# Computing

**What the National Curriculum says...**

| Key Stage 1 | Key Stage 2 |
|---|---|
| Pupils should be taught:<br>-understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions<br>-create and debug simple programs<br>-use logical reasoning to predict the behaviour of simple programs<br>-use technology purposefully to create, organise, store, manipulate and retrieve digital content<br>-recognise common uses of information technology beyond school<br>-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 | Pupils should be taught to:<br>-design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts<br>-use sequence, selection, and repetition in programs; work with variables and various forms of input and output<br>-use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs<br>-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<br>-use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content<br>-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<br>-use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact |

*Excellence – Equity – Evolution – Believe – Achieve – Aspire*

We aspire to create children highly literate in Computing and to fulfil the characteristics set out in our 'Characteristics of a Computer Programmer at St Buryan Academy' document.

Our curriculum, based upon Mr P's ICT D.A.R.E.S allows for clear progression and development of knowledge and skills year-to-year. We adapt this to suit the needs of our children and our school environment.
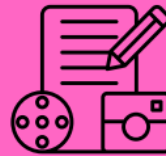
Our Computing Key Concepts allow children to identify knowledge and build on this with any new learning. This makes their recollection of knowledge clear and transferable.

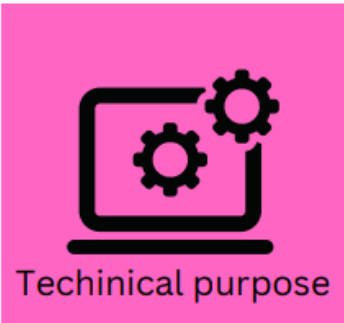| Online safety | Programming | Digital content | Techinical purpose | Online research |

| Key Concept | EYFS/Year 1 | Year 2/3 | Year 4/5/6 |
|---|---|---|---|
| **Online safety** | -Digital literacy and E-safety<br><br>-To be aware of, and contribute to Computing rules | -Digital literacy and E-safety<br><br>-To understand the risks of communicating online with others and what we can do to stay safe | -Digital literacy and E-safety<br><br>-To recognise different forms of online bullying and various actions to take to prevent it; then to communicate this with others digitally<br><br>-To understand the risks of being active online and how to take precautions to stay safe |
| **Programming** | -Animating characters<br><br>-To create an animation with more than once scene | -To create animations of faces to speak<br><br>-To improve stop motion clips | -To code a simple animation or game<br><br>-To create video interviews with transitions<br><br>-To create different types of animations to explain learning<br><br>-To use Scratch to code a short animated story |

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| Digital content | -To record voice over a picture<br><br>-To add labels to an image<br><br>-To create a collage<br><br>-To resize images with fingers or a mouse<br><br>-To take a photograph and video<br><br>-To record using the camera<br><br>-To create images using Word, Paint or a drawing app | -To add filters and sticker to enhance an animation<br><br>-To zoom into images whilst recording<br><br>-To edit photos with simple tools<br><br>-To add speech bubbles to an image<br><br>-To begin to use a green screen with support<br><br>-I know how to create a musical composition using software<br><br>-to create a movie trailer | -To create an interactive comic with sounds and text<br><br>-To create a simple web-page<br><br>-to create a simple digital timeline<br><br>-to sequence clips of mixed media in a timeline<br><br>-to create a green screen clip<br><br>-To create and edit a composition to create a mood or certain style<br><br>-To use a green screen with masking tool<br><br>-To create a trailer or advert in iMovie<br><br>-To edit a picture to remove items, add backgrounds and combine images |

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| | | | -To evaluate and discuss images explaining the effects filters have to enhance media |
| **Technical purpose** | -To play touch screen games and explain how to make elements move<br><br>-Using the mouse and keyboards in play<br><br>-To type letters with confidence on both tablets and with a keyboard<br><br>-To dictate short sentences into a digital device<br><br>-To identify charts and sort objects<br><br>-To present simple data<br><br>-To use the space bar and use caps lock for capital letters | -To use index fingers on keyboard home keys; to use both hands when typing<br><br>-To sort images or text into categories<br><br>-To collect data on a topic<br><br>-To create a simple spider diagram<br><br>-I know how to sequence pictures to show understanding<br><br>-To add images and text with copy and paste as well as inserting shapes<br><br>-To sort objects into a range of charts (Venn diagrams, bar charts etc.)<br><br>-To use copy and paste to organise texts | -To edit text and images in order to make a document more engaging<br><br>-To create data handling activity with images and text<br><br>-To input simple data into a spreadsheet<br><br>-To confidently choose the best application to showcase learning<br><br>-To format text to suit a purpose<br><br>-To publish documents online for an intended audience<br><br>-To write a spreadsheet formula to solve a maths problem |

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| | | | -To evaluate content to improve |
| Online research | -To scan QR codes<br><br>-To explore 360 images | -To explore an interactive 360 image | -To create an interactive VR experience<br><br>-To create an interactive poster |

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