



# Computing Curriculum Pathway

Peters Hill Primary School  
Subject Leader – Lynsey Graham and Tahlia Balfe

## **Intent Statement**

We want all children to understand and demonstrate our underlying principles of [Ambition, Belief, Compassion, Pride and Respect](#). We want our curriculum to enable children to become [successful, confident, motivated and responsible](#) individuals with a [wealth of knowledge](#) about the world around them. We want all children to develop their full potential in a structured, caring and purposeful learning environment. We want all children to understand the connections that exist between new learning and existing knowledge through an awareness of carefully chosen pathways.

## **At Peters Hill Primary School the curriculum is designed to:**

- Recognise all pupils as individuals and encourage positive self-worth and self-esteem.
- Promote curiosity, enthusiasm and engagement through a range of topics and themes.
- Encourage resilience and confidence to face challenges and tackle problems.
- Foster logical, creative and deep thinking to solve challenges and problems.
- Develop Independence and promote responsibility for learning.
- Nurture respect for others and value differences within our school community.
- Grow an awareness of civic responsibility and global citizenship.
- Develop a strong awareness of prior learning and the links that exist to new knowledge.
- Develop new learning and understand the impact on ourselves, the school and the wider community.

## **Our Computing Pathways are:**

- Pathway 1 – Data Handling**
- Pathway 2 – E Safety**
- Pathway 3 - Multimedia**
- Pathway 4 - Programming**
- Pathway 5 – Technology in our lives**

# Peters Hill Computing Curriculum – Progression of Skills

## Data Handling

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Collect information as photos or sound files.	Take photographs, video and record sound to record learning experiences.	Take and save photographs, video & record sound to capture learning.	Find out information from a pre-prepared database, asking straightforward questions.	Plan and create a database to answer questions.	Collect and record information using spreadsheets and databases	Use the whole data process – generate, process, interpret, store, and present information – realising the need for accuracy and checking plausibility.
Use a simple pictogram or set of photos to count and organise information.	Look at how data is represented digitally.	Ask questions and consider how they will collect data.	Contribute towards a database.	Identify different types of data.	Carry out complex searches (e.g. using and/or; $\leq$ / $\geq$ )	
	Contribute to and interpret a pictogram.	Collect data, generate graphs and charts to find answers.	Construct and use a branching database.	Ask questions carrying out simple searches on a database.	Solve problems and present answers using data tools.	Select appropriate data tool.
		Save & retrieve the data to show to others.	Record data in a variety of ways.	Identify inaccurate data.	Identify poor quality data.	Interrogate a database, refining searches to provide answers to questions.
		Create paper/ object decision trees & explore a branching database.	Present data for others.	Present data in appropriate format for an audience.	Analyse information and question data.	Identify and present results.
		Investigate different types of digital data e.g. online encyclopedia websites	Use a data logger to monitor changes and talk about the outcomes seen.	Use a data logger to record and compare individual readings.	Select appropriate use of a data logger for an investigation and interpret the findings.	Plan investigations using the outcomes from a data logger to show findings

# Peters Hill Computing Curriculum – Progression of Skills

## E-Safety

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Talk about good & bad choices in real life e.g. taking turns, saying kind things, helping others, telling an adult if something upsets you.	Talk about good & bad choices in real life e.g. taking turns, saying kind things, helping others, telling an adult if something upsets you.	Explore what cyber-bullying means & what to do when they encounter it.	Agree sensible e-safety rules for the classroom.  Explore what cyber-bullying means & what to do when they encounter it.	Agree sensible e-safety rules for the classroom.  Explore what cyber-bullying means & what to do when they encounter it.	Agree sensible e-safety rules for the classroom.  Explore what cyber-bullying means & what to do when they encounter it.	Agree sensible e-safety rules for the classroom.  Explore what cyber-bullying means & what to do when they encounter it.
Play appropriate games on the Internet.	Understand they need to follow certain rules to remain safe when visiting places online.	Stay safe online by choosing websites that are good for them to visit & not inappropriate sites.	Stay safe online by choosing websites that are good for them to visit & not inappropriate sites.  Choose a secure password for age-appropriate websites.	Choose a secure password for age-appropriate websites.	Choose a secure password for age-appropriate websites.	Choose a secure password for age-appropriate websites.
Talk about good and bad choices when using websites – being kind, telling a grown up if something upsets us & keeping ourselves safe by keeping information private.	Begin to understand that if you create something you own it.	Know that if they put information online it leaves a digital footprint or "trail" & they need to manage it so it's not hurtful.	Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button.	Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button.	Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns.	Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns.
	Learn that many websites ask for information that is private & discuss how to responsibly handle such requests.	Understand that keyword searching is an effective way to locate online information & how to select keywords to produce the best search results.	Talk about what games they enjoying playing and what good choices are when playing games e.g. content, screen time.	Talk about what games they enjoying playing and what good choices are when playing games e.g. content, screen time.	Discuss their own personal use of the Internet and choices they make Discuss how to protect devices from virus threats.	Discuss their own personal use of the Internet and choices they make Discuss how to protect devices from virus threats.
	Explore how email can be used to communicate with real people within their schools, families & communities.	Realise that not all websites are equally good sources of information.	Use a class blog to share information and talk about who can see it, and how to communicate safely and respectfully  Comment and provide positive feedback on the work of classmates in school or online, or the work of others online.	Use a class blog to share information and talk about who can see it, and how to communicate safely and respectfully  Comment and provide positive feedback on the work of classmates in school or online, or the work of others online.	Explore using the safe and responsible use of online communication tools e.g. blogs, messaging.	Explore using the safe and responsible use of online communication tools e.g. blogs, messaging.

# Peters Hill Computing Curriculum – Progression of Skills

## Multimedia

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use a mouse to rearrange objects and pictures on a screen.	Record their own voices and play back to an audience.	Use an increasing variety of tools and effects in paint programs and talk about their choices.	Explore & begin to evaluate the use of multimedia to enhance communication.	Explore how multimedia can create atmosphere & appeal to different audiences	Select an appropriate ICT or online tool to create and share ideas.	Identify the purpose for selecting an appropriate online tool.
Recognise text, images and sound when using ICT.	Use a video or stills camera to record an activity.	Use templates to make electronic books individually and in pairs.	Create & begin to edit presentation documents & text, experimenting with fonts, size, colour, alignment for emphasis & effect.	Be confident in creating & modifying text & presentation documents to achieve a specific purpose.	Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modified.	Discuss audience, atmosphere and structure of a presentation or video.
Use a camera or sound recorder to collect photos or sound.	Create sounds and simple musical phrases..	Explore the effects of sound and music in animation and video.	Use a range of effects in art programs including brush sizes, repeats, reflections	Use art programs & online tools to modify photos for a specific purpose using a range of effects.	Develop skills using transitions and hyperlinks to enhance the structure of presentations.	Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience.
Use paint programs to create pictures.	Add text and images to a template document using an image & word bank.	Create own documents, adding text and images.  Use keyboard to enter text (index fingers left & right hand).	Amend text by highlighting & using SELECT/ DELETE & COPY/ PASTE.  Look at own work & consider how it can be improved for effectiveness.	Use font sizes & effects such as bullet points appropriately.  Know how to use a spell check.  Look at their own, and a friend's work & provide feedback that is constructive & specific.	Use a wide range of effects in art programs and online tools, discussing the choices made and their effectiveness.	Use sound, images, text, transitions and hyperlinks effectively in presentations.
Begin to use a keyboard.	Use index fingers (left and right hand) on a keyboard to build words & sentences.	Know when and how to use the RETURN/ ENTER key. Use SHIFT & CAPS LOCK to enter capital letters.	Use ICT tools to create musical phrases	Use ICT tools to create music phrases for a specific purpose.	Know how to use text and video editing tools in programs to refine their work.	Store presentations and videos online where they can be accessed by themselves and shared with others.
Develop an interest in ICT by using age appropriate websites or programs.	Know when & how to use the SPACE BAR to make spaces between words.	Use DELETE & BACKSPACE buttons to correct text. Create sentences, SAVE & edit later.	Amend text & save changes. Use individual fingers to input text & use SHIFT key to type characters.	Use a keyboard effectively, including the use of keyboard shortcuts.	Use online tools to create and share presentations and films.	Evaluate the effectiveness of their own work and the work of others.
Explore the use of radio, animation & green screening.	Explore the use of radio animation & green screening.	Explore the use of radio animation & green screening.	Explore the use of radio animation & green screening.	Explore the use of radio animation & green screening for a specific audience.	Explore the use of radio animation & green screening for a specific audience.	Explore the use of radio animation & green screening for a specific audience.



# Peters Hill Computing Curriculum – Progression of Skills

## Programming

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Help adults operate equipment around the school, independently operating simple equipment	Physically follow & give each other instructions to move around.	Physically follow and give each other forward, backward & turn (right-angle) instructions	Plan & enter a sequence of instructions on a robot specifying distance & turn to achieve specific outcomes, debug the sequence where necessary.	Create & edit procedures typing logo commands including pen up, pen down & changing the trail of the turtle.	Explore procedures using repeat to achieve solutions to problems with Logo & a floor robot.	Record in some detail the steps (the algorithm) that are required to achieve an outcome & refer to this when programming.
Use simple software to make things happen	Explore outcomes when buttons are pressed in sequences on a robot.	Articulate an algorithm to achieve a purpose	Test & improve / debug programmed sequences.	Use sensors to 'trigger' an action such as turning the lights on using Pro-bot if it 'goes through a tunnel', or reversing if it touches something.	Talk about procedures as parts of a program.	Predict the outputs for the steps in an algorithm.
Press buttons on a floor robot and talk about the movements	Begin to use software to create movement & patterns on a screen.	Plan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance & turn and drawing a trail	Begin to type logo commands to achieve outcomes.	Solve open-ended problems with a floor robot, Logo & other software using efficient procedures to create shapes & letters.	Refine procedures to improve efficiency.	Write a program which follows an algorithm to solve a problem for a floor robot or other model.
Explore options and make choices with toys, software and websites	Begin to predict what will happen for a short sequence of instructions in a program	Explore outcomes when giving instructions in a simple Logo program.	Explore outcomes when giving sequences of instructions in Logo software.	Experience a variety of resources to extend knowledge & understanding of programming.	Explore instructions to control software or hardware with an input & using if... then... commands...	Write a program which follows an algorithm to achieve a planned outcome for appropriate programming software.
	Execute a program on a floor robot to achieve an algorithm	Watch a Logo program execute & debug any problems.	Solve open-ended problems with a floor robot & Logo including creating simple regular polygons, making sounds & planning movements such as a dance.	Create an algorithm & a program that will use a simple selection command for a game.	Explore a computer model to control a physical system.	Control on screen mimics & physical devices using one or more input & predict the outputs.
	Use the word debug to correct any mistakes when programming a floor robot.	Predict what will happen & test results.	Sequence pre-written lines of programming into order.	Begin to correct errors (debug) as they program devices & actions on screen, & identify bugs in programs written by others.	Identify difficulties & articulate a solution for errors in a program. Group commands as a procedure to achieve a specific outcome within a program.	Understand how sensors can be used to measure input in order to activate a procedure or sequence & talk about applications in society.
				Link the use of algorithms to solve problems to work in Maths, Science & DT.	Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming.	Create variables to provide a score/trigger an action in a game Link errors in a program to problems in the original algorithm.

# Peters Hill Computing Curriculum – Progression of Skills

## Technology in Our Lives

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Recognise purposes for using technology in school and at home.	Recognise uses of technology in their homes and in their community.	Begin to understand there are a variety of sources of information and begin to recognise the differences.	Save work on the school network and on individual devices	Talk about the school network & the different resources they can access, including the internet.	Identify different parts of computing devices. Identify different parts of the internet.	Describe different services provided by the Internet & how information moves around the internet.
Understand that things they create belong to them and can be shared with others using technology.	Understand that there are online tools that can help them create and communicate.	Begin to understand what the internet is and the purposes that it is used for.	Talk about the parts of a computer.	Frame questions & identify key words to search for information on the internet.	Choose appropriate tools for communication and collaboration and use them responsibly.	Describe different parts of a computing device & how it connects to the internet.
Recognise that they can use the internet to play and learn.		Understand the different types of content on websites and that some things may not be true or accurate.	Use appropriate tools to collaborate on-line.		Use effective strategies to search with appropriate search engines.	Use search engines as part of an effective research strategy. Describe how search results are selected & ranked.
			Use appropriate tools to communicate on-line.		Talk about the different elements on web pages.	Identify appropriate forms of online communication for different audiences.
			Use simple search tools and find appropriate websites.	Consider reliability of information & ways it may influence you.	Consider reliability of information & ways it may influence you.	Consider reliability of information & ways it may influence you.
			Talk about the owner of information online.	Check who the owner is before copying photos, clipart or text.	Find out who the information presented on a webpage belongs to.	Find out who the information presented on a webpage belongs to.