



Computing Curriculum Overview 2022-23

Key Concepts	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Computing systems and networks</p> <p>To know that a computer has a mouse and a keyboard and be able to recognise them (N)</p> <p>To use a mouse to manipulate a program (R)</p> <p>To use a keyboard and understand keys represent letters and numbers (R)</p> <p>To understand that a tablet is different to a computer in some ways (R)</p>	<p>Technology Around Us</p> <ul style="list-style-type: none"> ◊ Understand what technology is ◊ Know what technology they have in their lives ◊ Be able to use a mouse and a keyboard ◊ Be able to open a file ◊ Be able to create a typed document and save it 	<p>IT Around Us</p> <ul style="list-style-type: none"> ◊ Develop the understanding of where technology can be found in the world ◊ Be able to name the types of technology found in shops, schools and at home ◊ Understand why we use IT ◊ Understand how to use IT safely 	<p>Connecting Computers</p> <ul style="list-style-type: none"> ◊ Understand how inputs and outputs work in digital technology ◊ Understand how to use technology and inputs/outputs to achieve an aim ◊ Understand why we choose to use technology ◊ Understand the difference between digital and analogue outcomes ◊ Understand that technology connects people ◊ Begin to understand how networks connect people and how they work 	<p>The Internet</p> <ul style="list-style-type: none"> ◊ Understand how computers are physically connected in networks ◊ Start to understand the role of some of the devices in a network ◊ Know what the internet is ◊ Know what the WWW is and it is different from the internet ◊ Understand that people create web page ◊ Understand that not all information on the WWW is accurate 	<p>Sharing information</p> <ul style="list-style-type: none"> ◊ Understand what a digital system is ◊ Understand how larger computer systems work(traffic lights) ◊ Understand that the internet forms part of some systems ◊ Know what an IP address is ◊ Be able to work collaboratively online ◊ Understand how systems and networks enable collaborative working 	<p>Communication</p> <ul style="list-style-type: none"> ◊ Develop from the understanding of the internet to understand what the WWW is ◊ Be able to carry out specific searches on the WWW ◊ Understand how search engines work ◊ Understand what SEO is ◊ Know that the internet can be used to communicate ◊ Understand how to stay safe when communicating online



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Cre ati ng me dia	<ul style="list-style-type: none"> ◊ To independently listen to digital audio (N) ◊ Take photographs using a digital device (N/R) ◊ To record video using a digital device (R) ◊ To record audio (R) 	<p>Digital Painting</p> <ul style="list-style-type: none"> ◊ To be able to digitally paint ◊ Use a range of tools to digitally paint ◊ Create a digital painting ◊ Compare digital painting to a painting on paper <p>Digital Writing</p> <ul style="list-style-type: none"> ◊ Type a document on a computer ◊ Be able to use a range of tools to digitally write ◊ Select tools to create digital writing ◊ Compare digital writing with handwriting 	<p>Digital Photography</p> <ul style="list-style-type: none"> ◊ Compose and frame an image ◊ Select images ◊ Edit images using software ◊ Produce a final image too meet a brief <p>Making Music</p> <ul style="list-style-type: none"> ◊ Discuss how music makes us feel ◊ Understand that music has patterns ◊ Create rhythms and patterns in music ◊ Use software to compose music 	<p>Stop-Frame Animation</p> <ul style="list-style-type: none"> ◊ Understand that animations are a series of photos or drawings ◊ Understand movement is a created by a sequence of images ◊ Plan/storyboard an animation ◊ Create and improve an animation ◊ Evaluate an animation <p>Desktop Publishing</p> <ul style="list-style-type: none"> ◊ Understand that text and images convey information ◊ Consider layout ◊ Understand how to create and edit content ◊ Use editing tools such as copy and paste to create content ◊ Discuss the benefits of desktop publishing 	<p>Audio Editing</p> <ul style="list-style-type: none"> ◊ Understand that sound can be digitally recorded ◊ Understand what input(microphone) and output devices are speakers) ◊ Use a digital recording device ◊ Edit a digital sound file <p>Photo Editing</p> <ul style="list-style-type: none"> ◊ Understand that an image can be changed ◊ Change the composition of an image ◊ Use tools to edit images ◊ Understand that some images are fake/ edited 	<p>Vector Drawing</p> <ul style="list-style-type: none"> ◊ Know how to use tools in a vector based drawing program ◊ Use tools to create drawings by combining shapes ◊ Understand that vector drawing software uses layers ◊ Understand how to group objects for easy use <p>Video Editing</p> <ul style="list-style-type: none"> ◊ Understand what makes a video effective ◊ Record video using a digital device ◊ Create a storyboard ◊ Improve video by reshooting and editing 	<p>3D Modelling</p> <ul style="list-style-type: none"> ◊ Compare 2d and 3D shapes ◊ Use modelling software to combine shapes ◊ Colour, rotate and resize shapes ◊ Design a physical object ◊ Improve designs <p>Web Page Creation</p> <ul style="list-style-type: none"> ◊ Understand that web pages are written in HTML ◊ Plan a web page design ◊ Create a web page using software ◊ Use navigation paths and consider effective links
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Programing	<ul style="list-style-type: none"> ◊ Group objects by type (N) ◊ Discuss data and information and understand that things can be categorised using labels (R) ◊ Create tally charts (R) 	<p><u>Floor Robots</u></p> <ul style="list-style-type: none"> ◊ Understand what commands are ◊ Use commands to control a floor robot ◊ Choose commands to achieve a goal ◊ Understand that a program is a set of commands ◊ Debug and improve programs <p><u>Programming Animations</u></p> <ul style="list-style-type: none"> ◊ Compare floor robots to Scratch Jr ◊ Know what block code is ◊ Know that an algorithm is a set of instructions ◊ Write code (instructions) to control a sprite 	<p><u>Robot Algorithms</u></p> <ul style="list-style-type: none"> ◊ Understand that an algorithm is a set of instructions ◊ Understand that computers read and follow algorithms without thought ◊ Make predictions about programs ◊ Understand that programs can contain code and artwork ◊ Write a program to achieve an aim <p><u>Programming Quizzes</u></p> <ul style="list-style-type: none"> ◊ Understand that programs have a start and an outcome ◊ Incorporate design in a program ◊ Edit designs in a program ◊ Refine designs in programs to meet the initial brief 	<p><u>Sequence in Music</u></p> <ul style="list-style-type: none"> ◊ Progress from Scratch Jr to Scratch ◊ Understand that commands have outcomes ◊ Change the sequence of commands ◊ Edit the program appearance ◊ Write a program from a task description <p><u>Events and actions</u></p> <ul style="list-style-type: none"> ◊ Explain how sprites move in a program ◊ Be able to move a sprite in four directions using code ◊ Adapt an existing program to fit a different context ◊ Develop and refine a program by adding features ◊ Develop a process for debugging ◊ Design and create a program that creates a maze-based challenge 	<p><u>Repetition in Shapes</u></p> <ul style="list-style-type: none"> ◊ Write code in a text-based language ◊ Understand the role of repetition in programs ◊ Understand what a count-controlled loop is ◊ Write a program using a count-controlled loop <p><u>Repetition in Games</u></p> <ul style="list-style-type: none"> ◊ Develop the understanding of a count-controlled loop in a different environment ◊ Compare infinite loops and count-controlled loops ◊ Use loops in programs 	<p><u>Selection in Physical Computing</u></p> <ul style="list-style-type: none"> ◊ Control a simple circuit connected to a computer ◊ Write programs including controlled loops ◊ Understand that a loop can end based on a condition ◊ Write a program that includes selection <p><u>Selection in Quizzes</u></p> <ul style="list-style-type: none"> ◊ Understand that conditions control the flow of programs ◊ Link a condition statement to a condition outcome ◊ Design and create a program that uses selection 	<p><u>Variables in Games</u></p> <ul style="list-style-type: none"> ◊ Understand what variables are ◊ Know how to use variables in programs ◊ Enhance a game code using variables ◊ Write a game code using variables ◊ Evaluate projects <p><u>Sensing</u></p> <ul style="list-style-type: none"> ◊ Learn what a Micro bit is ◊ Create a program using software ◊ Install software onto Micro bit ◊ Use variables ◊ Write a code to create a compass on a Micro bit ◊ Code and debug a step counter
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Data and information	<ul style="list-style-type: none"> ◊ Program a floor robot to follow a simple set of instructions (N) ◊ Complete a simple program on an electronic device to achieve a goal (beebots) (R) 	<p>Grouping Data</p> <ul style="list-style-type: none"> ◊ Understand that objects can be labelled and grouped ◊ Be able to label and group objects based on properties ◊ Choose searches and compare groups ◊ Debug and improve 	<p>Pictograms</p> <ul style="list-style-type: none"> ◊ Use tally charts to collect data ◊ Understand that data can be represented in pictograms ◊ Use software to create and analyse pictograms ◊ Group object and label groups using attributes ◊ Draw conclusions from represented data ◊ Be able to present and discuss data 	<p>Databases</p> <ul style="list-style-type: none"> ◊ Understand how 'yes/no' can sort data ◊ Understand that attributes can be used to refine data ◊ Select appropriate attributes required to find desired data ◊ Understand what a branching database is ◊ Use a branching database to sort information ◊ Compare branching databases to pictograms 	<p>Data Logging</p> <ul style="list-style-type: none"> ◊ Understand that data can be collected over time ◊ Be able to use a datalogger ◊ Know that dataloggers collect data points from sensors ◊ Select what data need to be collected ◊ Answer question using data 	<p>Flat File Databases</p> <ul style="list-style-type: none"> ◊ Create paper file databases ◊ Understand how computers file records ◊ Group data ◊ Search records ◊ Compare data using charts ◊ Select flights based on search criteria 	<p>Spreadsheets</p> <ul style="list-style-type: none"> ◊ Understand how spreadsheets ordan-ise data ◊ Manipulate data sets using spreadsheets ◊ Write and use formulas ◊ Calculate using spreadsheets ◊ Plan a budget
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