Middlewich Primary School Curriculum
Computing

At Middlewich Primary School, we aim to provide pupils with a high-quality computing education. We closely follow the Primary National Curriculum and our lessons are aligned with the **Purple Mash** framework which aims to engage and challenge all pupils through interactive and creative lessons. Children develop key computer science skills including coding, algorithms, and data representation, while applying computational thinking to solve problems. Pupils explore and evaluate technology safely and responsibly, becoming confident, competent, and creative digital learners in an ever-evolving digital world.

Learning across the school is based on the following key strands:

- Computer Science
- Information Technologies
- Digital Literacy

Curriculum Overview EYFS

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**Exploring the use of technology in everyday life**					

Curriculum Overview Key Stage 1

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	**Online Safety and Exploring Purple Mash** Pupils will learn how to log on and log off a computer safely and	**Pictograms** Pupils will understand that data can be presented as a pictogram. Pupils will	**Grouping and sorting** Pupils will be able to sort items on and off the computer using logical thinking skills. They will be introduced to the term 'algorithm'.		**Coding** Pupils will understand what instructions are. They will use code to make a computer	**Animated Stories** Pupils will explore the tools of 2Create. They will add animations and sounds to their

	navigate software. They will be able to save and find saved work. They will learn how to use Purple Mash topics and tools.	contribute to a class pictogram and discuss what it shows. **Lego Builders** Pupils will follow and create simple instructions on the computer and understand why the order is important.	**Maze Explorers** Pupils will understand the function of the direction keys and be able to use these to complete challenges. They will understand how to debug an algorithm, change and extend it. **Technology outside of school** Pupils will find examples of where technology is used in the local community and record these.	program and begin to understand the specific controls such as objects, actions, events and background.	own story to create a class display board of stories.
Year 2	**Coding** Pupils will understand what an algorithm is and create a computer program using one. They will also learn to debug, follow a timed sequence and understand collision detection.	**Creating Pictures** Pupils will look at the work of different artists including: Seurat, Mondrian and William Morris. They will create their own art inspired by these artists.	**Online Safety/Effective Searching** Pupils will know how to refine searches and share their work electronically. They will also learn how to use Email as a communication tool. Pupils will learn that information online leaves a digital footprint and they will discuss ways in which they can keep personal data secure. **Spreadsheets** Pupils will understand what a spreadsheet is and how to use one. They will begin to use and add to a simple spreadsheet.	**Presenting Ideas** Pupils will explore how a story can be presented in different ways and they will create a quiz, fact file and presentation. **Making Music** Pupils will be introduced to making music digitally. They will explore and combine sounds to create their own tune.	**Questioning** Pupils will use and create pictograms to answer questions. They will also construct binary trees and answer more specific questions using a database.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	**Coding** Pupils will understand what a flowchart is and how it is used in coding. They will understand the functions of the timer and repeat command. They will use their coding knowledge to create an interactive scene. **Physical Devices: Micro: bits** Pupils will understand what a micro:bit is and make a name badge using the LED display output. They will create a micro:bit animation, understanding the importance of sequence and timing. They will code the micro:bit to make different outputs happen depending on different inputs. They will understand how sensor inputs from the accelerometer can be used to detect movement and they will	**Spreadsheets** Pupils will explore the tools in a spreadsheet program. They will describe cells using their addresses, learn about formulas, explore timers, the line graphing tool and the range notion when creating a spreadsheet file. **Graphing** Pupils will enter data into a graph to answer questions. They will also use a graph to present results in graphic form.	**Typing** Pupils will be introduced to typing terminology and practise using the different keys on the keyboard. They will type with the left hand and right-hand keys.	**Email** Pupils will discuss methods of communication. They will open, respond to and write an email safely. They will also add an attachment.	**Simulations** Pupils will find out what a simulation is and what it is used for. They will have opportunities to explore and evaluate a simulation. **Online Safety** Pupils will know what make a safe password and understand how to use a blog to communicate safely with an audience. They will consider which websites are providing truthful information and begin to understand the symbols for different restrictions.	**Branching Databases** Pupils will sort objects using YES/NO questions and complete a branching database. They will create their own branching database.

	use music editor to create sounds and music.					
Year 4	**Coding** Pupils will create a simple computer program. They will understand how an IF and ELSE statement works. They will also understand the Repeat command and know what a variable is. They will create a playable game using their skills. **Hardware Investigators** Pupils will understand the different parts which make up a desktop computer and recall them.	**Logo** Pupils will input simple instruction in 2Logo. They will create letter shapes, use the Repeat command to create shapes and build procedures. **Micro:bit** Pupils will turn a micro:bit into a step counter using the accelerometer variables. They will code a micro:bit to make a light that switches on when it gets dark. Pupils will code a micro:bit rock, paper, scissors game and a micro:bit dice.	**Animation** Pupils will learn about animations and use some of the tools on 2Animate to create their own animation. **Effective Searching** Pupils will locate information on the search results page. They will search effectively to find out information and assess whether a source is true and reliable.	**Writing for different audiences** Pupils will explore how font size and style can affect the impact of a text. They will use a simulated scenario to produce a news report and community campaign.	**Making Music** Pupils will identify and discuss the main musical elements and experiment with some of them using a computer program. They will create a melodic phrase and then compose their own piece of electronic music.	**Artificial Intelligence** Pupils will understand what AI is and the impact of daily life. They will explore how AI is used to create compositions and use AI to create images and music. **Online Safety** Pupils will understand how to protect themselves from online identity theft and understand digital footprints. They will identify the risks and benefits of installing software. Pupils will understand what 'plagiarism' is and also understand the importance of balancing screen time with other parts of their lives.
Year 5	**Word Processing** Pupils will know what a word processing tool is for. They will add and edit images using wrap	**Coding** Pupils will understand what a simulation is and program one using 2Code. They will	**Game Creator** Pupils will be introduced to 2DIY. They will design, make and share a	**Databases** Pupils will learn how to search for information in a database, contribute	**Concept Maps** Pupils will understand the use of a concept map and use the correct vocabulary	**Spreadsheets** Pupils will use formulae to convert measurements of length and distance

	text. They will change the look of the text and add features to a document to enhance it. They will use and tables to present information and be introduced to templates and page layouts.	learn what decomposition and abstraction are in Computer Science. Pupils will use friction in code and understand how functions work. They will create a string and explore text variables.	playable game for their peers. **Online Safety** Pupils will be taught about keeping themselves safe online. They will know how to maintain secure passwords and be aware of appropriate and inappropriate text, photographs and video sharing online.	to a class database and create their own around a chosen topic.	when creating their own and a collaborative one. **Modelling** Pupils will be introduced to 2Design and Make. They will explore the effect of moving points then will design their own 3D model. They will then refine and print a model.	and to calculate areas and perimeters. They will use spreadsheets to model real life problems, investigate probability and test out a hypothesis.
Year 6	**Coding/ Text Adventures** Pupils will design a playable game with a timer and a Score. They will use functions, flowcharts and control simulations. They will use 2Code to make a text-based adventure game.	**Spreadsheets** Pupils will use a spreadsheet. They will carry out basic calculations, use the series fill function and the SUM function. They will use a spreadsheet to model a situation and solve a problem. Pupils will demonstrate how Excel can make complex data clear. They will use formulae and create a variety of graphs.	**Networks** Pupils will know the difference between the World Wide Web and the Internet. They will also learn about the school network. Pupils will research Tim Berners-Lee and consider major changes in technology that have taken place during theirs and their teacher's lifetime.	**Blogging** Pupils will understand the purpose of writing a blog. They will write a blog and understand how to contribute to an existing blog.	**Online Safety** Pupils will identify the risks and benefits of mobile devices broadcasting the location of the user/device. They will identify secure sites and discuss the benefits and risks of sharing personal information. They will review what is meant by digital footprint and have a clear idea of appropriate online behaviour. They will also identify the positive and negative	**Quizzing** Pupils will use 2DIY to create a picture-based quiz for young children. They will learn how to use the question types within 2Quiz and explore the grammar quizzes. They will make a quiz that requires the player to search a database and use a survey to gain information.

					influences of technology on health and the environment.	

E-Safety
E-safety is taught at the beginning of each computing lessons.