



Bunbury Aldersey CE Primary School
Computing curriculum map:
Reception to Year 6

Let Your Light Shine - Matthew v5:16

Article 29: Children's education should develop each child's personality, talents and abilities to the fullest. It should encourage children to respect others, human rights and their own and other cultures. It should also help them learn to live peacefully, protect the environment and respect other people.

Our Curriculum Policy details our intent behind our curriculum, how we implement it and our desired impact. At RCSAT, the school curriculum consists of all those activities designed or encouraged within its organisational framework to provide the intellectual, emotional, personal, social, spiritual and physical development of all its pupils. It includes not only the subject specific curriculum but also the 'informal' programme of enrichment and extra-curricular activities.

The curriculum at RCSAT, developed over a number of years, is firmly rooted in and stems directly from our Vision, Mission and Core Values;

Our Vision – 'Let your Light shine' Matthew v5:16

Our Mission – 'A Caring Christian Family Where We Grow Together'

Our Core Values –

WE aim to create an enjoyable, inclusive, safe and nurturing environment that allows all children to develop spiritually, morally and socially.

– *every child is a child of God, made to contribute to our world.*

WE aim to create an inspiring environment, which encourages enthusiasm for lifelong learning and establishes an expectation of high standards.

– *knowing the way, showing the way and going the way.*

WE aim to encourage caring, sensitive and inclusive attitudes where individuals feel secure, valued and respected by others.

– *like Jesus showed us through his teachings*

WE aim to provide a broad and connected curriculum which challenges and develops the potential of each child.

– *as Jesus needed his disciples to support and guide, so we look to others with more knowledge*

WE aim to develop a positive relationship between home, school and our wider community

- *as a family – as brothers and sisters*

Computing curriculum intent

Through our computing curriculum, we intend to equip pupils with the knowledge, skills and understanding to use computers and technology to benefit the world; capitalising on close cross curricular links with mathematics, science and DT.

We aim to impart the core, essential knowledge of computer science which includes; information & computation, digital systems and how they work; and how to amalgamate such areas through programming. As children move through school, they will learn how to use taught skills to create programs, programs and varied content. We aspire for children to become accomplished at using technology to solve problems, express themselves and develop their own ideas; in order that they can thrive within this ever-developing arena in the future

Through our study of Computing, we aim 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

Implementation

Curriculum structure & sequencing:

We appreciate that not all teachers have the same level of expertise and confidence in delivering Computing lessons. As such, we have invested in a high quality scheme of work, Purple Mash, to ensure the Computing curriculum is structured effectively and delivered consistently across school. Wherever possible, we link Computing learning to work being done in another topic such as History or Geography, however all computing projects are meaningful and tangible in nature with clear end goals at their heart.

Content & concepts

The curriculum is broken into three areas: computer science, information technology and digital literacy. By constructing our curriculum in this way, children learn about computing in exciting and practical ways and have the opportunity to focus on specific areas such as hardware and programming; whilst also learning about broader areas such as networks and data, embedding such learning through assessment and project work.

Enrichment and personal development:

We enrich our curriculum through innovative and exciting technologies used for learning. These include: iPads, BeeBots, Coder Pillar. We also offer extra-curricular Computing through participation in our Digital Wizards club. A core thread of progressive e-safety learning runs parallel to the curriculum and is delivered to each year group from Reception to Year 6, building on learning they have undertaken and developing to align with current and national initiatives. This is key to children's personal development as they grow up in a world where reward and threat from technology is becoming increasingly equal.

Assessment and next steps:

We assess Computing in a variety of ways, giving pupils the opportunity to explain their reasoning and metacognition of a topic as well as their accumulation of knowledge. This may be done through practical exercises, group tasks, quizzes or discussion. It is our intention that we equip children with the skills and knowledge required that they can further their own learning within Computing, applying what they have been taught at a foundational level to more complex and bespoke scenarios as would be required later in life.

Computing in the Early Years

Computing in the Early Years Foundation Stage (EYFS) is integrated not as a standalone subject, but as a part of the holistic learning experience for children aged 0-5 years.

At Bunbury Aldersey, we teach Computing to children within EYFS. This is because we understand the prevalence of technology within children's lives within modern day life, and believe educating them to use this is paramount to their development and safety.

Computing also supports communication and language development as children learn to follow and give instructions, and express their experiences with technology. At Bunbury, we believe that it is important that these interactions are age-appropriate, guided by adults, and balanced with a range of non-screen activities that promote physical activity and social interaction.

Our primary goal in relation to Computing is to utilise technology as a means to enhance learning and creative expression, not as an end point in itself. By teaching Computing within EYFS as we do for the rest of the school, we lay the groundwork for building essential digital literacy skills appropriate for the modern era as children move throughout each year group; whilst also ensuring our children learn how to use technology safely and responsibly.

Technology in the Early Years Foundation Stage

At Bunbury, the integration of technology into the Early Years Foundation Stage (EYFS) curriculum significantly enhances the teaching and learning experience across the 7 areas of learning. The use of digital tools, such as interactive storybooks and multimedia resources, brings storytelling to life, captivating young minds and fostering a deeper engagement with narratives and characters. This interactive approach not only enriches the storytelling experience but also aids in the development of listening and comprehension skills.

Additionally, the school uses a variety of specialist apps and online tools specifically designed for early education. These resources play a crucial role in advancing learning in key areas such as Literacy, Phonics, and Mathematics. Through engaging and age appropriate digital content, children are able to grasp fundamental concepts in a fun and interactive manner

Early Learning Goals



Inclusion within Computing

We are an inclusive school and as such, do not believe in narrowing the curriculum for any learner. Our curriculum is designed with inclusion of all at heart, and our curriculum intent is therefore the same for all children.

However, we are mindful that there are an abundance of factors which need to be considered in order for all learners to be able to access learning according to their individual needs; perhaps none more so than for those learners with Special Educational Needs and Disabilities (SEND).

Therefore, whilst our curriculum intent is the same for all learners; our implementation of the curriculum may well look different for different groups of pupils. Teachers will plan, scaffold, challenge and embed learning through activities which are adapted to meet children's needs – we call this adapted implementation. This is to ensure that our curriculum can be met by all within an inclusive environment, mindful and responsive to children's needs.



Word banks and picture resources may be supplied to assist learners with language.



Staff may scribe for children to ensure a child's explanations and articulation is not limited by writing competence.



Make regular references to relevant language throughout the lesson and school day using tools such as working and display walls.



Use small group teaching opportunities to dedicate more time and support to provide additional learning opportunities to learners working towards a planned objective.

Music to take place within a larger space to provide less distraction and more opportunity for engagement and concentration.

**Same intent,
adapted implementation**

Year 1

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

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
	Coding	Online Safety	Spreadsheets	Questioning	Effective Searching	Creating Pictures	Making Music	Presenting Ideas
Number of lessons	6	3	6	5	3	5	3	4
Main tool	2Code		2Calculate	2Question 2Investigate		2Paint A Picture	2Sequence	

Year 3

	Unit 3.1	Unit 3.2	Unit 3.3	Unit 3.4	Unit 3.5	Unit 3.6	Unit 3.7	Unit 3.8	Unit 3.9	Unit 3.10
	Coding	Online safety	Spreadsheets	Touch Typing	Email (inc. email safety)	Branching Databases	Simulations	Graphing	Presenting	micro: bit
# lessons	6	3	6	4	6	4	3	2	5\6*	4
Main tool	2Code		2Calculate	2Type	2Email	2Question	2Simulate	2Graph	Power Point or Google Slides	Free code micro: bit

*Platform dependent

Year 4

	Unit 4.1	Unit 4.2	Unit 4.4	Unit 4.5	Unit 4.6	Unit 4.7	Unit 4.8	Unit 4.9	Unit 4.10	Unit 4.11
	Coding	Online Safety	Writing for Different Audiences	Logo	Animation	Effective Searching	Hardware	Making Music	Intro to AI	micro:bit
# lessons	6	4	5	4	3	3	2	4	4	4
Main tool	2Code			2Logo	2Animate			Busy Beats		Free code micro: bit

Year 5

	Unit 5.1	Unit 5.2	Unit 5.3	Unit 5.4	Unit 5.5	Unit 5.6	Unit 5.7	Unit 5.8	Unit 5.9
	Coding	Online Safety	Spreadsheets	Databases	Game Creator	3D Modelling	Concept Maps	Word Processing	External Devices
# lessons	6	3	6	4	5	4	4	7/8*	6
Main tool	2Code		2Calculate	2Investigate	2DIY 3D	2Design & Make	2Connect	MS Word or Google Docs	2Code Purple Chip

*Platform dependent

Year 6

	Unit 6.1	Unit 6.2	Unit 6.4	Unit 6.5	Unit 6.6	Unit 6.7	Unit 6.8	6.9
	Coding	Online Safety	Blogging	Text Adventures	Networks	Quizzing	Understanding Binary	Spreadsheets
# lessons	6	2	4	5	3	6	4	8
Main tool	2Code		2Blog			2Quiz		Excel or Google Sheets

Bunbury Aldersey CE Primary - Computing End Points

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Unit 1.1 Online safety and exploring Purple Mash	Unit 2.1 Coding	Unit 3.1 Coding	Unit 4.1 Coding	Unit 5.1 Coding	Unit 6.1 Coding
<p>To log in safely.</p> <p>To learn how to find saved work in the Online Work area and find teacher comments.</p> <p>To learn how to search Purple Mash to find resources.</p> <p>To become familiar with the icons and types of resources available in the Topics section.</p> <p>To start to add pictures and text to work.</p> <p>To explore the Tools and Games section of Purple Mash.</p> <p>To learn how to open, save and print.</p> <p>To understand the importance of logging out.</p>	<p>To understand what an algorithm is.</p> <p>To create a computer program using an algorithm.</p> <p>To create a program using a given design.</p> <p>To understand the collision detection event.</p> <p>To understand that algorithms follow a sequence.</p> <p>To design an algorithm that follows a timed sequence.</p> <p>To understand that different objects have different properties.</p> <p>To understand what different events do in code.</p> <p>To understand the function of buttons in a program.</p> <p>To understand and debug simple programs.</p>	<p>To understand what a flowchart is and how flowcharts are used in computer programming.</p> <p>To understand that there are different types of timers and select the right type for purpose.</p> <p>To understand how to use the repeat command.</p> <p>To understand the importance of nesting.</p> <p>To design and create an interactive scene</p>	<p>To begin to understand selection in computer programming.</p> <p>To understand how an IF statement works.</p> <p>To understand how to use co-ordinates in computer programming.</p> <p>To understand the 'repeat until' command.</p> <p>To understand how an IF/ELSE statement works</p> <p>To understand what a variable is in programming.</p> <p>To use a number variable.</p> <p>To create a playable game</p>	<p>To begin to simplify code.</p> <p>To create a playable game.</p> <p>To understand what a simulation is.</p> <p>To program a simulation using 2Code.</p> <p>To know what decomposition and abstraction are in computer science.</p> <p>To take a real-life situation, decompose it and think about the level of abstraction.</p> <p>To understand how to use friction in code.</p> <p>To begin to understand what a function is and how functions work in code.</p> <p>To understand what the different variables types are and how they are used differently.</p> <p>To understand how to create a string.</p> <p>To understand what concatenation is and how it works</p>	<p>To design a playable game with a timer and a score.</p> <p>To plan and use selection and variables.</p> <p>To understand how the launch command works.</p> <p>To use functions and understand why they are useful.</p> <p>To understand how functions are created and called.</p> <p>To use flowcharts to create and debug code.</p> <p>To create a simulation of a room in which devices can be controlled.</p> <p>To understand how user input can be used in a program.</p> <p>To understand how 2Code can be used to make a text-adventure game</p>
Unit 1.2 Grouping and Sorting	Unit 2.2 online safety	Unit 3.2 Online Safety	Unit 4.2 Online Safety	Unit 5.2 Online Safety	Unit 6.2 Online Safety
<p>To sort items using a range of criteria.</p> <p>To sort items on the computer using the 'Grouping' activities in Purple Mash.</p>	<p>To know how to refine searches using the Search tool.</p> <p>To use digital technology to share work on Purple Mash to communicate and connect with others locally.</p> <p>To have some knowledge and understanding about sharing more globally on the Internet.</p> <p>To introduce Email as a communication tool using 2Respond simulations.</p> <p>To understand how we should talk to others in an online situation.</p> <p>To open and send simple online communications in the form of email.</p> <p>To understand that information put online leaves a digital footprint or trail.</p>	<p>To know what makes a safe password.</p> <p>To learn methods for keeping passwords safe.</p> <p>To understand how the Internet can be used in effective communication.</p> <p>To understand how a blog can be used to communicate with a wider audience.</p> <p>To consider the truth of the content of websites.</p> <p>To learn about the meaning of age restrictions symbols on digital media and devices.</p>	<p>To understand how children can protect themselves from online identity theft.</p> <p>To understand that information put online leaves a digital footprint or trail and that this can aid identity theft.</p> <p>To identify the risks and benefits of installing software including apps.</p> <p>To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism.</p> <p>To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.</p> <p>To identify the positive and negative influences of technology on health and the environment.</p> <p>To understand the importance of balancing game and screen time with other parts of their lives.</p>	<p>To gain a greater understanding of the impact that sharing digital content can have.</p> <p>To review sources of support when using technology and children's responsibility to one another in their online behaviour.</p> <p>To know how to maintain secure passwords.</p> <p>To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this.</p> <p>To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.</p> <p>To learn about how to reference sources in their work.</p> <p>To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information.</p> <p>To ensure reliability through using different methods of communication</p>	<p>To identify benefits and risks of mobile devices broadcasting the location of the user/device.</p> <p>To identify secure sites by looking for privacy seals of approval.</p> <p>To identify the benefits and risks of giving personal information.</p> <p>To review the meaning of a digital footprint.</p> <p>To have a clear idea of appropriate online behaviour.</p> <p>To begin to understand how information online can persist.</p> <p>To understand the importance of balancing game and screen time with other parts of their lives.</p> <p>To identify the positive and negative influences of technology on health and the environment</p>
Unit 1.3 Pictograms – 2 count	Unit 2.3 spreadsheets	Unit 3.3 Spreadsheets	Unit 4.3 Spreadsheets	Unit 5.3 Spreadsheets	Unit 6.3 Spreadsheets

<p>To understand that data can be represented in picture format.</p> <p>To contribute to a class pictogram.</p> <p>To use a pictogram to record the results of an experiment.</p>	<p>To identify the steps that can be taken to keep personal data and hardware secure.</p> <p>To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine.</p> <p>To learn how to copy and paste in 2Calculate.</p> <p>To use the totalling tools.</p> <p>To use a spreadsheet for money calculations.</p> <p>To use the 2Calculate equals tool to check calculations.</p> <p>To use 2Calculate to collect data and</p>	<p>To use the symbols more than, less than and equal to, to compare values.</p> <p>To use 2Calculate to collect data and produce a variety of graphs.</p> <p>To learn the advanced mode of 2Calculate to learn about cell references.</p>	<p>To format cells as currency, percentage, decimal to different decimal places or fraction.</p> <p>To use the formula wizard to calculate averages.</p> <p>To combine tools to make spreadsheet activities such as timed times tables tests.</p> <p>To use a spreadsheet to model a real- life situation.</p> <p>To add a formula to a cell to automatically make a calculation in that cell.</p>	<p>To use formulae within a spreadsheet to convert measurements of length and distance.</p> <p>To use the count tool to answer hypotheses about common letters in use.</p> <p>To use a spreadsheet to model a real- life problem.</p> <p>To use formulae to calculate area and perimeter of shapes.</p> <p>To create formulae that use text variables.</p> <p>To use a spreadsheet to help plan a school cake sale.</p>	<p>To use a spreadsheet to investigate the probability of the results of throwing many dice.</p> <p>To use a spreadsheet to calculate the discount and final prices in a sale.</p> <p>To use a spreadsheet to plan how to spend pocket money and the effect of saving money</p>
<p>Unit 1.4 Lego Builders</p>	<p>Unit 2.4 Questioning</p>	<p>Unit 3.4 Touch Typing</p>	<p>Unit 4.4 Writing for Different Audiences</p>	<p>Unit 5.4 Databases</p>	<p>Unit 6.4 Blogging</p>
<p>To compare the effects of adhering strictly to instructions to completing tasks without complete instructions.</p> <p>To follow and create simple instructions on the computer.</p> <p>To consider how the order of instructions affects the result.</p>	<p>To learn about data handling tools that can give more information than pictograms.</p> <p>To use yes/no questions to separate information.</p> <p>To construct a binary tree to identify items.</p> <p>To use 2Question (a binary tree database) to answer questions.</p> <p>To use a database to answer more complex search questions.</p> <p>To use the Search tool to find information.</p>	<p>To introduce typing terminology.</p> <p>To understand the correct way to sit at the keyboard.</p> <p>To learn how to use the home, top and bottom row keys.</p> <p>To practise typing with the left and right hand.</p>	<p>To understand how children can protect themselves from online identity theft.</p> <p>To understand that information put online leaves a digital footprint or trail and that this can aid identity theft.</p> <p>To identify the risks and benefits of installing software including apps.</p> <p>To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism.</p> <p>To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.</p> <p>To identify the positive and negative influences of technology on health and the environment.</p> <p>To understand the importance of balancing game and screen time with other parts of their lives.</p> <p>To explore how font size and style can affect the impact of a text.</p> <p>To use a simulated scenario to produce a news report.</p> <p>To use a simulated scenario to write for a community campaign</p>	<p>To learn how to search for information in a database.</p> <p>To contribute to a class database.</p> <p>To create a database around a chosen topic.</p>	<p>To identify the purpose of writing a blog.</p> <p>To identify the features of a successful blog.</p> <p>To plan the theme and content for a blog.</p> <p>To understand how to write a blog and a blog post.</p> <p>To consider the effect upon the audience of changing the visual properties of the blog.</p> <p>To understand how to contribute to an existing blog.</p> <p>To understand how and why blog posts are approved by the teacher.</p> <p>To understand the importance of commenting on blogs.</p>
<p>Unit 1.5 Maze explorers - 2 Go</p>	<p>Unit 2.5 Effective Searching</p>	<p>Unit 3.5 Email (including email safety)</p>	<p>Unit 4.5 Logo</p>	<p>Unit 5.5 Game Creator</p>	<p>Unit 6.5 Text Adventures</p>
<p>To understand the functionality of the direction keys.</p> <p>To understand how to create and debug a set of instructions (algorithm).</p> <p>To use the additional direction keys as part of an algorithm.</p> <p>To understand how to change and extend the algorithm list.</p> <p>To create a longer algorithm for an activity.</p> <p>To set challenges for peers.</p> <p>To access peer challenges set by the teacher</p>	<p>To understand the terminology associated with searching.</p> <p>To gain a better understanding of searching on the Internet.</p> <p>To create a leaflet to help someone search for information on the Internet.</p>	<p>To know what makes a safe password.</p> <p>To learn methods for keeping passwords safe.</p> <p>To understand how the Internet can be used in effective communication.</p> <p>To understand how a blog can be used to communicate with a wider audience.</p> <p>To consider the truth of the content of websites.</p> <p>To learn about the meaning of age restrictions symbols on digital media and devices.</p> <p>To think about different methods of communication.</p> <p>To open and respond to an email using an address book.</p> <p>To learn how to use email safely.</p> <p>To add an attachment to an email.</p>	<p>To learn the structure of the coding language of Logo.</p> <p>To input simple instructions in Logo.</p> <p>Using 2Logo to create letter shapes.</p> <p>To use the Repeat function in Logo to create shapes.</p> <p>To use and build procedures in Logo.</p>	<p>To plan a game.</p> <p>To design and create the game environment.</p> <p>To design and create the game quest.</p> <p>To finish and share the game.</p> <p>To self and peer evaluate.</p> <p>To know what a word processing tool is for</p> <p>To add and edit images to a word document</p> <p>To know how to use word wrap with images and text</p> <p>To change the look of text within a document</p> <p>To add features to a document to enhance its look and usability</p> <p>To use the sharing capabilities in Google Docs</p> <p>To use tables within to present information</p> <p>To introduce children to templates</p>	

		To explore a simulated email scenario.			
Unit 1.6 Animated Story books – 2 create a story	Unit 2.6 Creating Pictures	Unit 3.6 Branching Database	Unit 4.6 Animation	Unit 5.6 3D Modelling	Unit 6.6 Networks
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	To learn the functions of the 2Paint a Picture tool. To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir). To recreate Pointillist art and look at the work of pointillist artists such as Seurat. To learn about the work of Piet Mondrian and recreate the style using the lines template. To learn about the work of William Morris and recreate the style using the patterns template. To explore surrealism and Collage	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.	To discuss what makes a good animated film or cartoon. To learn how animations are created by hand. To find out how animation can be created in a similar way using the computer. To learn about onion skinning in animation. To add backgrounds and sounds to animations. To be introduced to 'stop motion' animation. To share animation on the class display board and by blogging	To be introduced to 2Design and Make and the skills of computer aided design. To explore the effect of moving points when designing. To design a 3D Model to fit certain criteria. To refine and print a model To understand the need for visual representation when generating and discussing complex ideas.	To learn about what the Internet consists of. To find out what a LAN and a WAN are. To find out how the Internet is accessed in school. To research and find out about the age of the Internet. To think about what the future might hold.
Unit 1.7 Coding - 2 code	Unit 2.7 Making Music	Unit 3.7 Simulations	Unit 4.7 Effective Searching	Unit 5.7 Concept Maps	Unit 6.7 Quizzing
To understand what instructions are and predict what might happen when they are followed. To use code to make a computer program. To understand what object and actions are. To understand what an event is. To use an event to control an object. To begin to understand how code executes when a program is run. To understand what backgrounds and objects are. To plan and make a computer program.	To make music digitally using 2Sequence. To explore, edit and combine sounds using 2Sequence. To edit and refine composed music. To think about how music can be used to express feelings and create tunes which depict feelings. To upload a sound from a bank of sounds into the Sounds section. To record and upload environmental sounds into Purple Mash. To use these sounds to create tunes	To consider what simulations are. To explore a simulation. To analyse and evaluate a simulation.	To identify appropriate behaviour when participating or contributing to collaborative online projects for learning. To identify the positive and negative influences of technology on health and the environment. To understand the importance of balancing game and screen time with other parts of their lives. To locate information on the search results page. To use search effectively to find out information.	To understand the uses of a 'concept map'. To understand and use the correct vocabulary when creating a concept map. To create a concept map. To understand how a concept map can be used to retell stories and information. To create a collaborative concept map and present this to an audience	To create a picture-based quiz for young children. To learn how to use the question types within 2Quiz. To explore the grammar quizzes. To make a quiz that requires the player to search a database. To make a quiz to test your teachers or parents.
Unit 1.8 Spreadsheets – 2 calculate		Unit 3.8 Graphing	Unit 4.8 Hardware Investigators	Unit 5.8 Word Processing	Unit 6.8 Understanding Binary
To know what a spreadsheet program looks like. To locate 2Calculate in Purple Mash. To enter data into spreadsheet cells. To use 2Calculate image tools to add clipart to cells. To use 2Calculate control tools: lock, move cell, speak and count		To enter data into a graph and answer questions. To solve an investigation and present the results in graphic form.	To understand the different parts that make up a computer. To recall the different parts that make up a computer.		To examine how whole numbers are used as the basis for representing all types of data in digital systems. To recognise that digital systems represent all types of data using number codes that ultimately are patterns of 1s and 0s (called binary digits, which is why they are called digital systems). To understand that binary represents numbers using 1s and 0s and these represent the on and off electrical states respectively in hardware and robotics.
Unit 1.9 Technology Outside school		Unit 3.9 Presenting	Unit 4.9 Making Music	Unit 5.9 External Devices	Unit 6.9 Spreadsheets
To walk around the local community and find examples of where technology is used. To record examples of technology outside school.		To understand the uses of PowerPoint. To create a page in a presentation. To add media to a presentation. To add animations to a presentation. To add timings to a presentation.	To identify and discuss the main elements of music. To understand and experiment with rhythm and tempo. To create a melodic phrase.	To understand how a device can be programmed to be used as a game controller. To explore the functions available for the Purple Chip and appraise their uses. To create a simple quiz program that can be	To know what a spreadsheet looks like. To navigate and enter data into cells. To introduce some basic data formulae in Excel for percentages, averages and max and min numbers.

To use the skills learnt to design and create an engaging presentation

To electronically compose a piece of music.

answered using an external device.
To create a program in which an external device can be used to monitor real world conditions.

To demonstrate how the use of Excel can save time and effort when performing calculations.
To use a spreadsheet to model a real-life situation.
To demonstrate how Excel can make complex data clear by manipulating the way it is presented.
To create a variety of graphs in Excel.
To apply spreadsheet skills to solving Problems

Progression of knowledge and skills

Computer Science		
EYFS		
<ul style="list-style-type: none"> • Learning how to operate a camera to take photographs of meaningful creations or moments. • Learning how to explore and tinker with hardware to develop familiarity and introduce relevant vocabulary. • Recognising and identifying familiar letters and numbers on a keyboard. • Developing basic mouse skills such as moving and clicking. • Using logical reasoning to understand simple instructions and predict the outcome. • Representing data through sorting and categorising objects in unplugged scenarios. • Representing data through physical pictograms. Exploring branch databases through physical games. 	<ul style="list-style-type: none"> • To know that being able to follow and give simple instructions is important in computing. • To understand that it is important for instructions to be in the right order. • To understand why a set of instructions may have gone wrong. • To know that you can program a Bee-Bot with some simple commands. • To understand that debugging means how to fix some simple programming errors. • To understand that an algorithm is a set of clear and precise instructions. 	<ul style="list-style-type: none"> • To know that being able to follow and give simple instructions is important in computing. • To understand that it is important for instructions to be in the right order. • To understand why a set of instructions may have gone wrong. • To know that you can program a Bee-Bot with some simple commands. • To understand that debugging means how to fix some simple programming errors. • To understand that an algorithm is a set of clear and precise instructions. • Using a simple online paint tool to create digital art. • Learn different uses of technology in play and learning.

Computer Science: KS1**Year 1**

- I can apply a logical process when sorting and grouping a range of objects
- I can explain that an algorithm is a set of instructions.
- I know that a computer program turns an algorithm into code that the computer can understand.
- I can work out what is wrong when the steps are out of order in instructions.
- I can say that if something does not work how it should it is because my code is incorrect.
- I can try and fix my code if it isn't working properly.
- I can make good guesses of what is going to happen in a program. For example, where the turtle might go.

Year 2

- I can explain an algorithm is a set of instructions to complete a task.
- I know I need to carefully plan my algorithm so it will work when I make it into code.
- I can design a simple program using 2Code that achieves a purpose.
- I can find and correct some errors in my program.
- I can say what will happen in a program.
- I can spot something in a program that has an action or effect (does something).

Computer Science: Lower KS2**Year 3**

- I can make a real-life situation into an algorithm for a program.
- I can design an algorithm carefully, thinking about what I want it to do and how I can turn it into code.
- I can identify an error in my program and fix it.
- I can experiment with timers in my programs.
- I can identify the difference in using the effect of a timer or repeat command in my code.
- I know that a variable stores information while a program is running (executing).
- I can identify 'If' statements, repetition and variables.
- I can read programs with several steps and predict what they will do.

Year 4

- I can turn a real-life situation to solve into an algorithm, using a design that shows how I can accomplish this in code.
- I can use repetition in my code. For example, using a loop that continues until a condition is met such as the correct answer being entered.
- I can use timers within my program designs more accurately to create repetition effects. For example, I can create a counting machine.
- I can use selection (decision) in my programming. For example, using an 'if statement' for a question where the program takes one of two paths.
- I can use variables within my program and know how to change the value of variables.
- I can use the user inputs and output features within my program, such as 'Print to screen'.
- I can identify errors in my code using methods including stepping through lines of code.
- I can read programs that contain several steps and predict the outcomes with increasing accuracy.
- I recognise the main component parts of hardware which allow computers to join and form a network.

Computer Science: Higher KS2

Year 5

- I can make more complex real-life problems into algorithms for a program.
- I can test and debug my programs as I work.
- 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, by 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.

Year 6

- I can turn a complex programming task into an algorithm.
- I can identify the important aspects of a programming task (abstraction).
- 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 explain the difference between the internet and the World Wide Web.
- I can explain what a WAN and LAN is and describe the process of how access to the internet in school is possible.

Digital Literacy: KS1		
EYFS	Year 1	Year 2
<ul style="list-style-type: none"> • Recognising that a range of technology is used for different purposes. Learning to log in and log out. • To know that you should tell a trusted adult if you feel unsafe or worried online. • To know that people you do not know on the internet (online) are strangers and are not always who they say they are. • To know that to stay safe online it is important to keep personal information safe. • To know that 'sharing 	<ul style="list-style-type: none"> • I can say what technology is. • I can say what examples of technology are in school. • I can say what examples of technology are at home. • I know that a chair uses old technology and a smartphone uses new technology. • I can keep my login information safe. • I can save my work in a safe place such as 'My Work' folder 	<ul style="list-style-type: none"> • I can find the information I need using a search engine. • I know the consequences of not searching online safely. • I can share work and communicate electronically – for example, using 2Email or the display boards. • I can report unkind behaviour and things that upset me online, to a trusted adult. • I can see where technology is used at school such as in the office or canteen. • 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.

Digital Literacy: Lower KS2

Year 3	Year 4
<ul style="list-style-type: none">• I can create a secure password.• I can explain the importance of having a secure password and not sharing it with others.• I can explain the negative consequences of not keeping passwords safe and secure.• I understand the importance of keeping safe online and behaving respectfully.• I can identify different ways that the internet can be used for communication.• I can use email such as 2Email to respond to others appropriately and attach files.• I can report unacceptable content and contact online in more than one way to a trusted adult.• I can use communication tools such as 2Email respectfully and use good etiquette	<ul style="list-style-type: none">• I have a good understanding of the online safety rules we learn at school.• I can demonstrate how to use different online technologies safely.• I can demonstrate how to use a few different online services safely.• I know I have a right to privacy both on and offline.• I recognise that my wellbeing can be affected by how I use technology.• I can report with ease any concerns with content and contact online and know immediate strategies to keep safe

Digital Literacy: Upper KS2

Year 5	Year 6
<ul style="list-style-type: none">• I recognise the main dangers that can be perpetuated via computer networks.• I can explain what personal information is and know strategies for keeping this safe.• I can use the most appropriate form of online communication according to the digital content. For example, use 2Email, 2Blog and Display Boards.• I have a clear knowledge of online safety rules taught at school.• I can demonstrate the safe and respectful use of different online technologies and online services.• I always relate appropriate online behaviour to my right to have personal privacy.• I know how to not let my mental well-being or others be affected by the use of online technologies and services	<ul style="list-style-type: none">• I can demonstrate safe and respectful use of a range of different technologies and online services.• I can identify more discrete inappropriate behaviours online. For example, someone who may be trying to groom me or someone else.• I can use critical thinking to help me stay safe online.• I know the value of protecting my privacy and others online.• I can design and create my own online blogs ensuring that my content is appropriate

Information Technology: KS1

EYFS	Year 1	Year 2
<ul style="list-style-type: none">• To know that sorting objects into various categories can help you locate information.• To know that using yes/no questions to find an answer is a branching database.• To know that a pictogram is a way of showing information.	<ul style="list-style-type: none">• I can know what sound, pictures and text are.• I can add sound, pictures and text to a program such as 2Create a Story.• I can change content on a file such as text, sound and images• I can name my work.• I can save my work.• I can find my work.	<ul style="list-style-type: none">• I can organise data – for example, using a database such as 2Investigate.• I can find data using specific searches – for example, using 2Investigate.• I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate.• I can edit digital data such as data in music composition software like 2Sequence.• I can name, save and find my work.• I can include photos, text and sound in my creations.

Information Technology: Lower KS2**Year 3**

- I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internet search engine.
- I can collect data and input it into software.
- I can analyse data using features within the software, such as formulae in 2Calculate (spreadsheets).
- I can present data and information using different software such as 2Question (branching database) or 2Graph (graphing tool).
- I can consider what the most appropriate software to use when given a task by my teacher. I can create purposeful (appropriate) content and attach this to emails.

Year 4

- I can create and improve my solutions to a problem based on feedback. For example, create an effective animation or musical composition.
- I can review solutions that others have created, using a checklist of criteria.
- I can work collaboratively to create content and solutions.
- I can share digital content using a variety of applications such as: 2Blog, 2Email and Display Boards.
- I understand the purpose of a search engine and the main features within it.
- I can look at the information on a webpage and make predictions about the accuracy of the information contained within it.

Information Technology: Upper KS2

Year 5	Year 6
<ul style="list-style-type: none">• I can make appropriate improvements to the digital work I have created.• I can comment on how successful a digital solution is that I have created. For example, a program built in 2Code that sorts decimals numbers.• I can work collaboratively with others creating solutions to problems using appropriate software such as 2Code.• I can use collaborative modes such as within 2Connect to work with others and share it.• I can search precisely when using a search engine. For example, I know I can add additional words or remove words to help find better results.• I can explain in detail how accurate, safe and reliable the content is on a webpage.• I know the importance of computer networks and how they help solve problems and enhance communication.	<ul style="list-style-type: none">• I can use filters when searching for digital content.• I can explain in detail how accurate and reliable a webpage and its content is.• 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.

Assessment in Computing

We place great emphasis on the importance of assessing children's knowledge, understanding and skillset within Computing.

When assessing Computing, it is first essential to clearly articulate two important areas:

The specific endpoint for the unit being delivered,
The substantive and disciplinary knowledge to be taught to reach this endpoint.

At Bunbury Aldersey, we have mapped out all endpoints for all the Computing units to be delivered, before specifying what substantive and disciplinary knowledge is to be taught within each unit to reach this endpoint. It is this knowledge and understanding that we assess children upon, believing accurate assessment can only be a reflection of what is taught to children.

When delivering lessons; teachers record notes, comments and reflections they feel pertinent to the formative assessment of their teaching and learning of Computing. It is important to specify that the end piece that is produced within a unit of art is not simply the endpoint. Endpoints are made up primarily of the knowledge and skills with the end product of their culmination forming the minority of assessment.

We define what the expected standard is by listing the essential substantive and disciplinary knowledge children should know in order to achieve this, also articulating what would classify a pupil who may be working below / above this.

At the end of each lesson, teacher can apply their teacher judgements to everybody's work individually against the national curriculum statements covered.

Subject: Computing | Y4 | IT

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Emerging Expected Exceeding ↑

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. Emerging Expected Exceeding ↑

* = multiple judgements selected on these files

With the unit endpoint in mind, Purple Mash will form a summative assessment for each child within a particular unit. This will be either, working towards / working at / working above the expected standard.

Computing

- Y1
- Y2
- Y3
- Y4
 - Computer Science
 - Digital Literacy
 - IT**

Show Average: Show Most Recent:

Pupil Name	Class Name	Select, use and...	Use search technologies...
Coverage		87%	87%
Constance Jenkins	Year 4	Expected (2.00)	Expected (2.00)
Edith Marshall	Year 4	Expected (2.00)	Expected (2.00)
Edward Lutchmiah	Year 4	Expected (2.00)	Expected (2.00)
Emily Maddocks	Year 4	Expected (1.50)	Expected (1.50)
Evie Knowles	Year 4	Exceeding (2.50)	Exceeding (2.50)
Georgina Bunnell	Year 4	Expected (2.00)	Expected (2.00)
Indy Watkinson	Year 4	Expected (2.00)	Expected (2.00)

