such as data collection or developing fluency using Times Tables Rock Stars in Maths. In Key Stage 1 the children will learn to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They will be taught to create and debug simple programs and use logical reasoning to predict the behaviour of simple programs. They will be shown how to use a range of technology purposefully to create, organise, store, manipulate and retrieve digital content as well as recognise common uses of information technology beyond school. They will be taught to use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Each of these skills will be taught through exciting half termly units.

In Key Stage 2 the children will design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. They will use sequence, selection, and repetition in programs, use logical reasoning to explain how some simple algorithms work and correct errors in algorithms and programs. Children will be taught to understand computer networks, including the internet, and the opportunities they offer for communication and collaboration. They will use search technologies effectively, learn to appreciate how results are selected and ranked, and be discerning in evaluating digital content. Children will be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to create a range of programs, systems and content that accomplish given goals. They will use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Our children in Early Years provision will be exposed to the understanding of internet safety as they explore the world around them and how technology is an everyday part of their learning and understanding of the world and are expected to use the computing suite and be able to be independent with basic skills. Furthermore, the school participates in Safer Internet Day every year as well as anti-cyberbullying projects.

Impact

After the

implementation of this robust computing curriculum, children at Manor Park will be digitally literate and able to join the rest of the world on its digital platform. They will be equipped, not only with the skills and knowledge to use technology effectively and for their own benefit, but more importantly – safely. The biggest impact we want on our children is that they understand the consequences of using the internet and that they are also aware of how to keep themselves safe online. Computing delivery is monitored through Lesson Observations, Data Analysis, Book Scrutiny, Pupil Voice and Learning Environment reviews. Verbal Feedback is given to children in order to support them to progress within and across lessons.

As children become more confident in their abilities in Computing, they will become more independent and key life skills such as problem-solving, logical thinking and self-evaluation become second nature.

Overview of Subject Content

	Autumn	Spring	Summer
Rec	ELG -Past and Present: Know some similarities and differences between things in the past and now, drawing on their experiences. Recognise a range of technology that is used in places such as homes and schools. Select and use technology for a particular purpose. ELG – Managing Self: Be confident to try new activities. To be able to use a range of technological resources with increased control. Access and use simple activities using touch technology with increasing control. To give instructions to a friend and follow their instructions to move around. (Using forward, backward and turn.) To input simple instructions (programmable toys- BeeBots/Coda Pillars/iPads/Clevertouch.) Understand the purpose of and experiment with hardware such as cameras, computers, iPads, voice recorders etc. ELG – Fine Motor Skills: Use a range of small tools. Use a range of control toys and devices. ELG Self Regulation: show an ability to follow instructions involving several ideas or actions. Being able to wait for what they want and control their immediate impulses when appropriate. ELG Building Relationships: Work and play cooperatively and take turns with others. ELG Being Imaginative and Expressive: Perform song and rhymes. Talk about what they are doing on a device. ELG-PSED Explain the reasons for rules, know right from wrong and try to behave accordingly: Say if something they find on the internet makes them feel bad. Speak to an adult about what they have seen. Follow the school's online safety rules. ELG – Speaking: offer their own ideas: Express their ideas and feelings about their experiences using full sentences		
Year 1	**SOW Toys** Beebots, multimedia, Word, digital stories, research. **Online safety**- rules.	**SOW Let's Find and Film.** Beebots, map of Knutsford. Simple algorithms, Debugging, filming info around Knutsford. Data handling- pictographs. **Online safety**-passwords.	**SOW Shadows and Stickmen**. Simple photo blogging, animation, pivot stick. Measuring/recording Weather. Photo, printing, displaying data.
Year 2	**SOW Fix it and Find it** Programming a robot to get through a fire, use technology for find information of the fire of London. Blogging, programming, debugging. Research online, displaying info/adding photos. keyboard skills. **Online safety**- e safety online.	**SOW Animal top trumps** Programming algorithms. Displaying data. Multimedia –reports. Simple film animation. **Online safety-**Kindness online	**SOW Shapes and safety. Programme a robot to follow a route.** Quadblogging. Safety poster/talking posters. Investigate questions about Amelia Earhart. Data/sorting. Programming robots. Debugging. **Online safety-**online gaming
Year 3/4	**SOW Programming/Comics** Programming –Hopstotch, debugging Scratch-stories Creating own Comics Research –Fact or Fiction Powerpoint-info presentation **Online safety** - online images	**SOW Games and Information** Lego WeDo Programming –Prevent Flooding Creating games, 'if something happens … then …'**-** adaptation Handling Data –Collect and organise Data, Datalogger. Hyperlinks. **Online safety**- Digital Footprint, age appropriate games, Online chat	**SOW Become a Game Designer.** Programming -Lego WeDo Frogs Metamorphosis /Extreme Habitats Kodu, complex programming, maths games linked to Olympic Games. Create persuasive adverts, collect and present data around advert. Branching databases. Simulation programmes **Online safety**- Kindness and Respect online
Year 5/6	**SOW Shape and weather** Programming -Logo shapes, variables Multimedia- Create weather forecast, film, visual and audio. Handling data -prediction modelling, rainfall data presentation. Lego WeDo –Cleaning the Oceans Lego Wedo –Space Exploration **E Safety**- risks of sharing online.	**SOW Sound** Scratch -design games, with sound, intro x, y axis. Use with Lego WeDo. Datalogger. Handling data, investigating insulators. Adding sound. Lego WeDo –Wildlife Crossing **E Safety**- considering copyright	**SOW Inside your Insides** Research, multimedia, digital imagery, greenscreen filming, Handling Data, Online Surveys and sharing results. Lego WeDo -animal senses. **Online safety**- Online Reliability

Progression of knowledge and skills for Computing – Cycle A

Key Stage National Curriculum	Pupils should be taught to: • understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • create and debug simple programs • use logical reasoning to predict the behaviour of simple programs • use technology purposefully to create, organise, store, manipulate and retrieve digital content • recognise common uses of information technology beyond school use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies										
		For Children:					**Children can:**				
		Programming	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**	**Programming**	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**
Reception		Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Find out about the environment by talking to people, examining photographs, simple maps and visiting local places Explain the reasons for rules, know right from wrong and try to behave accordingly.									
Year 1	Autumn	To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	To know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content	To recognise common uses of information technology beyond school. To understand that there are online tools that can help create and communicate.	To use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies	To talk about the different ways in which information can be shown.	Begin to create and debug simple programs. Begin to make predictions about the behaviour of simple programs.	Recognise that they can use ICT to organise and present their ideas. Use word banks, templates and paint programs to create, develop and present work to each other.	Use technology purposefully to retrieve digital content from the school public drive and the Internet.	Tell an adult when I see something unexpected or worrying online. Agree and follow sensible Online Safety rules for the classroom.	Sort different kinds of information and present it to others.
	Spring	To use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	To recognise common uses of information technology beyond school	To use technology purposefully to create, organise, store, manipulate and retrieve digital content.	To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. To know that you can use logical reasoning to predict the behaviour of simple programs	To know how data is represented digitally.	Be able to keep my password private. Be able to describe what personal information is. Agree and follow sensible Online Safety rules.	Be creative with different technology tools. Use technology to create and present my ideas. Save information in a special place and retrieve it again	Sort different kinds of information and present it to others. Add information to a pictograph and talk to you about what I have found out. Talk about the different ways in which information can be shown. Use technology to collect information	Describe what actions I will need to do to make something happen and begin to use the word algorithm. Press the buttons in the correct order to make a robot do what is instructed. Begin to predict what will happen for a short sequence of instructions. Use the word debug when I correct mistakes	Contribute to and interpret a pictogram. Add information to a pictograph and talk about it.

	Summer	To know how to use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	To know how to use technology purposefully to create, organise, store, manipulate and retrieve digital content.	To recognise common uses of information technology beyond school	To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. To use logical reasoning to predict the behaviour of simple programs.	To know how to use technology to collect information, including photos, video and sound.	Agree and follow sensible Online Safety rules. Tell an adult when I see something unexpected or worrying online.	Use technology to collect information including photos. Be creative with different technology tools.	Use links to websites to find information. Recognise the ways we use technology in our classroom. Recognise ways that technology is used in my home and community. Begin to identify some of the benefits of technology.	Continue to describe what actions I will need to do to make something happen and begin to use the word algorithm. Begin to use software / apps to create movement and patterns on a screen.	Take photographs, video and record sound to record learning experiences.

		For Children:					Children can:				
		Programming	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**	**Programming**	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**
Year 2	Autumn	To use logical reasoning to predict the behaviour of simple programs.	To use technology purposefully to create, organise, store, manipulate and retrieve digital content.	To recognise common uses of information technology beyond school.	To know that not everyone is who they say they are on the internet. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies		Tell you the order needed to do things to make something happen and talk about this as an algorithm. Program a robot to do a particular task. Watch a program execute and spot where it goes wrong so that I can debug it.	Save and open files on the device I use. Use the keyboard on my device to add, delete and space text for others to read.	Identify benefits of using technology. Tell you why I use technology in the classroom. Start to understand that other people have created the information I use.	Describe the things that happen online that I must tell an adult about.	
	Spring	To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.	To recognise common uses of information technology beyond school	To use technology purposefully to create, organise, store, manipulate and retrieve digital content.	To use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies		Program a robot or software to do a particular task. Use programming software to make objects move. Tell you the order I need to do things to make something happen and talk about this as an algorithm. Watch a program execute and spot where it goes	Use technology to organise and present my ideas in different ways. Use the keyboard on my device to add, delete and space text for others to read. Save and open files on the device I use	Tell you why I use technology in my home and community. Identify benefits of using technology including communicating with others.	Talk about why I should go online for a short amount of time. Describe the things that happen online that I must tell an adult about. Know that not everyone is who they say they are on the Internet. Talk about why it is important to be kind and polite	Start to understand that other people have created the information I use. Tell you what kind of information I could use to help me investigate a question. Start to understand a branching database

		To use logical reasoning to predict the behaviour of simple programs					wrong so that I can debug it.			online and in real life	
	Summer	To understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. To use logical reasoning to predict the behaviour of simple programs.	To recognise common uses of information technology beyond school		To use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Program a robot to do a particular task Tell you the order I need to do things to make something happen and talk about this as an algorithm. Look at my friend's program and tell you what happens. Watch a program execute and spot where it goes wrong so that I can debug it.	Use technology to organise and present my ideas in different ways. Save and open files on the device I use.		Talk about why it is important to be kind and polite online and in real life.	Start to understand a branching database. Talk about the different ways I use technology to collect information. Make and save a graph using the data I collect. Talk about the data that is shown in my chart or graph

Key Stage 2 National Curriculum	Pupils should be taught to: • design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • use sequence, selection, and repetition in programs; work with variables and various forms of input and output • use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • 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 • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

		For Children:					Children can:				
		Programming	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**	**Programming**	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**
Year 3/4	Autumn	To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To use sequence, selection, and repetition in programs; work with variables and various forms of input and output To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	To 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. To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		Use a variety of tools to create a program. Use an efficient procedure to simplify a program. Recognise an error in a program and debug it Know that is needed to keep testing a program while putting it together. Recognise that using algorithms will also help solve problems in other learning such as Maths	Change the appearance of text to increase its effectiveness. Create, modify and present documents for a particular purpose. Use an appropriate tool to share work. Give constructive feedback to friends to help them improve their work and consider own work in the same way Be confident to explore new media to extend what can be achieved	Think about the reliability of information I read on the World Wide Web. Identify key words to use when searching safely on the World Wide Web. Tell you how to check who owns photos, text and clipart	Talk about the ways we can protect ourselves and friends from harm online. Know that anything posted online can be seen by others	
	Spring	To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by		To 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	To use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concerns about content and	To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Know to keep testing a program while putting it together. Use a variety of tools to create a program. Recognise an error in a program and debug it Use an efficient		Say whether a resource being used is on the Internet, the school network or on own device. Identify key words to use when searching safely on the World Wide Web.	Talk about the ways to protect themselves and friends from harm online. Use the safety features of websites as well as reporting concerns to an adult. Comment	Organise data in different ways. Collect data and identify where it could be inaccurate. Use a datalogger to record and share my readings with others

		decomposing them into smaller parts. To use sequence, selection, and repetition in programs; work with variables and various forms of input and output To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs		and collaboration. To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	contact.		procedure to simplify a program. Use logical thinking to solve a problem by breaking it up into smaller parts. Use a sensor to detect a change which can select an action in a program. Recognise that an algorithm will help sequence more complex programs		Create a hyperlink to a resource on the World Wide Web	positively and respectfully online	

	Summer	To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To use sequence, selection, and repetition in programs; work with variables and various forms of input and output To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Use a variety of tools to create a program. Know to keep testing a program while putting it together. Recognise that an algorithm will help sequence more complex programs. Recognise an error in a program and debug it Recognise that using algorithms will also help solve problems in other learning such as Maths	Use photos, video and sound to create an atmosphere when presenting to different audiences. Explore new media to extend what can be achieved. Create, modify and present documents for a specific purpose. Give constructive feedback to friends to help them improve their work and consider own work in the same way. Check who owns photos, text and clipart.	Use photos, video and sound to create an atmosphere when presenting to different audiences. Explore new media to extend what I can achieve. Create, modify and present documents for a specific purpose. Give constructive feedback to my friends to help them improve their work and consider my own work in the same way. Check who owns photos, text and clipart.	Choose a secure password when using a website. Comment positively and respectfully online Talk about why I need to ask a trusted adult before downloading files and games from the Internet.	Organise data in different ways. Plan, create and search a database to answer questions. Choose the best way to present data to others.

		For Children:					**Children can:**				
		Programming	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**	**Programming**	**Multimedia**	**Technology in our Lives**	**Online Safety**	**Data Handling**
Year 5/6	Autumn	To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. To use	To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting,	To 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.	To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		Understand that efficient algorithms can be used to solve problems and to plan for specific outcomes. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Select, use and combine a variety of software (including internet services) to design and create a range of programs and content that accomplish given goals, including collecting, analysing, evaluating and	Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Explain the consequences of spending too much time online or on a game.	

		sequence, selection, and repetition in programs; work with variables and various forms of input and output To use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	analysing, evaluating and presenting data and information					presenting data and information.			
	Spring	To use sequence, selection, and repetition in programs; work with variables and various forms of input and output.	To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.	To 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	To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.		Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.	Support my friends to protect themselves and make good choices online. Explain the consequences to myself and others of not communicating kindly and respectfully. protect a computer or device from harm on the Internet.	Collect, analyse, evaluate and present data and information.
	Summer	To design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.		To use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content.	Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.		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.	Support others to protect themselves and make good choices online, including reporting concerns to an adult. Explain the consequences of not communicating kindly and respectfully. Explain the consequences of sharing too much personal	

										information online	

Curriculum End Points – Computing Cycle A

The end points for each year group show how children apply the knowledge, skills and understanding they are taught before moving on with their learning.

Year 1		
Autumn	**Spring**	**Summer**
Toys	Let's Find and Film	Shadows and stickmen
Children can: ~Predict and use a series of instructions and follow their instructions to move a programable toy around. ~Explain what the word debug means and correct mistakes when I program simple toys. ~Explain two ways that technology is used in my home and community.	Children can: ~Record a simple algorithm using symbols cards then written, to plan a route for a Beebot to a designated location on a simple map. ~Create a shared simple greenscreen film that shows features of the local environment. ~Use information collected about materials to create a pictograph and explain findings.	Children can: ~Use 'Pivot Stick', plan and create a simple animation, adding frames and editing as necessary. ~Take camera photos to record the changes in shadows over a day. Use text to label and present this information to others. ~Give two examples of different multimedia they use in everyday life.
Online Safety Explain rules about keeping password secure and give an example of how they keep their password safe.		
Year 2		
Find It and Fix It	Shapes and safety	Animal top trumps
Children can: ~Explain what an algorithm is and use it in context. ~Program a Beebot to do a particular task and debug where necessary. ~Create a PowerPoint of information on the fire of London.	Children can: ~Explain 'blogging', give an example of a blog they have participated in as a class and recall how to keep themselves safe while blogging. ~Create a 'talking poster' using facts about Amelia Earhart. ~Draw 2d Shapes using a Beebot, recording features in a branching database. Use information to adapt and record algorithms to draw shapes.	Children can: ~Use a Beebot to draw a simple staircase shape. Record a route taken to find an animal on a map by programming the ~Beebot and leaving a trail. Use information about animals to create a branching database. ~Use 'Monkey Jam' to create an animation to share information about animals and animal facts.
Online Safety Explain how to be safety online when gaming. Give an example of how they can show kindness online.		

Years 3 and 4		
Autumn	**Spring**	**Summer**
Programming/Comics	Games and Information	Become a game Designer
Children can: ~Use Scratch to create simple games involving repeat, collision and move functions. ~Create a comic strip linked to the Romans. ~Explain what plagiarism means.	Children can: ~ Use Scratch using more complex commands to create a game using 'what happens…. if, then, otherwise'. ~Use a 'Datalogger' to collect data to use with data found on the internet to compare with different climates. ~Use Lego WeDo 'getting started', explore methods to prevent flooding.	Children can: ~ Use Kodu to create a Maths game for others, debugging and testing and analysing. ~Create persuasive advert for own Kodu game using 'snipping' tool and inserting video clips. ~Use Lego WeDo Frogs Metamorphosis /Extreme Habitats
Online Safety Give an example of an age-appropriate game and why some games are not. Give an example of the use of copyright. Recall how they have a digital footprint. Explain how they can show respect online to others.		
Years 5 and 6		
Autumn	**Spring**	**Summer**
Shape and weather	Sound	Inside your Insides
Children can: ~Refine and produce procedures of sequences to improve efficiency of algorithms to be able to draw a regular 7-sided shape and a regular 13 sided shaped. ~Use Greenscreen and Audacity to produce a weather report using data that they have collected. ~Use Lego WeDo programing to send messages linked to project on WW2.	Children can: ~Using prior knowledge of scratch as well as an understanding of 'x' and 'y' variables to count in Roman Numerals using 'if' 'when' and 'else' functions in their algorithms. ~Use a 'datalogger' to collect data about traffic sounds. Present the data using appropriate self-chosen methods. ~Use Lego WeDo to explore 'Animal Senses'.	Children can: ~Use the internet to gather information and present using greenscreen filming to others. ~Using prior learning select and use appropriate software to create a simulation of the Human Body using 'if' and 'when' functions in their algorithms. ~Using 'survey monkey' or similar, to collect data and present using Excel. ~Use Lego WeDo to explore methods of Wildlife Crossings
Online Safety Explain the reliability of information found online. Give examples of permissions needed to share online.		

Road Map- Computing Cycle A

Manor Park Primary School Curriculum

Year One

SOW Toys
Beebots, multimedia, Word, digital stories, research.
Online Safety- rules.

SOW Let's Find and Film.
Beebots, map of Knutsford. Simple algorithms, Debugging, filming info around Knutsford. Data handling- pictographs.
Online Safety- passwords.

SOW Shadows and Stickmen.
Simple photo blogging, animation, pivot stick. Measuring/recording Weather.
Photo, printing, displaying

Year Two

SOW Fix it and Find it Programming a robot to get through a fire, use technology for find information of the fire of London.
Blogging, programming, debugging.
Research online, displaying info/adding photos. keyboard skills.
Online Safety- e safety online.

SOW Shapes and safety. Programme a robot to follow a route around the continents
Investigate questions about Amelia Earhart.
Quadblogging. Safety poster/talking posters.
Data/sorting. Programming robots. Debugging.
Online Safety- online gaming

Each term each year group covers aspects of computing from Multimedia, Online Safety, Data Handling, programming and Technology in our lives. Teaching will add to prior learning.

Year Three /Four

SOW Games and Information
Lego WeDo Programming –Prevent Flooding
Creating games, 'if something happens … then …'- adaptation
Handling Data –Collect and organise Data, Datalogger. Hyperlinks.
Online Safety- Digital Footprint, age appropriate games, Online chat

SOW Programming/Comics
Programming –Hopstotch, debugging
Scratch-stories
Creating own Comics
Research –Fact or Fiction
Powerpoint-info presentation
Online Safety- online images

SOW Animal top trumps
linked to rainforest.
Programming algorithms. Displaying data. Multimedia –reports. Simple film animation.
Online Safety-Kindness online

Year Five /Six

SOW Become a Game Designer
Programming -Lego WeDo Frogs Metamorphosis /Extreme Habitats
Kodu, complex programming, maths games linked to Olympic Games.
Create persuasive adverts, collect and present data around advert. Branching databases. Simulation Programmes
Online Safety- Kindness and Respect online

SOW Shape and weather
Programming -Logo shapes, variables
Multimedia- Create weather forecast, film, visual and audio.
Handling data -prediction modelling, rainfall data presentation.
Lego WeDo –Cleaning the Oceans
Lego Wedo –Space Exploration
E Safety- risks of sharing online.

SOW Sound
Scratch -design games, with sound, intro x, y axis. Use with Lego WeDo.
Datalogger. Handling data, investigating insulators. Adding sound.
Lego WeDo –Wildlife Crossing
Online Safety- considering copyright

SOW Inside your Insides
Research, multimedia, digital imagery, greenscreen filming.
Handling Data, Online Surveys and sharing results.
Lego WeDo -animal senses.
Online Safety- Online Reliabilty