



EYFS Computing Knowledge

Children in Reception will be learning to:			
UW	AUTUMN: <u>To support Computer science and digital literacy</u> <ul style="list-style-type: none">To know which devices in the room are electronic	SPRING: <ul style="list-style-type: none">To use in their play one or more of our electronic devicesChildren can listen carefully to and follow simple two step instructions.Children can follow classroom rules independently.	SUMMER: <ul style="list-style-type: none">To choose an electronic device purposefully for a given task.Children can listen carefully to and follow simple three step instructions.Children know why we have rules and explain what good behaviour.
	CL <u>To support the beginning of computational thinking</u> <ul style="list-style-type: none">Children can listen carefully to and follow simple one step instructions.		
	PSED <u>To support online safety</u> <ul style="list-style-type: none">Children seek out a familiar adult when they need help or are upset.		



National Curriculum Aims	<p>Key Stage One: Pupils should be taught to:</p> <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 • 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 <p>Key Stage Two: Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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. 		
	Y1/2	Y3/4	Y5/6
Digital Literacy Including Online Safety	Year 1 Expectations <ul style="list-style-type: none"> • Know how to log on safely. • Know how to understand the ideas of ‘ownership’ of their creative work. 	Year 3 Expectations <ul style="list-style-type: none"> • Know that being a good digital citizen means being safe and responsible online. 	Year 5 Expectations <ul style="list-style-type: none"> • Know how to describe their media choices and to begin to develop a definition of a healthy media balance.



- Know how to find saved work.
- Know how search Purple Mash to find resources.
- Know the types of resources available in the Topics section.
- Know what the icons are in the Topics section.
- Know how to explore the Tools section of Purple Mash.
- Know how to start to add pictures and text to work.
- Know the common icons used for save, print, open and new.
- Know the importance of logging out when I have finished.
- Know when and why to take breaks from device time.
- Know why it's important to be aware and respectful of people while using devices.

Year 2 Expectations

- Know how to use the search facility on Purple Mash by year group and subject.
- Know how to share work to a display board.
- Know that work can be shared digitally on the internet.
- Know that Email is a form of digital communication.
- Know how we talk to others when they are not there in front of us.

- Know that digital devices can be distracting and recognise the importance of device free time for themselves and others.
- Know the kind of information that is private.
- Know that they should never give out private information online.
- Know how to compare and contrast how they are connected to different people and places, in person and on the internet.
- Know what online meanness can look like and how it can make people feel.
- Know ways to respond to mean words online, using S-T-O-P.

Year 4 Expectations

- Know what it means to give credit when using content they find online.
- Know what their online and in-person responsibilities are and how to describe how their behaviour affects themselves and others.
- Know why a strong password is important and how to create a memorable and strong password.
- Know how posting selfies or other images can lead to others making assumptions about them.
- Know how to post on-line in a way that best reflects who they are.
- Know what a community is both in person and online.
- Know why it is important to think about the words we use because everyone interprets things differently.

- Know the difference between personal and private information and explain why it is risky to share private information online.
- Know what 'digital footprint' means and identify online activities that contribute to it.
- Know what responsibilities they have for the digital footprints of themselves and others.
- Know what the positives and negatives are of social interaction in online games.
- Know and recognise what cyberbullying is and the options they have for dealing with it.

Year 6 Expectations

- Know how to reflect on their media balance.
- Know how to create a personalised plan for healthy and balanced media use.
- Know what is meant by 'the curiosity gap' and how clickbait uses this to get your attention.
- Know strategies for avoiding clickbait.
- Know what is meant by 'gender stereotypes' and how they can be present online.
- Know how gender stereotypes can lead to unfairness or bias.
- Know how to compare and contrast different kinds of online-only friendships.
- Know the benefits and risks of online-only friendships.



- Know how to open and send simple online communication in the form of email using 2Respond on Purple Mash.
- Know that the information put online leaves a digital footprint or trail.
- Know how to think critically about the information they leave online.
- Know how to identify the steps that can be taken to keep personal data and hardware secure.

- Know how to explain the use of S-T-O-P when dealing with mean posts online.
- Know which kinds of statements are OK to say online and which are not.
- Know how to structure search queries to locate specific information.
- Know how to use search effectively to answer a series of questions.
- Know how to analyse the contents of a web page for clues about the credibility of the information.

- Know how to respond to an online-only friend if the friend asks something that makes them feel uncomfortable.
- Know the similarities and differences between in-person bullying, cyberbullying and being mean.
- Know strategies for dealing with cyberbullying and how to be an upstander for those being bullied.
- Know how to discuss different types of media used on websites.
- Know that websites are written in HTML.
- Know the common features of a web page.
- Know what media to include on my page.
- Know how to draw a web page layout that suits my purpose.
- Know why I should use copyright-free images.
- Know how to find copyright-free images.
- Know what is meant by the term 'fair use'.
- Know how to add content to my own web page.
- Know how to preview my web page.
- Know how to evaluate what my webpage looks like on different devices and make edits.
- Know what a navigation path is.



	Y1/2	Y3/4	Y5/6
Computer Science	<p>Year 1 Expectations</p> <ul style="list-style-type: none"> • Know what coding means in computing. • Know how to create unambiguous instructions. • Know how to use 2Code. • Know what a block of code is. • Know how to read through combined blocks of code. • Know how to add a background using Design Mode. • Know how to add characters using Design Mode. • Know how to use a drop-down menu. • Know how to design a simple program that controls how a character will move. • Know how to make a character move when clicked. • Know how to program a character to move given a variety of input events. • Know how to edit a scene by adding, deleting and moving objects. • Know how to change the size of an object using the properties scale. • Know how to create a design plan for their Free Code Scenes program. • Know how to use code to make the program they have designed work. <p>Year 2 Expectations</p> <ul style="list-style-type: none"> • Know how to use movement blocks and the reset button in ScratchJr. 	<p>Year 3 Expectations</p> <ul style="list-style-type: none"> • Know how to create a design that represents a sequential algorithm. • Know how to use a flowchart design to create the code. • Know what Object, Action, Output, Control and Event are in computer programming. • Know how to create a program that uses a timer-after command • Know how to create a program that uses a timer-every command • Know that there can be different ways to solve a problem. • Know how the turtle object moves. • Know how to use the repeat command with an object. • Know how to create a computer program that includes use of the repeat command. • Know how to create computer programs using prior knowledge. • Know how to run, test and debug their programs. • Know how to consider nesting when debugging their programs. • Know how to use the properties table to set the properties of objects. • Know how to plan their scene and code before they create their program. • Know how to make several different things happen in a program. <p>Year 4 Expectations</p>	<p>Year 5 Expectations</p> <ul style="list-style-type: none"> • Know how to use sketch or storyboard to represent a program design and algorithm. • Know how to design and write a program that simulates a physical system. • Know how to select relevant features of a situation to incorporate into a simulation using decomposition and abstraction. • Know how to explain what a variable is in programming and can set/change the variable values appropriately. • Know ways that text variables can be used in coding. • Know how to combine the use of variables, if/else statements and repeats to achieve the desired effect in code. • Know how to read code so that it can be adapted, personalised and improved. • Know how to include buttons and objects that launch windows to websites and programs within a program. <p>Year 6 Expectations</p> <ul style="list-style-type: none"> • Know how to plan a program before coding to anticipate the variables that will be required to achieve the desired effect. • Know how to follow through plans to create the program. • Know how to debug their own program. • Know how to organise code into functions and explain what they are.



- Know how to set backgrounds and start on the green flag triggering block.
- Know that an algorithm is a set of instructions.
- Know how to describe the algorithm they created.
- Know that a computer needs clear instructions to make something happen.
- Know how to plan an algorithm that includes collision detection.
- Know how to create a program using collision detection.
- Know how to read blocks of code and predict what will happen when it is run.
- Know how to create a program that uses a timer-after command.
- Know how to explain what the timer-after command does in their program.
- Know how to predict what will happen in a program that includes a timer-after command.
- Know how to create a computer program that includes different object types.
- Know how to modify the properties of an object.
- Know how to use different events in their program to make objects move.

- Know how to use a sketch or storyboard to represent a program design and algorithm.
- Know how to create code that conforms to their design.
- Know how to create if/else statement.
- Know what a variable is in programming.
- Know how to create a variable.
- Know how to create a program which responds to the if/else command using the value of the variable.
- Know how to create a program with an object that repeats actions.
- Know how to use the Repeat Until command.
- Know how to program an object to respond to user keyboard input.
- Know how to make timers and counting machines using variables to print a new number to the screen every second.
- Know how to create an algorithm modelling the sequence of a simple event.
- Know how to use an algorithm when making a simulation of an event on the computer.
- Know what decomposition and abstraction are in computer science.
- Know how to make timers and counting machines using variables to print a new number to the screen every second.
- Know how to create an algorithm modelling the sequence of a simple event.
- Know how to use an algorithm when making a simulation of an event on the computer.

- Know how to include text inputs from the user in a program and attribute variables to user input.
- Know how to use flowcharts to test and debug a program.
- Know how to create a simulation of a room in which devices can be controlled.
- Know how to create a text-based adventure game.



	<ul style="list-style-type: none">• Know how to create a computer program that includes a button object.• Know how to explain what a button does in their program.• Know how to modify the properties of a button to fit their program design.• Know how to explain what debug (debugging) means.• Know how to use a design document to start debugging a program.• Know how to debug simple programs.	<ul style="list-style-type: none">• Know what decomposition and abstraction are in computer science.• Know how to make timers and counting machines using variables to print a new number to the screen every second.• Know how to create an algorithm modelling the sequence of a simple event.• Know how to use an algorithm when making a simulation of an event on the computer.• Know what decomposition and abstraction are in computer science.• Know how to break down aims for a coding task into smaller achievable steps.• Know that they need to start coding at a basic level of abstraction to remove superfluous details from their program that do not contribute to the aim of the task.	
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	Y1/2	Y3/4	Y5/6
Information Technology	<ul style="list-style-type: none"> • Year 1 Expectations • Know the difference between a traditional book and an e-book. • Know how to use different drawing skills to create a picture. • Know how to add text to a page. • Know how open previously saved worked. • Know how to add animation to a story. • Know how to save changes. • Know how to add sound to a story. • Know how to add a voice recording to a story. • Know how to create music for a story. • Know how to add a background to a story. • Know how to copy and paste a page of a story. • Know how to add extra pages to an ebook. • Know how to share my ebook on a display board. • Year 2 Expectations • Know and explain what rows and columns are in a spreadsheet. • Know how to open, save and edit and spreadsheet. • Know how to add allocate images a value. • Know how to add the count tool to count items. 	<ul style="list-style-type: none"> • Year 3 Expectations • Know what PowerPoint is. • Know how to open PowerPoint. • Know how to create a page in a presentation by adding text, formatting it and adding shapes. • Know how to add media to a presentation by changing the design of the slides, inserting a new slide, inserting pictures, editing pictures and inserting video and audio. • Know how to use animations and transitions in a presentation. • Know how to add timings to a presentation. • Know how to present using a slideshow. • Know how to create a presentation linked to a curriculum topic. • Year 4 Expectations • Know how to use the number formatting tools within 2Calculate to appropriately format numbers. • Know how to add a formula to a cell to automatically make a calculation in that cell. • Know how to use the timer, random number and spin button tools. • Know how to combine tools to make fun ways to explore number. • Know how to use a series of data in a spreadsheet to create a line graph. 	<ul style="list-style-type: none"> • Year 5 Expectations • Know how to search a database to answer questions correctly. • Know how to enter data into a class database. • Know how to create their own database and add records to their database. • Know what a database field is and how to correctly add field information. • Know how to word questions so that they can be effectively answered using a search of their database. • Know what a word processing tool is for. • Know how to create a word processing document altering the look of the text and navigating around the document. • Know how to add images to a word document. • Know how to edit images to reduce their file size. • Know how to wrap images and text. • Know how to add appropriate text and format in a suitable way. • Know how to use bullet points and numbering. • Know how to add text boxes and shapes. • Know how to consider paragraph formatting such as line spacing. • Know how to use page breaks, headers and footers. • Know how to add hyperlinks to places in the document and to an external website.



- Know how to use copying and pasting to help make spreadsheets.
- Know how to automatically total rows and columns.
- Know how to use images in a spreadsheet.
- Know how to use a spreadsheet to calculate.

- Know how to use a line graph for practical purposes.
- Know how to plan actions using a spreadsheet.
- Know how to use the currency formatting in 2Calculate.
- Know how to allocate values to images and to use these to explore place value.
- Know how to use a spreadsheet in 2Calculate to check understanding of a mathematical concept.
- Know how to plan actions using a spreadsheet.
- Know how to use the currency formatting in 2Calculate.
- Know how to allocate values to images and to use these to explore place value.
- Know how to use a spreadsheet in 2Calculate to check understanding of a mathematical concept.

- Know how to add tables to present information.
- Know how to edit properties of tables.
- Know how to add word art for a heading.
- Know how to use a Word template and edit it appropriately.
- Know how to format a page using a combination of
 - images, headers and columns.
 - Know how to group objects.
 - Know how to lasso text to cut and past within a page.
 - Know how to save a documents so that it cannot be edited.
- **Year 6 Expectations**
- Know some uses of a spreadsheet and how to navigate using cell references.
- Know how to enter data into cells.
- Know how to carry out basic calculations on a spreadsheet.
- Know how to use the series fill function.
- Know how using formulae allows the data to change and the calculations to update automatically.
- Know how to use a spreadsheet to model a situation and to solve a problem.
- Know how to use the SUM function.
- Know how to present data in a spreadsheet by converting text to tables and
 - splitting cells.
 - Know what is meant by a delimiter.
 - Know how to sort data.



			<ul style="list-style-type: none">• Know how to incorporate formulae for percentages, averages, max and min into their spreadsheets.• Know some shortcuts that help to make data meaningful.• Know that there are ways to represent their data graphically and that Excel can make these calculations for them.
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