St Walburga's Catholic Primary School
Whole School Computing Progression Overview

EYFS
Early Learning Goal / EYFS Ages and Stages: To understand the world around them. ELG: Listening, Attention and Understanding Children at the expected level of development will: - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions; - Make comments about what they have heard and ask questions to clarify their understanding; - Hold conversation when engaged in back-and-forth exchanges with their teacher and peers. Self regulation: Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions. Managing self¨ Be confident to try new activities and show independence, resilience and perseverance in the face of challenge; - Explain the reasons for rules, know right from wrong and try to behave accordingly; Creating with materials: Share their creations, explaining the process they have used.
Key stage 1
Children should 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.

Key Stage 2
Children should ♣ 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.

This document aims to give guidance on the progression of Computing knowledge, skills and techniques across the year groups. It can also be used to differentiate work and expectations appropriately for children working above and below ARE. **Potential GD pupils should also be encouraged to progress their knowledge by increasing the depth and range of skill used.**	
Teaching Sequence in Computing will vary – scheme of lessons each year should start with e-safety and then the other areas of study to be undertaken using the class topic as the vehicle for study.	1. E-safety
	2. Technical functions
	3. Exploration of the functions
	4. Creation
	5. Review

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
E-safety	Talk about good & bad choices in real life e.g. taking turns, saying kind things, helping others, telling an adult if something upsets you Play appropriate games on the Internet Talk about good and bad choices when using websites –	Children to understand they should tell an adult if they see something online that is unexpected or worrying. Children to be able to access age appropriate websites. Children to understand they should keep their password private.	Learn that many websites ask for information that is private & discuss how to safely and responsibly handle such requests. Understand they need to follow certain rules to remain safe when visiting places online.	Children to explain what makes a secure password and why it is important. Know that if they put information online it leaves a digital footprint or "trail" & they need to manage it so it's not hurtful. Children to discuss the	Children to agree e-safety rules for classroom and home. Discuss what actions could be taken if they are uncomfortable or upset online e.g. Report Abuse button Talk about what games they enjoying playing and what good choices are when playing	Children to agree e-safety rules for classroom and home and explain why they are important. Discuss the importance of understanding age rating advice. Consider the positive and negatives of playing with your friends online. Children	Children to discuss their own personal use of the Internet and choices they make Discuss how to protect devices from virus threats. Discuss the importance of keeping an adult informed about what you're doing online, and how to report concerns.

	being kind, telling a grown up if something upsets us & keeping ourselves safe by keeping information private.		Children to discuss the importance of being kind online using age appropriate examples.	importance of talking to an adult if something concerns them online. Children to discuss online game choices and understand the importance of age ratings.	games e.g. content, age rating and amount of screen time. Children to know that if they put information online it leaves a digital footprint or "trail" & they need to manage it so it represents them and they are happy that it could be on the internet for a long time and that it's not hurtful.	to explore online behaviour – how it is different to face to face communication and play and what appropriate behaviour looks like online. Children to understand why they should not play online with people they don't know. they put information online it leaves a digital footprint or "trail" & they need to manage it so it represents them and they are happy that it could be on the internet for a long time and	Children to explore using the safe and responsible use of online communication tools e.g. blogs, messaging. Consider digital footprint, age ratings for different online platforms. Explore what appropriate behaviour looks like online – what is allowed and what is not allowed and their responsibilities.

						others will be able to access it and we cannot control what happens to the content. Plus discuss their responsibility to ensure content is not hurtful or not allowed.	
Technology in our lives	Children to recognise different technologies they see or use at home. They can explain what they do.	Children to recognise different technologies in the classroom and at home. Children to explain why they are helpful in our lives.	Children to discuss a range of technologies, understanding their different purposes and why they are helpful. Children to recognise that people create information and content for entertainment and reference purposes. Children to learn about the use of computers in the wider world.	Children to understand the purpose of emails. Children to learn what a search engine is and discuss how they find appropriate content.	Children to understand that software can be used collaboratively online to work as a team. Children to explore networks and relationships between technologies.	Children to develop an understanding of networks. Choose appropriate tools for communication and collaboration and use them responsibly Use effective strategies to search with appropriate search engines Talk about the different elements on web pages	Children to understand about the development of the online world – start of the internet – increasing sophistication and apps. Children to understand how these things are used in our daily lives.

						Find out who the information presented on a webpage belongs to.	
Multimedia and Sound	Children to understand how different sounds are made. Record different sounds. Use a camera to take pictures. Use a paint program to draw an image.	Children to start to use the key features of word processing packages: To open and save a document. To change the font, the colour of text.	Children to develop their use of a word processing package including how to: Change the justification of the text. Insert a text box Insert a picture Use bullet points.	Children to develop their ability to type effectively with hands placed in the correct place to type efficiently. Children to be able to identify different icons. Children can use the Review to tab to check work including spell check, thesaurus and word count. Children can create a document that uses images, text and sound.	Children to explore how multimedia can create atmosphere & appeal to different audiences Be confident in creating & modifying text & presentation documents to achieve a specific purpose. Use art programs & online tools to modify photos for a specific purpose using a range of effects. Explore the use of video,	Children to select an appropriate ICT or online tool to create and share ideas. Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modified. Develop skills using transitions and hyperlinks to enhance the structure of presentations. Use a wide range of effects in art programs and online tools,	Children to use the full range of features in Word and PowerPoint to create informative and interesting content for a specific audience. Children to understand the needs of their specific audience including accessibility issues. Children to be able to evaluate their digital content. Discuss audience, atmosphere and structure of a presentation or video.

					animation, & green screening for a specific audience. Use ICT tools to create music phrases for a specific purpose Use a keyboard effectively, including the use of keyboard shortcuts. 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	discussing the choices made and their effectiveness. Know how to use text and video editing tools in programs to refine their work. Use online tools to create and share presentations and films.	Identify the purpose for selecting an appropriate online tool. Discuss audience, atmosphere and structure of a presentation or video. Collect information and media from a range of sources (considering copyright issues) into a presentation for a specific audience. Use sound, images, text, transitions, hyperlinks and HTML code effectively in presentations. Store presentations

							and videos online where they can be accessed by themselves and shared with others.
Data Handling	Children to represent data through sorting and categorising objects and through pictograms. Exploring branch data bases through physical games.	Children to understand why we collect data and discuss why it can be helpful. Children to create simple paper-based databases. Children to gather simple data- two fields. Create a digital spreadsheet. Discuss the pros and cons of the two approaches to data handling. Representing data in tables, charts and pictograms.	Children to collect and input data into a spreadsheet and in a variety of ways. Children to start interpreting data. Know how to understand a simple ordering process and present data for others. Explore different types of data that can be found online. Children to identify where digital content can have advantages over	Children to develop their understanding the vocabulary associated with databases, field, record data. Children to explore the pros and cons of digital versus paper databases. Children to export and filter databases to easily retrieve information	Children to design a database. They should present data in an appropriate format for an audience. Children to create and interpret charts and graphs to understand data. Use a data logger to record and compare individual readings,	Children to understand how to collect data. Collect and record information using spreadsheets and databases Carry out searches (e.g. using and/or; ≤ / ≥) Solve problems and present answers using data tools Plan a simple investigation.	Children to gathering and analyse data. Creating formulas and sorting data within spreadsheets. Interrogate a database, refining searches to provide answers to questions Plan investigations using the outcomes from a data logger to show findings Use the whole data process – generate, process, interpret, store,

			paper when storing and manipulating data.				and present information – realising the need for accuracy.
Programming and Coding	Children to help adults operate equipment around the school, independently operating simple equipment. Children to follow instructions and create their own simple instructions for others to follow practically. Use simple software to make things happen Press buttons on a floor robot and talk about the movements	Children to physically follow & give each other instructions to move from one point to another. Children to use a floor robot to give simple instructions. Children to use simple block content creation to produce online content. Explore outcomes when buttons are pressed in sequences on a robot Begin to use software to	Children to physically follow and give each other forward, backward & turn (right-angle) instructions Children to understand what an algorithm is and to articulate an algorithm to achieve a purpose. Plan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance & turn and drawing a trail	Children to plan and enter a sequence of instructions on a robot specifying distance & turn to achieve specific outcomes, debug the sequence where necessary Test & improve / debug programmed sequences. Solve open-ended problems with a floor robot. Sequence pre-written lines of programming into order using specified	Children to create and edit procedures. Children to use sensors to 'trigger' an action. Solve open-ended problems with a floor robot, and other software using efficient procedures to create shapes and letters Children to experience a variety of resources to extend knowledge & understanding of programming.	Children to explore procedures using repeat to achieve solutions to problems using floor robots. Talk about procedures as parts of a program Explore instructions to control software or hardware with an input & using if... then... command. Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this	Children to write a program which follows an algorithm to solve a problem for a floor robot or other model Write a program which follows an algorithm to achieve a planned outcome for appropriate programming software. Write a program which follows an algorithm to solve a problem for a floor robot or other model Write a program which follows an algorithm to

		create movement & patterns on a screen Execute a program on a floor robot to achieve an algorithm Use the word debug to correct any mistakes when programming a floor robot Begin to predict what will happen for a short sequence of instructions in a program.	Explore outcomes when giving instructions in a simple program Predict what will happen & test results.	programming language. Children to discuss algorithms planned by others and identify any problems and the expected outcome	Create an algorithm & a program that will use a simple selection command for a game Begin to correct errors (debug) as they program devices & actions on screen, & identify bugs in programs written by others Use an algorithm to sequence more complex programming into order Link the use of algorithms to solve problems to work in Maths, Science & DT.	when programming. Children to use a range of programming languages. Talk about procedures as parts of a program Refine procedures to improve efficiency Use a variable to replace number of sides in a regular shape Explore instructions to control software or hardware with an input & using if... then... commands Explore a computer model to control a physical system Change inputs on a model to	achieve a planned outcome for appropriate programming software Control on screen mimics & physical devices using one or more input & predict the outputs

						achieve different outputs Refine & extend a program Identify difficulties & articulate a solution for errors in a program Group commands as a procedure to achieve a specific outcome within a program Write down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming.	