National Curriculum Requirements	
Information Technology	Computer Science
KS1 CO2 1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content	CO2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions CO2/1.2 create and debug simple programs CO2/1.3 use logical reasoning to predict the behaviour of simple programs
• Word processing • Data Handling • Presentations, web design and eBook creation • Animation • Video Creation • Photography and Digital Art • Sound • Augmented Reality and Virtual Reality	• Computational Thinking • Coding and Programming
KS2 CO2/1.6 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	CO2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts CO2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output CO2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs CO2/1.4 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 CO2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
• Word processing • Data Handling • Presentations, web design and eBook creation • Animation • Video Creation • Photography and Digital Art • Sound • Augmented Reality and Virtual Reality	• Computational Thinking • Coding and Programming • Computer Networks

Computing
Manor Park Curriculum design

Intent
Our aim is to ensure that children at Manor Park are skilled and capable digital citizens who can use technology safely and effectively in an ever-evolving digital world. We strive to foster a culture of life-long learning by equipping children with skills that can be transferred to many aspects of their school career and beyond.

Children creatively present their work using a variety of software and apps. We want to ensure that children are competent in word processing, data handling, animation and video creation. Our aim is for the skills they learn within these strands to be transferred across the curriculum and ensure that children have a strong awareness of their audience and good design principles. In UKS2, children should independently choose and app or skill that they can use to present their work. Through Computer Science, we endeavor to encourage children to be analytical and use computational thinking to become keen problem solvers.

Implementation
Computing is taught discretely in KS1 and KS2 and we encourage transferring information technology skills to creatively present learning across the curriculum. Following the national curriculum requirements, we use the D.A.R.E.S. scheme of learning to implement the computer science and information technology strands; digital safety is taught through our PSHE lessons. In KS1, computing is taught weekly for 45 minutes and a sequence of lessons is taught over a half term. In KS2, computing is taught once a half term; children complete a project in an afternoon, following the D.A.R.E.S. approach (Design, Apply, Refine, Evaluate, and Share). During computer science lessons our aim is for learners to enhance their creativity and algorithmic. Using coding software, children take on projects such as creating digital clocks, designing computer games and constructing chatbots. These projects give the children the opportunity to apply their learning creatively and become skills computer scientists. We strive to ensure that children can creatively present their work using a variety of software and apps. We want to ensure that children are competent in word processing, data handling, animation and video creation and can use a range of tools to show their understanding.

Impact
It is our uncompromising vision that all children reach age related expectations at the end of each year. On going teacher assessment is used to swiftly address gaps, therefore ensuring almost all children securely meet the objectives mapped out in our curriculum.

	Autumn	**Spring**	**Summer**
Year 1	Co2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Co2/1.2 create and debug simple programs Co2/1.3 use logical reasoning to predict the behaviour of simple programs *Robot Maze* *Animations in Scratch* **Knowledge:** **Computational Thinking** **Coding and Programming** • understand what algorithms are • write simple algorithms • understand the sequence of algorithms is important • debug simple algorithms • understand that algorithms are implemented as programs on digital devices I can create a simple program • use sequence in programs I can locate and fix bugs in my program	Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content *Shadow Puppets* **Knowledge:** **Video Creation** • I select images and record a voiceover • highlight and zoom into images as I record *Creating our own cartoon* **Knowledge:** **Animation** • I can add filters and stickers to enhance an animation of a character. • I can create an animation to tell a story with more than one scene. • I can add my own pictures to my story animation.	Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content *Pictograms* **Knowledge:** **Data Handling** • I can sort images or text into two or more categories on a digital device. • I can collect data on a topic. • I can create a tally chart and pictogram. • I can record myself explaining what I have done and what it shows me *Animated Character Video* **Knowledge:** **Animation** • I can add filters and stickers to enhance an animation of a character. • I can create an animation to tell a story with more than one scene. • I can add my own pictures to my story animation. **Previous learning links:** Creating our own cartoon (Y1 Spring)

Year 2	Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content *Venn Diagrams* **Knowledge:** **Word Processing** • I can use the space bar only once between words and use touch to navigate to words letter to edit • I can copy and paste images and text • Use caps locks for capital letters. • I can add images alongside text in a word processed document **Data Handling** • I can sort digital objects into a range of charts such as Venn diagrams, carroll diagrams and bar charts using different apps and software. • I can orally record myself explaining what the data shows me. **Previous learning links:** Pictograms (Y1 Summer Term) *Simple Photo shopping* **Knowledge:** **Photography and Digital Art** • I can edit a photo (crop, filters, mark up etc) • I can select and use tools to create digital imagery - controlling the pen and using the fill tool • I can cut images with accuracy to layer on other images.	Co2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Co2/1.2 create and debug simple programs Co2/1.3 use logical reasoning to predict the behaviour of simple programs *My Robot Helper* **Knowledge:** **Computational Thinking** • I can write algorithms for everyday tasks • I can use logical reasoning to predict the outcome of algorithms • I understand decomposition is breaking objects/processes down • I can debug algorithms **Coding and Programming** • I understand programs execute by following precise and unambiguous instructions • I can create programs on a variety of digital devices • I can debug programs of increasing complexity • I can use logical reasoning to predict the outcome of simple program **Previous learning links:** Robot Maze (Y1 Autumn) Animations in Scratch (Y1 Autumn) Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content *Interactive images* **Knowledge:** **Presentations, web design and eBook Creation** • I can add voice labels to an image.	Co2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions Co2/1.2 create and debug simple programs Co2/1.3 use logical reasoning to predict the behaviour of simple programs *Knock Knock Jokes* **Knowledge:** **Computational Thinking** • I can write algorithms for everyday tasks • I can use logical reasoning to predict the outcome of algorithms • I understand decomposition is breaking objects/processes down • I can debug algorithms **Coding and Programming** • I understand programs execute by following precise and unambiguous instructions • I can create programs on a variety of digital devices **Previous learning links:** My Robot Helper (Y2 Spring) Robot Maze (Y1 Autumn) Animations in Scratch (Y1 Autumn) Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content *Masking Story time* **Knowledge:** **Video Creation** • I can write and record a script using a teleprompter tool. • I can begin to use green screen techniques with support **Previous learning links:** Shadow Puppets (Y1 Spring)

Year 3	Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs *Animations in Scratch* **Knowledge:** **Computational Thinking** • I can create algorithms for use when programming • I can decompose tasks (such as animations) into separate steps to create an algorithm • I understand abstraction is focusing on important information **Previous learning links:** My Robot Helper (Y2 Spring) Robot Maze (Y1 Autumn) Animations in Scratch (Y1 Autumn) Co2/1.6 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. *AR 360 Image* **Knowledge:** **Augmented Reality and Virtual Reality** • I can create my own digital 360 image and explore it in VR • I can create my own images and bring it into my surroundings through AR.	• Co2/1.4 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 • Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content *Network Explorers* **Knowledge:** **Computer Networks** • Understand that the computers in a school are connected together in a network • Understand why computers are networked **Video Creation** • I know how to sequence clips of mixed media in a timeline and record a voiceover **Previous learning links:** Shadow Puppets (Y1 Spring) Masking Story Time (Y2 Summer) *Story Graphs* **Knowledge:** **Data Handling** • I can create my own sorting diagram and complete a data handling activity with it using images and text. • I can start to input simple data into a spreadsheet. • I can create a feelings chart exploring a story or character's feelings **Previous learning links:** Pictograms (Y1 Summer Term) Venn Diagrams (Y2 Autumn Term)	Co2/1.6 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. *Interactive Comics* **Knowledge:** **Word Processing** • I can edit the style and effect of my text and images to make my document more engaging and eye-catching. For example, borders and shadows. **Presentations, web design and eBook Creation** • I can create an interactive comic with sounds, formatted text and video. **Previous learning links:** Interactive Images (Y2 Autumn) Venn Diagrams (Y2 Autumn) *Movie Audio Description* **Knowledge:** **Video Creation** • I can sequence clips of mixed media in a timeline and record a voiceover **Previous learning links:** Network Explorers (Y3 Spring) Shadow Puppets (Y1 Spring) Masking Story Time (Y2 Summer)

Year 4	Co2/1.6 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. *Online questionnaire* **Knowledge:** **Word Processing** • Confidently and regularly use text shortcuts such as cut, copy and paste and delete to organise text **Data Handling** • I can create my own online multiple choice questionnaire. **Previous learning links:** Pictograms (Y1 Summer Term) Venn Diagrams (Y2 Autumn Term) Interactive Comics (Y3 Summer Term) *Adobe Spark Posters* **Knowledge:** **Word Processing** •I can combine digital images from different sources, objects, and text to make a final piece: posters, documents, eBooks, scripts, leaflets. **Presentations, web design and eBook Creation** • I can create a presentation demonstrating my understanding with a range of media. • I can import images from the web and camera roll to a project. **Previous learning links:** Pictograms (Y1 Summer Term) Venn Diagrams (Y2 Autumn Term) Interactive Comics (Y3 Summer Term)	Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs *Makey Makey Games Controller* **Knowledge:** **Computational Thinking** • I can use abstraction to focus on what's important in my design • I can write increasingly more precise algorithms for use when programming. • I can use simple selection in algorithms • I can use logical reasoning to detect and correct errors in programs **Coding and Programming** • I can use simple selection in programs • I can work with various forms of output • I can use logical reasoning to systematically detect and correct errors in programs • I can work with various forms of output **Previous learning links:** My Robot Helper (Y2 Spring) Robot Maze (Y1 AutumFn) Animations in Scratch (Y3 Autumn) • Co2/1.4 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	Co2/1.6 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, eval uating and presenting data and information. *Adobe Spark Video* **Knowledge:** **Video Creation** • I can sequence clips of mixed media in a timeline and record a voiceover • I can evaluate and improve the best video tools to best explain my understanding. **Previous learning links:** Network Explorers (Y3 Spring) Shadow Puppets (Y1 Spring) Masking Story Time (Y2 Summer) Movie Audio Description (Y3 Summer) *Movie Soundtrack* **Knowledge:** **Video Creation** • I can add music and sound effects to my films **Sound** • Edit sound effects for a purpose. **Previous learning links:** Network Explorers (Y3 Spring) Shadow Puppets (Y1 Spring) Masking Story Time (Y2 Summer) Movie Audio Description (Y3 Summer) Adobe Spark Video (Y4 Summer)

| | Online questionnaire (Y4 Autumn Term) | • Co2/1.5   use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

The Internet

Knowledge:

Computer Networks
• Understand the Internet is a worldwide network
• Understand how web pages are viewed across the Internet
• Understand the difference between the Internet and the world wide web

Video Creation
• I know how to use confidently use green screen adding animated backgrounds.

Previous learning links:
Network Explorers (Y3 Spring Term) | |

Year 5			

Column 1:

• Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
• Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output
• Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Quizzes in Scratch
Knowledge:
Computational Thinking
• I can solve problems by decomposing them into smaller parts
• I can use selection in algorithms
Coding and Programming
• I can create programs by decomposing them into smaller parts
• I can use selection in programs
• I can work with variables
• I can evaluate my work and identify errors

Previous learning links:
Robot Maze (Y1 Autumn)
My Robot Helper (Y2 Spring)
Animations in Scratch (Y3 Autumn)
Makey Makey Games Controller (Y4 Spring)

Co2/1.6 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.

Green Screen News report
Word Processing

Column 2:

• Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
• Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output
• Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Games in Scratch
Knowledge:
Computational Thinking
• I can use logical reasoning to detect and correct errors in algorithms
Coding and Programming
• I can create programs by decomposing them into smaller parts
• I can use selection in programs
• I can work with variables
• I can evaluate my work and identify errors
Previous learning links:
Robot Maze (Y1 Autumn)
My Robot Helper (Y2 Spring)
Animations in Scratch (Y3 Autumn)
Makey Makey Games Controller (Y4 Spring)
Quizzes in Scratch (Y5 Autumn)

Co2/1.6 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, evalu ating and presenting data and information.

Character Interviews
Knowledge:

Column 3:

• Co2/1.4 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
• Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
Search Engines
Knowledge:
Computer Networks
• Understand that web spiders index the web for search engines
• Appreciate how pages are ranked in a search engine
Presentations, web design and eBook Creation
• I know how to create and export an interactive presentation including a variety of media, animations, transitions and other effects.
Photography and Digital Art
• I know how to enhance digital photos and images using crop, brightness and resize tools

Previous learning links:
Network Explorers (Y3 Spring Term)
The Internet (Y4 Spring Term)

Co2/1.6 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.

Four chord remix
Knowledge:
Sound
• Create a simple four chord song following the correct rhythm.

• I can organise and reorganise text on screen to suit a purpose

Video Creation
• I can use cutaway and split screen tools in iMovie.
• I can evaluate and improve the best video tools to best explain my understanding.
• I can further improve green screen clips using crop and resize and explore more creative ways to use the tool - wearing green clothes and the masking tool.

Computational Thinking
• I can solve problems by decomposing them into smaller parts

Previous learning links:

Computational Thinking
Robot Maze (Y1 Autumn)
My Robot Helper (Y2 Spring)
Animations in Scratch (Y3 Autumn)
Makey Makey Games Controller (Y4 Spring)
Network Explorers (Y3 Spring)

Video Creation
Shadow Puppets (Y1 Spring)
Masking Story Time (Y2 Summer)
Movie Audio Description (Y3 Summer)
Adobe Spark Video (Y4 Summer)

Word Processing
Pictograms (Y1 Summer Term)
Venn Diagrams (Y2 Autumn Term)
Interactive Comics (Y3 Summer Term)
Online questionnaire (Y4 Autumn Term)

Animation
• I can take multiple animations of a character I have created and edit them together for a longer video.
• I can record animations of different characters and edit them together to create an interview.

Video Creation
• I can evaluate and improve the best video tools to best explain my understanding.

Previous learning links:

Video Creation
Shadow Puppets (Y1 Spring)
Masking Story Time (Y2 Summer)
Movie Audio Description (Y3 Summer)
Adobe Spark Video (Y4 Summer)
Green Screen News Report (Y5 Autumn)

Animation
Creating our own cartoon (Y1 Spring)

• Create a remix of a popular song

Computational Thinking
• I can solve problems by decomposing them into smaller parts
• I can critically evaluate my work and suggest improvements

Previous learning links:

Sound
Movie Soundtrack (Y4 Summer)

Computational Thinking
Robot Maze (Y1 Autumn)
My Robot Helper (Y2 Spring)
Animations in Scratch (Y3 Autumn)
Makey Makey Games Controller (Y4 Spring)
Network Explorers (Y3 Spring)

Year 6			

Column 1:

• Co2/1.1   design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
• Co2/1.2   use sequence, selection, and repetition in programs; work with variables and various forms of input and output
• Co2/1.3   use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

Creating a Game in Scratch
Knowledge:
Computational Thinking
● I can decompose a design or code to focus on specific parts
● I can recognise and make use of patterns in my design and code
Coding and Programming
● I can use a range of sequence, selection and repetition commands to implement my design ● I can identify the need for, and work with, variables
Previous learning links:
Robot Maze (Y1 Autumn)
My Robot Helper (Y2 Spring)
Animations in Scratch (Y3 Autumn)
Makey Makey Games Controller (Y4 Spring)
Quizzes in Scratch (Y5 Autumn)
Games in Scratch (Y5 Spring)

Co2/1.6 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.
Plotagon Animation

Knowledge:

Column 2:

Co2/1.6 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.

App Prototype
Knowledge:
Word Processing
• I can confidently choose the best application to demonstrate my learning.
• I can format text to suit a purpose.
• I can publish my documents online regularly and discuss the audience and purpose of my content.
Presentations, web design and eBook Creation
•I can design an app prototype that links multimedia pages together with hyperlinks.
• I can choose applications to communicate to a specific audience.
• I can evaluate my own content and consider ways to improve
Photography and Digital Art
• I can edit a picture to remove items, add backgrounds, merge 2 photos

Previous learning links:
Word Processing
Pictograms (Y1 Summer Term)
Venn Diagrams (Y2 Autumn Term)
Interactive Comics (Y3 Summer Term)
Online questionnaire (Y4 Autumn Term)
Green Screen News Report (Y5 Autumn Term)
Presentations, web design and eBook Creation
Interactive Images (Y2 Autumn)
Interactive Comics (Y3 Summer Term)
Adobe Spark Posters (Y4 Spring Term)
Photography and Digital Art
Simple Photoshopping (Y2 Autumn Term)

Column 3:

• Co2/1.4   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
• Co2/1.5   use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

HTML
Knowledge:
Computer Networks
● Understand what HTML is and recognize HTML tags
● Know a range of HTML tags and remix a web page
● Create a webpage using HTML
Previous learning links:
Network Explorers (Y3 Spring Term)
The Internet (Y4 Spring Term)
Search Engines (Y5 Summer Term)

Co2/1.6 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.

Greenscreen Special Effects
Knowledge:
Animation
•I can choose and create different types of animations to best explain my learning.
Video Creation
•I can create videos using a range of media - green screen, animations, film and image.

Previous learning links:
Video Creation
Shadow Puppets (Y1 Spring)

	Animation ●I can plan, script and create a 3D animation to explain a concept or tell a story. ●I can choose and create different types of animations to best explain my learning **Video Creation** • I can create videos using a range of media - green screen, animations, film and image. **Previous learning links:** **Video Creation** Shadow Puppets (Y1 Spring) Masking Story Time (Y2 Summer) Movie Audio Description (Y3 Summer) Adobe Spark Video (Y4 Summer) Green Screen News Report (Y5 Autumn) Character Interviews (Y5 Spring) **Animation** Creating our own cartoon (Y1 Spring) Character Interviews (Y5 Spring)	• Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output • Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs **3D Lettering** **Knowledge:** **Computational Thinking** ● I can decompose a design or code to focus on specific parts ● I can use abstraction to hide complexity in my design or code ● I can recognise and make use of patterns in my design and code **Coding and Programming** ● I can identify the need for, and work with, variables ● I can create procedures to hide complexity in programs **Previous learning links:** Robot Maze (Y1 Autumn) My Robot Helper (Y2 Spring) Animations in Scratch (Y3 Autumn) Makey Makey Games Controller (Y4 Spring) Quizzes in Scratch (Y5 Autumn) Games in Scratch (Y5 Spring) Creating a game in Scratch (Y6 Autumn)	Masking Story Time (Y2 Summer) Movie Audio Description (Y3 Summer) Adobe Spark Video (Y4 Summer) Green Screen News Report (Y5 Autumn) Character Interviews (Y5 Spring) Plotagon Animation (Y6 Autumn) **Animation** Creating our own cartoon (Y1 Spring) Character Interviews (Y5 Spring) Plotagon Animation (Y6 Autumn)
Curriculum Enhancement	MPU Code masters (Lower) MPU Lego Wedo (Upper) Tech Club Lunchtime iPad Club Using information technology learning to present learning across curriculum		