



Shelton Junior School

Computing Long-Term Progression of Knowledge and Skills

LKS Year A



DISCOVER – resilience and collaboration	INVESTIGATE – reflection and concentration	EXPLORE - curiosity
Heroic Heritage – Why are beliefs important?	Nurturing Nature – How do plants and living things flourish?	Go With The Flow – How do people choose where to settle?
<p><u>Autumn 1</u> Introduction/Recap of Purple Mash To log in safely and understand why that is important. To understand the importance of logging out when they have finished. To create an avatar and to understand what this is and how it is used. To save work to the My Work area and know that this is a private space. To learn how to find saved work in the Online Work area. To explore the Tools area of Purple Mash and to learn about the common icons used. To find set 2Dos. To save and hand in a 2Do. Share work to a public area.</p> <p>Branching Databases To sort objects using just ‘yes’ or ‘no’ questions. To complete a branching database using 2Question. To create a branching database of the children’s choice.</p>	<p><u>Spring 1 and 2</u> Coding To understand what coding means in computing. To use code to make a computer program. To understand what objects, actions and events are. To use an event to control an object. To understand what an algorithm is. To create a computer program using an algorithm. To understand that different objects have different properties. To create a program using a given design. To understand the function of buttons in a program. To understand that there are different types of timers. To be able to select the right type of timer for a purpose. To begin to understand selection in computer programming. To understand how IF and IF/ELSE statements works. To understand what a variable is in programming. To use a number variable. To design and create an interactive scene.</p>	<p><u>Summer 1</u> Email To think about the different methods of communication. To open and respond to an email. To write an email to someone from an address book. To learn how to use email safely. To add an attachment to an email. To explore a simulated email scenario.</p>

<p><u>Autumn 2</u> <u>Simulations</u></p> <p>To find out what a simulation is and understand the purpose of simulations. To explore a simulation, making choices and discussing their effects. To work through and evaluate a more complex simulation.</p>		<p><u>Summer2</u> <u>Spreadsheets</u></p> <p>To understand what a spreadsheet looks like. To be able to navigate around a spreadsheet and enter data. To learn new vocabulary related to spreadsheets. To learn new vocabulary related to formulae. To explore how the numbers entered into cells can be set to different formats. To explore the use of the display of decimal places. To introduce some basic data formulae in Excel. To demonstrate how the use of Excel can save time and effort when performing calculations.</p>
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LKS Year A Skills

Information Technology	<p>I can collect data and input it into software.</p> <p>I can analyse data using features within software to help.</p> <p>I can present data and information using different software.</p> <p>I can create purposeful (appropriate) content.</p> <p>I can share digital content using a variety of applications.</p> <p>I can create and improve my solutions to a problem based on feedback.</p> <p>I can consider what the most appropriate software to use.</p>
Digital Literacy	<p>I can keep my login information safe.</p> <p>I can save my work in a safe place.</p> <p>I can share digital content using a variety of applications.</p> <p>I can use communication tools respectfully and use good etiquette.</p>
Computer Science	<p>I know that a computer program turns an algorithm into code that the computer can understand.</p> <p>I can explain an algorithm is a set of instructions to complete a task.</p> <p>I know I need to carefully plan my algorithm.</p> <p>I can find and correct some errors in my program.</p> <p>I can say what will happen in a program.</p> <p>I can spot something in a program that has an action or effect.</p> <p>I can experiment with timers in my programs.</p> <p>I know that a variable stores information.</p> <p>I can identify 'If' statements, repetition and variables</p> <p>I can use timers within my program designs</p> <p>I can use variables within my program and know how to change the value of variables.</p>



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LKS Year B



DISCOVER – resilience and collaboration	INVESTIGATE – reflection and concentration	EXPLORE - curiosity
Incredible Invaders – Why do people always want more?	Magnets and Matter – Are all changes irreversible?	Active Planet – how do we control our emotions?
<p><u>Autumn 1</u> Introduction/Recap of Purple Mash To log in safely and understand why that is important. To understand the importance of logging out when they have finished. To create an avatar and to understand what this is and how it is used. To save work to the My Work area and know that this is a private space. To learn how to find saved work in the Online Work area. To explore the Tools area of Purple Mash and to learn about the common icons used. To find set 2Dos. To save and hand in a 2Do. Share work to a public area.</p> <p><u>Hardware Investigators</u> To understand the different parts that make up a desktop computer. To recall the different parts that make up a computer. To discover what the children know about the Internet. To find out what a LAN and WAN are. To find out how we access the internet in school. To research and find out about the age of the internet. To think about what the future might hold.</p> <p><u>Effective Searching</u> To experiment with search engines To describe how search engines select results. To recognise why the order of results is important, and to whom.</p>	<p><u>Spring 1</u> Logo (Programming) To learn the structure of the language of 2Logo. To input simple instructions in 2Logo To use 2Logo to create letter shapes. To use the Repeat command in 2Logo to create shapes. To use and build procedures in 2Logo.</p>	<p><u>Summer 1</u> Animation To select the most appropriate program to solve the task. To complete the task and then save their work in an appropriate folder. To share their work with a wider audience. To decide what makes a good, animated film or cartoon and discuss favourite animations. To learn how animations are created by hand. To find out how 2Animate animations can be created in a similar way using technology. To learn about onion skinning in animation. To add backgrounds and sounds to animations. Introducing ‘stop motion’ animation.</p>

<p><u>Autumn 2</u> Presenting with MS PowerPoint To create a page in a presentation. To add media to a presentation. To add animations into a presentation. To add timings into a presentation. To use the skills learnt in previous weeks to design and present an effective presentation.</p>	<p><u>Spring 2</u> Introduction to Word Processing with MS Word To know what a word processing tool is for. To add and edit images to a word document. To know how to use word wrap with images and text. To change the look of text within a document. Use their evaluation skills to analyse how their own or others work could be improved. To consider what aspect of their work needs improving e.g. text, pictures or sound and be clear about what these changes will look like. To edit their work and then save it so the changes are not lost.</p>	<p><u>Summer 2</u> Spreadsheets To understand what a spreadsheet looks like. To be able to navigate around a spreadsheet and enter data. To learn new vocabulary related to spreadsheets. To learn new vocabulary related to graphs and charts. To create a variety of graphs in Excel.</p>
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LKS Year B Skills

Information Technology	<p>I can present data and information using different software.</p> <p>I can create purposeful (appropriate) content.</p> <p>I can make appropriate improvements to digital work I have created.</p> <p>I can comment on how successful a digital solution is that I have created.</p> <p>I can consider what the most appropriate software to use.</p> <p>I can share digital content using a variety of applications.</p> <p>I can collect data and input it into software.</p> <p>I can analyse data using features within software to help.</p>
Digital Literacy	<p>I can keep my login information safe.</p> <p>I can save my work in a safe place.</p> <p>I can share digital content using a variety of applications.</p>
Computer Science	<p>I recognise the main component parts of hardware which allow computers to join and form a network.</p> <p>I understand that network and communication components can be found in many different devices which allow them to join the internet.</p> <p>I can explain the difference between the internet and the World Wide Web.</p> <p>I can explain what a WAN and LAN is and describe the process of how access to the internet in school is possible.</p> <p>I can explain how information is found on the World Wide Web and what influences searching on search engines.</p> <p>I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code.</p> <p>I can read programs that contain several steps and predict the outcomes with increasing accuracy.</p>



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<p><u>Autumn 2</u> <u>Coding 1</u></p> <p>To review existing coding knowledge. To begin to be able to simplify code. To create a playable game. To understand what a simulation is. To program a simulation. To know what decomposition and abstraction are in Computer Science. To take a real-life situation, decompose it and think about the level of abstraction. To use decomposition to make a plan of a real-life situation. To understand how to use friction in code. To begin to understand what a function is and how functions work in code. To understand what the different variable types are and how they are used differently. To understand how to create a string. To begin to explore text variables when coding. To understand what concatenation is and how it works.</p>	<p><u>Spring 2</u> <u>Text Adventures</u></p> <p>To find out what a text-based adventure game. To use 2Connect to plan a 'Choose your own Adventure' type story. To use 2Connect plans for a story adventure to make the adventure using 2Create a Story. To introduce an alternative model for a text adventure which has a less sequential narrative. To use written plans to code a map-based adventure in 2Code.</p>	<p><u>Summer 2</u> <u>Spreadsheets</u></p> <p>To use formulae within a spreadsheet to convert measurements of length and distance. To use a spreadsheet to model a situation.</p>
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UKS Year A Skills

<p>Information Technology</p>	<p>I can make appropriate improvements to digital work I have created. I can comment on how successful a digital solution is that I have created. I can consider the intended audience carefully when I design and make digital content. I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements.</p>
<p>Digital Literacy</p>	<p>I can keep my login information safe. I can save my work in a safe place. I can share digital content using a variety of applications.</p>
<p>Computer Science</p>	<p>I can test and debug my programs as I work. I can use the most appropriate form of online communication according to the digital content. I can make more complex real-life problems into algorithms for a program. I can convert (translate) algorithms that contain sequence, selection and repetition into code that works. I can use sequence, selection, repetition, and some other coding structures in my code. I can organise my code carefully for example, naming variables and using tabs. I know this will help me debug more efficiently. I can use logical methods to identify the cause of any bug with support to identify the specific line of code. I can make appropriate improvements to digital work I have created. I can comment on how successful a digital solution is that I have created. I can work collaboratively with others creating solutions to problems. I can turn a complex programming task into an algorithm. I can identify the important aspects of a programming task. I can decompose important aspects of a programming task in a logical way, identifying appropriate coding structures that would work. I can test and debug my program as I work on it and use logical methods to identify a cause of a bug. I can identify a specific line of code that is causing a problem in my program and attempt a fix. I can translate algorithms that include sequence, selection and repetition into code and nest these structures within each other. I can use inputs and outputs within my coded programs such as sound, movement and buttons and represent the state of an object. I can interpret (understand) a program in parts and can make logical attempts to put the separate parts together in an algorithm to explain the program as a whole. I can compare a range of digital content sources and rate them in terms of content quality and accuracy. I can consider the intended audience carefully when I design and make digital content. I can use criteria to evaluate the quality of my own and others digital solutions, suggesting refinements.</p>



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UKS Year B



UKS Year B Skills

<p>Information Technology</p>	<p>To be introduced to the 2Design and Make tool. To explore the effect of moving points when designing. To design a 3D model to fit certain criteria. See DT Medium Term Plan. To refine and print a model.* To learn how to search for information in a database. To create a database around a chosen topic. To review an existing website and consider its structure. To plan the features of a web page. To consider the ownership and use of images (copyright). To recognise the need to preview pages. To outline the need for a navigation path. To recognise the implications of linking to content owned by other people. To add features to a document to enhance its look and usability. To use tables within Microsoft Word to present information To introduce children to templates. To consider page layout including heading and columns. Use their evaluation skills to analyse how their own or others work could be improved. To consider what aspect of their work needs improving e.g. text, pictures or sound and be clear about what these changes will look like. To edit their work and then save it so the changes are not lost. To use formulae for percentages, averages, max and min in spreadsheets. To gain familiarity with range notation in Excel. To know shortcuts that make data meaningful. To develop a critical eye when analysing data.</p>
<p>Digital Literacy</p>	<p>I can keep my login information safe. I can save my work in a safe place. I can share digital content using a variety of applications.</p>
<p>Computer Science</p>	<p>I can use the most appropriate form of online communication according to the digital content. I know the importance of computer networks</p>