

Computing and Online Safety

Curriculum Intent

It is our intent that children will leave our schools resilient, emotionally literate, aspirational, effective communicators who are happy and therefore ready for the next stage of their life through the behaviour, knowledge and skills they have learnt whilst in our care. If we can achieve this for our children then we believe we are giving them the best opportunity to achieve success in their life. Through an inclusive and stimulating environment we will develop every child and allow them to write their own story in life. This intent is defined as our REACH principles.

Resilient: Every child is resilient.

Emotionally Literate: Every child is aware of their feelings and those of others.

Aspirational: Every child aspires for more in their learning and in life.

Communicators: Every child is an effective communicator.

Happy: Every child has the right to be happy. Bilton Community Federation



Our vision is to empower children to make a positive impact on the world and to apply the following values in all they do: **Care, Co-operation, Honesty, Forgiveness, Respect and Resilience.**

Bawnmore's Vision for Computing and ICT

Bawnmore's vision for Computing and ICT is to enable children to find, explore, analyse, exchange and present information, resulting in:

- fluency in communicating and using information in a discriminating and effective way;
- successful participation in a rapidly changing world which is increasingly transformed by technology;
- transferable computer literacy

Our intention is to ensure that through our Computing curriculum, our pupils have a wealth of opportunities to be ambitious for their future, not only in their community but also in a wider global community as responsible digital citizens.

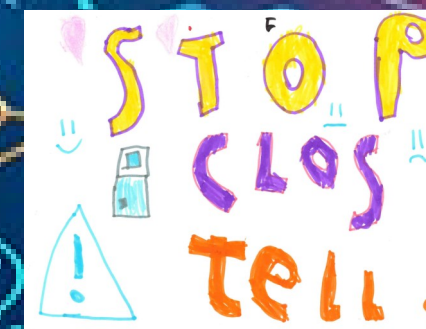
Every lesson in our Computing scheme has been individually planned so that it can be effectively taught using the infrastructure we have at Bawnmore and meets the needs of all pupils. The scheme has been closely referenced against the 2014 National Curriculum attainment targets in order to ensure full coverage, progression and an opportunity to achieve mastery. Having discrete lessons means our pupils are able to develop depth of knowledge and skills over the duration of the computing topics and enables teacher feedback and assessment.

Appropriate and meaningful links are made between computing and the wider curriculum, as well as making links to computing and the world around us. Teaching and learning opportunities for computing, and especially ICT, are incorporated within our creative curriculum, making cross-curricular links with each topic where possible. This supports our children to engage with the subject in a meaningful way where they are immersed in thematic learning. We have a class set of 30 laptops and 10 i-pads which can be used in any classroom for whole class teaching, or for small groups or individual pupils to work on. Each classroom also has an interactive board for whole class teaching.

We place a huge emphasis on online safety, launching it at the very beginning of each academic year as part of our transition 'How do I feel?' topic. We revisit key online safety messages in every lesson, ensuring it is taught in context and our children truly understand its relevance and importance. We also participate in Safer internet Day every year. At Bawnmore, we have an online safety policy which ensures that children are taught how to use the internet safely. Internet access is closely monitored and we have the appropriate filters and inappropriate usage reporting systems in place.

What makes our curriculum unique?

- Pupils have access to an individually assigned laptop to enable them to quickly log on and access Purple Mash;
- Where possible, we explore computing in the Local Area and make links to how the computing skills are applied in 'real life';
- Participation in Safer Internet Day which takes place in February each year;
- Assemblies around Online Safety;
- Seven Star Federation computer meetings to share curriculum ideas and support;
- We use a range of platforms to support learning at home. These are shared with pupils and parents and regularly reviewed. ;
- Computing lessons are delivered during PPA sessions by the Computing Subject Leader who ensures appropriate progressions of skills across the year groups. All pupils in Key Stage 1 receive 1 hour of computing teaching per week, plus additional computing time applying their skills across the curriculum.



Computing in EYFS

Although the current Early Years Curriculum has removed the 'Technology' strand from 'Understanding the World', at Bawnmore we believe that Computing and technology are still vitally important subjects to deliver to Reception children. Computing in the Early Years Foundation Stage (EYFS) ensures that children develop listening skills, problem-solving abilities and thoughtful questioning — as well as improving subject skills across the seven areas of learning.

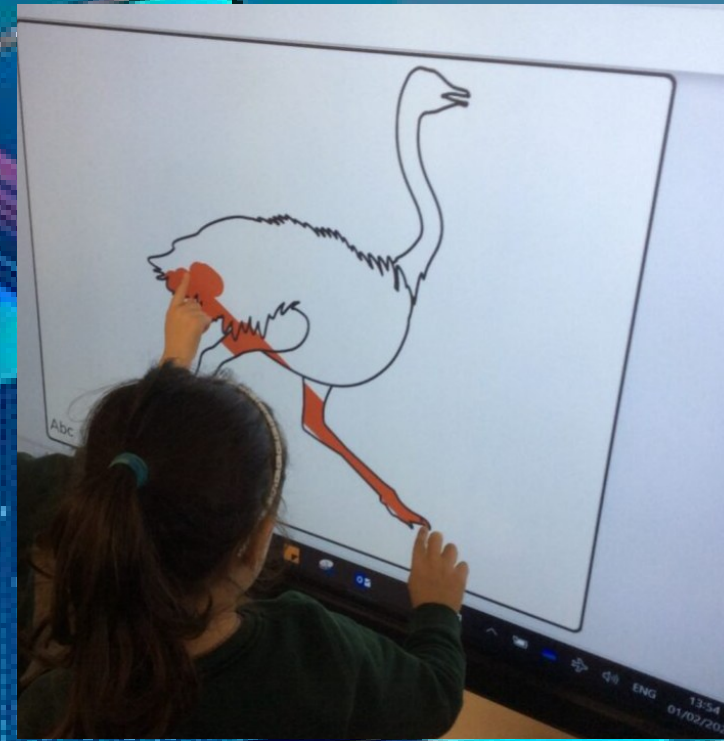
We live in a technological world where technology is integrated into the lives of young children. Just as we ensure the children in our care are ready for the adult world by teaching them maths and literacy, we also ensure that they are fluent in computer literacy and online safety.

As well as being introduced to laptops, iPads and interactive whiteboards, computing in Reception at Bawnmore incorporates play-based, unplugged activities that focus on building children's listening skills, curiosity and creativity and problem solving.

This includes the following activities:

- taking a photograph with a camera or tablet;
- searching safely for information on the internet;
- playing games on the interactive whiteboard and iPad;
- exploring mechanical toys;
- using a Beebot;
- watching video clips;
- listening to music

Allowing children the opportunity to explore technology in this child-led way, means that not only will they develop a familiarity with equipment and vocabulary, but they will have a strong start in key stage 1 Computing and all that it demands.





Purple Mash

At Bawnmore, the three main strands of computing (Computer science, Information Technology and Digital Literacy) are taught in a one hour discrete computing lesson in Key Stage 1 (Years 1 and 2) and across the Curriculum in EYFS. We plan engaging and stimulating sequences of lessons using the Purple Mash scheme of work and Mini Mash in EYFS which are aligned with the ELGs and National Curriculum 2014 objectives, alongside additional resources such as Jessie and Friends, Hector's World, Project Evolve and Barefoot Computing.

Curriculum Overview

Year 1

	Unit 1.1	Unit 1.2	Unit 1.3	Unit 1.4	Unit 1.5	Unit 1.6	Unit 1.7	Unit 1.8	Unit 1.9
Number of lessons	4	2	3	3	3	5	6	3	2
Main tool	Online Safety & Exploring Purple Mash	Grouping & Sorting	Pictograms 2Count	Lego Builders	Maze Explorers 2Go	Animated Story Books 2Create A Story	Coding 2Code	Spreadsheets 2Calculate	Technology outside school

Year 2

	Unit 2.1	Unit 2.2	Unit 2.3	Unit 2.4	Unit 2.5	Unit 2.6	Unit 2.7	Unit 2.8
Number of lessons	6	3	4	5	3	5	3	4
Main tool	Coding 2Code	Online Safety	Spreadsheets 2Calculate	Questioning 2Question 2Investigate	Effective Searching	Creating Pictures 2Paint A Picture	Making Music 2Sequence	Presenting Ideas

Predominant Area of Computing*

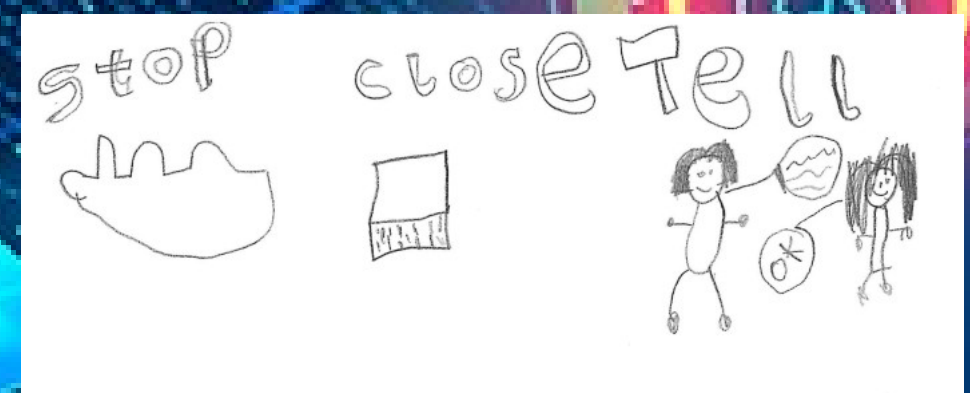
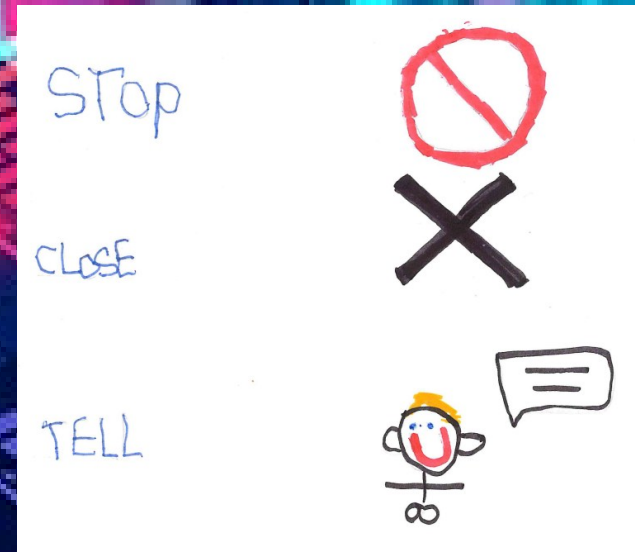
■ Computer Science	■ Information Technology	■ Digital Literacy
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*Most units will include aspects of all strands.

Online Safety



Aspect	Statement
Computer Science	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.
Information Technology	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.
Digital Literacy	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.



Progression of Skills

BAWNMORE COMPUTING PROGRESSION DOCUMENT		
Key Stage 1 NC Computing	Year 1 Purple Mash Units and Outcomes	Year 2 Purple Mash Units and Outcomes
<ul style="list-style-type: none"> 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 	Computer Science I can explain that an algorithm is a set of instructions	Computer Science I can explain an algorithm is a set of instructions to complete a task
	I know that a computer program turns an algorithm into code that the computer can understand	I know I need to carefully plan my algorithm so it will work when I make it into code
	I can work out what is wrong when the steps are out of order in instructions	I can design a simple program using 2Code that achieves a purpose
	I can try and fix my code if it isn't working properly	I can find and correct some errors in my program
	1.2 Grouping and sorting 1.4 Lego builders 1.5 Maze Explorers 1.7 Coding	2.1 Coding

<ul style="list-style-type: none"> use technology purposefully to create, organise, store, manipulate and retrieve digital content recognise common uses of information technology beyond school 	Information Technology I can sort sound, pictures and text	Information Technology I can organise data – for example, using a database such as 2Investigate
	I can add sound, pictures and text to a program such as 2Create a Story	I can find data using specific searches – for example, using 2Investigate
	I can change content on a file such as text, sound and images	I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate.
	I can name my work	I can edit digital data such as data in music composition software like 2Sequence
	I can save my work	I can name, save and find my work
	I can find my work	I can include photos, text and sound in my creations
	1.3 Pictograms 1.6 Animated story books 1.8 Spreadsheets	2.3 Spreadsheets 2.4 Questioning 2.6 Creating Pictures 2.7 Making Music 2.8 Presenting Ideas

<ul style="list-style-type: none"> 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 	Digital Literacy I can say what technology is	Digital Literacy I can find information I need using a search engine
	I can say what examples of technology are in school	I know the consequences of not searching online safely
	I can say what examples of technology are at home	I can share work and communicate electronically – for example using 2Email or the display boards
	I know that a chair uses old technology and a smart phone uses new technology	I can report unkind behaviour and things that upset me online, to a trusted adult
	I can keep my login information safe	I can see where technology is used at school such as in the office or canteen
	Use technology respectfully	I understand that my creations such as programs in 2Code, need similar skills to the adult world. e.g., The program used for collecting money for school trips.
	I can save my work in a safe place such as 'My Work' folder	Online Safety I understand how to use the Purple Mash search bar and know the implications of inappropriate searches
	Online Safety I can explain that my teacher was able to connect with me online to leave a message in Purple Mash	I can explain what a digital footprint is, that it is permanent and their online behaviour influences what it shows
	I can give a simple explanation of the way to word comments online	I can give reasons for keeping my password safe that include protecting my personal information
	I can contribute my ideas about communicating appropriately and relate online and off-line appropriate behaviour	I can express the good and bad sides of digital technology. I can also give examples of positive effects on life as well as negative
	I can open Purple Mash and use the search bar within Purple Mash to find resources	I can share my work to a displayboard and am beginning to understand how things are shared electronically
		I can open and respond to simulated emails in 2Email and I know how to report inappropriate content to an adult
		I can relate the creation of a digital footprint to my search history and make contributions to the class discussion about this in relation to online safety
	1.1 Online Safety 1.9 Technology outside school	2.2 Online safety 2.5 Effective Searching

Year 1

Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that a computer program turns an algorithm into code that the computer can understand

Children can work out what is wrong with a simple algorithm when the steps are out of order, e.g. The Wrong Sandwich in Purple Mash and can write their own simple algorithm, e.g. Colouring in a Bird activity. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code, e.g. Bubbles activity in 2Code.

When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program. Children can, for example, interpret where the turtle in 2Go challenges will end up at the end of the program.

Children are able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.

Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.

Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.

Year 2

Children can explain that an algorithm is a set of instructions to complete a task. When designing simple programs, children show an awareness of the need to be precise with their algorithms so that they can be successfully converted into code.

Children can create a simple program that achieves a specific purpose. They can also identify and correct some errors, e.g. Debug Challenges: Chimp. Children's program designs display a growing awareness of the need for logical, programmable steps.

Children can identify the parts of a program that respond to specific events and initiate specific actions. For example, they can write a cause and effect sentence of what will happen in a program.

Children demonstrate an ability to organise data using, for example, a database such as 2Investigate and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data such as music compositions within 2Sequence. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content including photos, text and sound.

Children can effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. They can share this knowledge, e.g. 2Publish example template. Children make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs.

Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically such as posting work to the Purple Mash display board. They develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content to a trusted adult.

Year 1

Unit 1.1 – Online Safety

- Knows how to log in safely.
- Knows how to navigate to a document area where saved work by child can be found.
- Knows how to use search to locate applications or resources on a platform such as Purple Mash.
- Knows how to enhance work by adding multimodal items such as text and images.
- Knows how to open, save and print work.
- Knows the importance of logging out of an account.

Unit 1.2 – Grouping & Sorting

- Knows how to sort items using a range of criteria.
- Knows how to use software for grouping items such as tools within Purple Mash.

Unit 1.3 - Pictograms

- Knows that data can be represented in a picture format e.g. pictogram.
- Knows how to contribute to a class pictogram.
- Knows how to use a software such as 2Count to record results of an experiment into a pictogram format.

Unit 1.6 – Animated Story Books

- Knows what e-books are.
- Knows of software such as 2Create a Story that allows users to create interactive stories.
- Knows how to add animation to an interactive story.
- Knows how to add sound, including voice recordings and music to a story they have created using software.
- Beginning to know how to work on more complex digital stories, including adding backgrounds, copying and pasted pages.
- Knows how to share digital stories with others such as using Digital Display Boards.

Unit 1.7 – Coding

- Knows what instructions are and can predict what might happen when they are followed.
- Knows how to plan and make a simple computer program e.g. fish moves right, crab moves up.
- Knows what objects, actions and backgrounds are within a coding environment.
- Knows what an event is and knows how to use an event to control an object.
- Beginning to know how code executes when a program is run.

Unit 1.4 – Lego Builders

- Knows how to compare the effects of adhering strictly to instructions when completing tasks without complete instructions.
- Knows how to follow and create simple instructions on the computer.
- Knows that the order of instructions affects the end result for a given instructional task.

Unit 1.5 – Maze Explorers

- Knows the functionality of the direction keys in 2GO.
- Knows how to create and debug a set of simple instructions (algorithm).
- Knows how to use the additional direction keys within 2Go as part of an algorithm.
- Knows how to change and extend the algorithm list in 2Go.

Unit 1.8 – Spreadsheets

- Knows what a spreadsheet program environment looks like including cells, rows and columns.
- Knows basically what a spreadsheet program can help do.
- Knows how to enter data into spreadsheet cells.
- Knows how to add images to cells.
- Knows how to use some tools within spreadsheets e.g. with 2Calculate can use lock cell, move cell, speak and count.

Unit 1.9 – Tech Outside School

- Knows that technology is a use of knowledge to invent new devices or tools.
- Knows that throughout history, technology has made people's lives easier.
- Knows that technology is used within school and outside of school.
- Knows where examples of technology can be found both in and out of school.

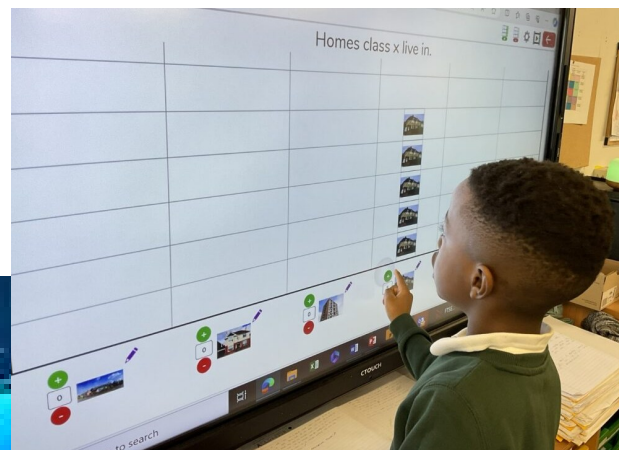
Year 2

Unit 2.1 – Coding

- Knows what an algorithm is and can explain that it is a set of instructions and that algorithms follow a sequence.
- Knows how to create a computer program using an algorithm.
- Knows how to create a computer program from a given design.
- Knows that collision detection is an event type in coding.
- Knows how to design an algorithm that follows a timed sequence.
- Knows that different objects within the coding environment have different properties.
- Knows that there are different events in coding and knows what some of these events are.
- Knows the function of buttons in the coding environment.
- Knows how to interpret and debug simple programs.

Unit 2.3 – Spreadsheets

- Secures knowledge from prior year when spreadsheets were introduced (See unit 1.8).
- Knows how to use prior learning to perform composite task of creating a counting machine using software such as 2Calculate (image, lock move cell, speak and count tools).
- Knows how to copy, cut and paste in spreadsheet software such as 2Calculate.
- Knows what totalling tools are and how to use them.
- Knows how to use a spreadsheet to perform calculations for purpose. For example, adding and totalling money.
- Knows how to use some tools within a spreadsheet to support calculations. For example, using the equals tool in 2Calculate to check calculations.
- Knows how to create a manual block graph within a spreadsheet from data.



Unit 2.2 – Online Safety

- Knows how searches can be refined when searching digitally and therefore attempts refining when searching.
- Knows that digitally created work can be shared with others e.g. Purple Mash Display Boards.
- Has knowledge and understanding about sharing more globally on the Internet.
- Knows that email is a type of communication tool.
- Knows how to open and send simple online communications in the form of email e.g. 2Email (virtual email client).
- Knows that there is an appropriate way to communicate with others in an online situation.
- Knows that information put online leaves a digital footprint.
- Knows some steps that can be taken to keep personal data and hardware secure.

Unit 2.4 – Questioning

- Knows that pictograms provide limited information.
- Knows that there are other data handling tools that can give more information than pictograms.
- Knows how to use yes/no questions to separate information.
- Knows how to construct a binary tree to identify items.
- Knows how to use a binary tree database (such as 2Question), to answer questions.
- Knows how to use a database to answer more complex search questions.
- Knows how to use a search feature at a basic level when trying to locate data within a database such as 2Investigate.

Unit 2.5 – Effective Searching

- Knows the meaning of key Internet and searching terms.
- Knows the basic parts of a web search engine page.
- Knows how to navigate a web search results page.
- Knows how to search the Internet to some degree for answers to a quiz.
- Knows the premise of what effective Internet searching is.

Unit 2.6 – Creating Pictures

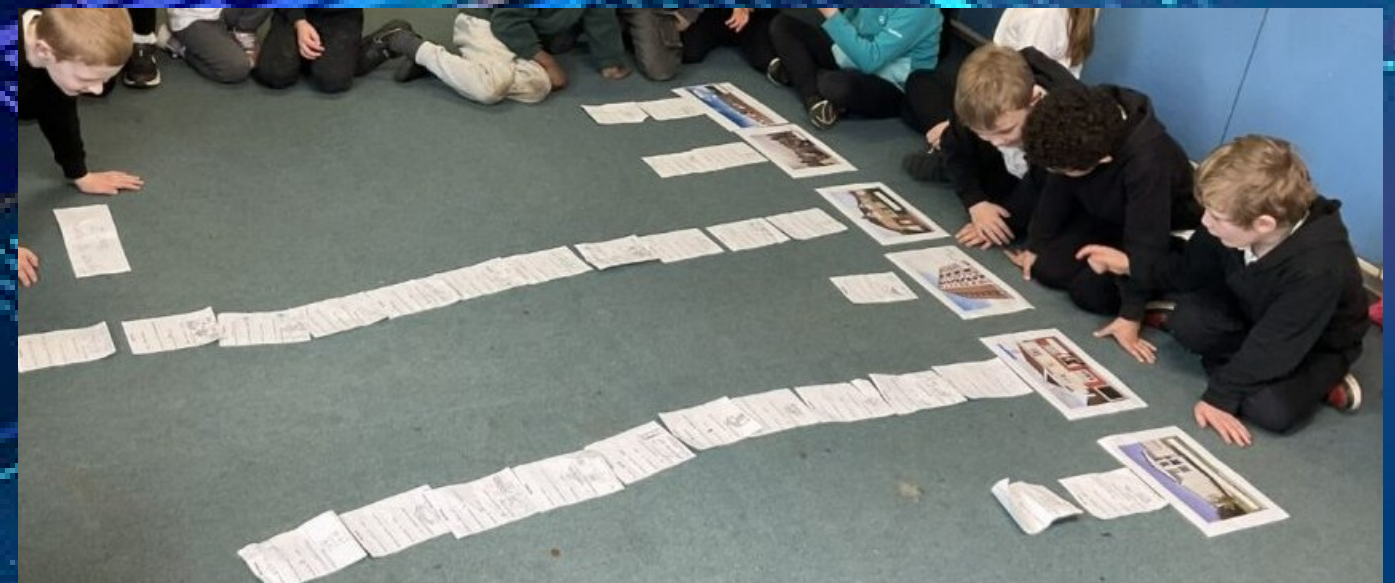
- Knows the purpose and benefits of painting software tools such as 2Paint a Picture.
- Knows how to recreate Impressionism, surrealism and Pointillism using features within 2Paint a Picture.
- Knows how to reproduce the style of William Morris by using repeating patterns, manipulating patterns and adding multiple effects in painting software such as 2Paint a picture.

Unit 2.7 – Making Music

- Knows how to make forms of music (digitally) using age-appropriate software such as 2Sequence.
- Knows how to edit and combine sounds using 2Sequence.
- Knows how to refine composed music.
- Knows how to upload/import and record sounds beyond the software environment.

Unit 2.8 – Presenting Ideas

- Know that digital content can be presented in many different forms e.g. stories.
- Know how to use presentational or interactive software such as a quiz, making improvements to it based on people feedback.
- Know that data can be structured in tables to make it useful for an audience.
- Know how to add images such as clipart and photos to presentational software.
- Know how to collect, organise and present data and information in digital format.



Example Knowledge Organiser



Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 1.6 Animated Story Books

Key Learning

- To introduce e-books and the 2Create a Story tool.
- To add animation to a story.
- To add sound to a story, including voice recording and music the children have composed.
- To work on a more complex story, including adding backgrounds and copying and pasting pages.
- To share e-books on a class display board.

Key Resources



2Create a Story

Key Vocabulary

Animation

An object that moves on screen.

Background

An image inserted into a file that sits behind text, objects, or buttons.

Clip-art Gallery

A place in software such as 2Create a Story where a library of images can be found and inserted into a file.

E-book

A book that can be read on the computer or on a tablet.

Edit

Edit means to change something. For example, change some text to improve it.

Font

The style of text used in a piece of writing on a computer or tablet.

Sound

Sounds can be uploaded into software from a file or created.

Sound Effect

A sound other than speech or music made for use in a play, film or computer file.

Text

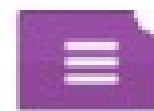
Words, letters, numbers or symbols entered into a computer, such as writing text in 2Create a Story.



Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 1.6 Animated Story Books

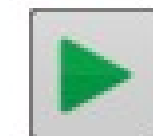
Key Images



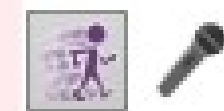
Open, close or share a file



Plan out your story



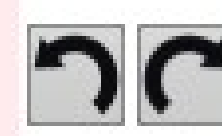
Play your story



Add animation and sounds to the story



Choose a story background



Undo or redo the last action



Choose the font for the story



Copy and paste

Key Questions

What is 2Create a Story?

With 2Create a Story, you can create e-books including animated pages, sounds, narration and music.

What is an animated story?

An animated story is a story where the images in the foreground can move in a variety of ways.

How can I make my story better?

As well as adding animation to the story, it can be improved by adding sounds or sound effects to the different pages.