Curriculum Map 2020 – 2021 Curriculum Area: Computing (PurpleMash unit shown in purple)

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| Year Group: | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| 1 | Online safety   * Who can we trust? * Personal information * Who can we talk to? * Passwords | Handling data  Unit 1.2 grouping and sorting  In this unit, the pupils will sort items by different criteria away from the computer. At the computer, they will use Grouping on Purple Mash to sort items. | Modelling (geography link)  Unit 1.4 Lego Builders  This unit encourages pupils to begin to think logically about scenarios. Pupils will be introduced to the term ‘algorithm’. This concept is at the core of coding. The next unit (Maze Explorers), builds upon this, linking logical thought processes to the way that computers are programmed. | Programming  Unit 1.7 Coding  To master coding skills, pupils need to have the opportunity to explore program design and put computational thinking into practice. The lesson plans incorporate designing before coding in some lessons. | Maze explorers  Unit 1.5 exploring function keys  Children will be taught how use the direction keys in 2Go to move forwards, backwards, left and right. Children will also be taught how to add a unit of measurement to the direction in 2Go and how to undo any mistakes they have made. | Creating pictures  Unit 1.6 animated stories  This series of lessons will provide an opportunity for the pupils to develop the skills to create, organise, store, manipulate and retrieve digital content through the creation of their own animated story book. |
| 2 | Online safety   * Personal information * Who can we trust? * Online bullying * Digital footprint | Creating pictures  Unit 2.6 creating stories  These lessons explore some of the templates and functions of 2Paint a Picture, alongside learning about artists and art movements. The other templates have help videos that could be used to add to the pupils’ learning and fun. These are found by clicking the button at the top right of the screen. | Programming  Unit 2.1 coding  Children will be given the chance to create their own code to create a moveable character (avatar) which responds to its environment.  Children are encouraged to decode their own algorithms to solve their own coding mistakes. | Word processing (link to history/art)  Unit 2.4 questioning  This unit is designed to help pupils learn about the importance of phrasing questions and that certain data-handling resources are limited in the answers they can provide. | The internet  Unit 2.5 effective searching  Skilful searches are essential for 21st -century learning and information literacy. With abundant information at our fingertips, it is important to teach and reinforce good searching. In Lesson 1, the pupils will look at the Internet, the web, browsers and search engines. After becoming acquainted with the Internet and how it works, students will be ready to begin searching with Google. | Handling data  Unit 2.3 spread  Sheets  2Calculate is a simple to use spread sheet (and more!) for beginners and beyond. Children are introduced to the simple use of spread sheets and how they can be useful tools in our everyday lives. Children will earn how to perform simple calculations. |
| 3 | Online safety   * Private information * Secure passwords * Cyber bullying * Computer viruses | Handling data (linked to maths)  Unit 3.3 spread sheets  Children will be introduced to more complex calculations using spread sheets. Linked to maths, children will be encouraged to use their prior knowledge to complete their computing calculations. | Word processing (linked to geography)    2type  Children use the 2type software to master typing using a traditional keyboard. Link to Geography allows children to showcase their geography research via a word processed document. | The internet  Unit 3.5 email  2Email is a safe place to teach pupils how to use email. Since 2Email only works within Purple Mash, pupils can only email Purple Mash users in their school. This supports online safety. Using this tool we will teach pupils to email safely. | Programming  Unit 3.1 coding  Moving on from Unit 2.1 children will learn more complex coding language and will be able to add variables, repetition and ‘IF’ commands.  Children will be able to debug their own lines of code. | Control  Unit 3.7 simulations  In this unit, children will learn about simulations and what they are. Using computer simulations, the children will be able to test predictions and options. |
| 4 | Online safety   * Being a good online citizen * Effects of cyber bullying * Strong and secure passwords * Keep safe online | Internet  Unit 4.7 effective searching  This unit builds upon the skills and knowledge developed in Year 2 in Unit 2.5 – Effective Searching. The lesson makes use of the Google search engine but could be adapted to be used with an alternative. | Control  Unit 4.5 logo  Logo is a text based coding language used to control an on-screen turtle to create mathematical patterns. Pupils were introduced to turtle patterns using 2Go in year 1. In this unit they will:  • Learn common commands and constructs of the Logo programming language.  • Develop their ability to compose algorithms for drawing mathematical structures and turn these into Logo code. | Handling data  Unit 4.3 spread sheets  Children will learn how to use formulas and formatting whilst using 2Calculate. Pupils will use the program to solve complex mathematical issues involving currencies, decimals and fractions. | Word processing (linked to history)  Unit 4.4 writing for different audiences  In this unit, children learn that technology can be used to organise, reorganise, develop, and explore ideas, and that working with information in this way can aid understanding. It also gives children opportunities to discuss their experiences of using ICT and how it is used in the wider world. | Programming  Unit 4.1 coding  Children will learn how to create ‘IF, ELSE’ commands, ‘REPEAT UNTIL’ commands, ‘MAKING A TIMER’ and ‘CONTROL SIMULATIONS’. They will also be able to use decomposition and abstraction in their coding. |
| 5 | Online safety   * Acceptable and unacceptable behaviour * Forms of online bullying * Responding to online bullying * Online British values | Multimedia presentation  (linked to topic)  Unit 5.6 3D modelling  Children will use the 2design and make program to learn about computer aided design and manufacturing. Simple 3D models will be designed in kite form before being printed and assembled. | Spread sheets  Unit 5.3 spread sheets  Children will learn about more complex tools available within a spread sheet such as count tools, advanced formulae and text variables. Finally, children will use a spread sheet to organise an event. | Programming  Unit 5.5 game creator  Children will learn about computer games before designing their own game environment, character and finally game play. Children will have the opportunity to assess their own and others designs. | Handling data  Unit 5.4 databases  Children will learn how to search a database to find relevant information, how to contribute to a class database and finally how to create a database around a chosen topic. | Programming  Unit 5.1 coding  To master coding skills, pupils need to have the opportunity to explore program design and put computational thinking into practice.  Children will create a competitive and playable game including a score board and timer. |
| 6 | Online safety   * Social media * Online games * Sending inappropriate pictures * Understanding copyright | Internet  Unit 6.4 blogging  Blogging. A blog can be:  • A diary where life events are documented.  • A place to share information about interests and hobbies.  • A place to share knowledge on specific subjects. | Spread sheets  Unit 6.3 Spread sheets  Children to 2calculate to plan pocket money spending and eventually to plan a complex school event. Children will use ‘formula wizard’ to create their own formulae. | Programming  Unit 6.1 coding  Children will use 2Code to create a text based adventure on the program. Children will be using flowcharts to test and debug a complex program. | Multimedia presentation (linked to geography)  Unit 6.5 text adventures  Children will use their coding skills to create a map and option based adventure game. Children will code choices into their game, allowing the player to make their own decisions. | Multimedia presentation (linked to science/history)  Unit 6.6 networks  The aim of these sessions is to provide pupils with the opportunity to find out more about how networks work, understand computer networks including the internet, learn how they can provide multiple services, such as the World Wide Web, and explore the opportunities they offer. |