**National Curriculum:**

The national curriculum for computing aims to ensure that all pupils:

* can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
* can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
* can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
* are responsible, competent, confident and creative users of information and communication technology.

**Key stage 1**

**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.

**Key stage 2**

**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.

**EYFS**

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| **Vocabulary**  **By the end of EYFS they will be able touse the words:** | **Outcomes for the end of EYFS. Children will be able to:** |
| App  Computer  Device  Information  Interactive Whiteboard  Internet  iPad  Keyboard  Laptop  Mobile phone  Mouse  Online Safety  Program  Tablet  Technology | **Fine Motor Skills**  Develop their fine motor skills so that they can use a range of tools competently, safely and confidently  **Managing Self**  Be confident to try new activities and show independence, resilience and perseverance in the face of challenge  Explain the reasons for rules, know right from wrong and try to behave accordingly.  **Understanding the World**  Know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class. |

**Cycle A, Autumn Term 1**

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| **EYFS & Year 1** | **Lesson 1** | **Lesson 2** | **Lesson 3** | **Lesson 4** | **Lesson 5** | **Lesson 6** |
| **Online Safety**  Kind and thoughtful  (yr1 SoC)  **Information technology**  **Grouping and sorting**  **(unit 1.2 PM)**  **Pictograms**  **(unit 1.3 PM)** | Kind and thoughtful  I will understand that behaviour online can affect people in the same way that it does in real life | Purple Mash, Grouping and sorting – L1  I will be able to sort items using a range of criteria. | Purple Mash, Grouping and sorting – L2  I will be able to sort items on the computer using the ‘Grouping’ activities in Purple Mash. | Purple Mash, Pictograms– L1  I will be able to understand that data can be represented in picture format | Purple Mash, Pictograms– L2  I will be able to contribute to a class pictogram. | Purple Mash, Pictograms– L3  I will be able to use a pictogram to record the results of an experiment |
| Key Vocabulary:  Trusted adult  Unkind behaviour  Kind behaviour  Online safety  Worry box | Key Vocabulary:  Sort  Criteria  Describe  More than  Less than  Equal | Key Vocabulary:  Groups  Activities Sort  Criteria  Describe | Key Vocabulary:  Data  Pictogram  Visual | Key Vocabulary:  Title  Data  Pictogram  Visual | Key Vocabulary:  Collect data  Record results  Compare  Totals Data  pictogram |

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| **Year 2 & Year 3** | **Lesson 1** | **Lesson 2** | **Lesson 3** | **Lesson 4** | **Lesson 5** | **Lesson 6** | **Lesson 7** | **Lesson 8** |
| **Online Safety**  Online bullies  (yr2 SoC)  **Information technology**  **Spread sheets**  **(unit 2.3 PM)** | Online bullies (yr2 SoC)  I will understand what is meant by an online bully and its consequences for the victim and the perpetrator. | Purple Mash, spread sheets – L1 (yr2)  Reviewing prior use of spreadsheets  I will be able to review the work done in 2Calculate in year 1.  To revise spreadsheet related vocabulary.  To use some 2Calculate tools that were introduced in year 1. | Purple Mash, spread sheets – L2 (Y2)  Copying and Pasting Totalling tools  I will be able to use copying, cutting and pasting shortcuts in 2Calculate.  To use 2Calcuate totalling tools.  To use 2Calculate to solve a simple puzzle | Purple Mash, spread sheets – L3 (Y2)  Using a spreadsheet to add amounts  I will be able to explore the capabilities of a spreadsheet in adding up coins to match the prices of objects | Purple Mash, spread sheets – L4 (Y2)  Creating a table and block graph  To add and edit data in a table layout.  I will be able to use the data to manually create a block graph. | Purple Mash, Bar Graphs – L1 (Y3)  Creating Pie Charts and Bar Graphs  I will be able to add and edit data in a table layout.  To find out how spreadsheet programs can automatically create graphs from data. | Purple Mash, Bar Graphs – L2 (Y3)  Using more than and Spin Button Tools  I will be able to introduce the ‘more than’, ‘less than’ and ‘equals’ tools.  To introduce the ‘spin’ tool and show how it can be used to count through times tables. | Purple Mash, Bar Graphs – L3 (Y3)  Advanced Mode and Cell Addresses  I will be able to introduce the Advanced mode of 2Calculate.  To learn about describing cells using their addresses. |
| Key Vocabulary:  Online bully  Cyberbullying  Victim  Perpetrator  Trusted adult  report | Key Vocabulary:  Row  Column  Cell  Toolbox  Drag  Image view  Count tool  Speak tool | Key Vocabulary:  Cut  Copy  Paste  Total  Row  Column  Cell  Toolbox  Drag  Image view  Count tool  Speak tool | Key Vocabulary:  Price  Coins  Equals  Equals tool  Addition  Cut  Copy  Paste  total | Key Vocabulary:  Data  Tool  Block graph  Label  Price  Coins  Equals  Equals tool  Addition | Key Vocabulary:  Bar graph  Pie chart  Table  Data | Key Vocabulary:  More than  Equals  Less than  Spinner tool | Key Vocabulary:  Advanced mode  Cell address  Quiz tool |

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| **Year 4, Year 5 & Year 6** | **Lesson 1** | **Lesson 2** | **Lesson 3** | **Lesson 4** | **Lesson 5** | **Lesson 6** | **Lesson 7** | **Lesson 8** | **Lesson 9** |
| **Online Safety**  Rule writers  (yr5 SoC)  **Information technology**  **Word Processing**  **(unit 2.3 PM)** | Rule writers  I will be able to create a set of online safety rules | Purple Mash, Word processing – L1  Making a Document from a Blank Page  I will be able to know what a word processing tool is for | Purple Mash, Word processing – L2  Inserting Images: Considering Copyright  I will be able to add and edit images to a word document. | Purple Mash, Word processing – L3  Editing Images in Word  I will be able to use word wrap with images and text. | Purple Mash, Word processing – L4  Adding the Text  I will be able to change the look of text within a document. | Purple Mash, Word processing – L5  Finishing Touches  I will be able to add features to a document to enhance its look and usability. | Purple Mash, Word processing – L6  Presenting Information Using Tables  I will be able to use tables within MS Word to present information. | Purple Mash, Word processing – L7  Writing a Letter Using a Template  I will be able to introduce children to templates | Purple Mash, Word processing – L8  Presenting Information – Newspaper  I will be able to consider page layout including heading and columns |
| Key Vocabulary:  Trusted adult  Online safety  Childline  Reporting | Key Vocabulary:  Word processing tool  Document  Front screen  Zoom  Selecting / highlighting  Text formatting | Key Vocabulary:  Page orientation  Copy and paste  Copyright  Creative commons  Attributing | Key Vocabulary:  Image editing  Cropping  Image transparency  Text wrapping | Key Vocabulary:  Styles  Bulleted lists  Numbered lists | Key Vocabulary:  Drop capital  Text box  Caption  hyperlink | Key Vocabulary:  Word art  Merge  Cells  Column  Row  Distributing columns | Key Vocabulary:  Template  Spell check  Grammar check | Key Vocabulary:  Columns |