Holy Cross Catholic Primary School

Computing Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer science	**Unit 1.4 and 1.7** **Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.** *Children understand that an algorithm is a set of instructions used to solve a problem or achieve an objective. They know that an algorithm written for a computer is called a program.*		**Unit 3.1** **Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.** *Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it.*		**Unit 5.1** **Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.** *Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code.*	
Computer science	**Unit 1.7** **Create and debug simple programs.** *Children can work out what is wrong with a simple algorithm when the*		**Unit 3.1** **Use sequence, selection and repetition in programs; work with variables and various forms of input and output.**		**Unit 5.1** **Use sequence, selection and repetition in programs; work with variables and various forms of input and output.** *Children can translate algorithms that include*	

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	steps are out of order and can write their own simple algorithm. Children know that an unexpected outcome is due to the code they have created and can make logical attempts to fix the code.		*Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Children understand how variables can be used to store information while a program is executing.*		*sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design.*	
Computer science	**Unit 1.5** **Use logical reasoning to predict the behaviour of simple programs.** *When looking at a program, children can read code one line at a time and make good attempts to envision the bigger picture of the overall effect of the program.* *.*		**Unit 3.1** **Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.** *Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For*		**Unit 5.1** **Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.** *When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables.*	

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			example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this.			
Computer science				**Unit 4.2 and 4.7** **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.** *Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.*	**Unit 5.2** **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.** *Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content.*	**Unit 6.2, 6.4 and 6.6** **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.** *Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the internet in school.*
Information technology	**Unit 1.6 and 1.7** **Use technology purposefully to create, organise,**	**Unit 2.3, 2.4, 2.7 and 2.8** **Use technology purposefully to**		**Unit 4.7** **Use search technologies effectively, appreciate how results are**		**Unit 6.2** **Use search technologies effectively, appreciate how results are**

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	store, manipulate and retrieve digital content. *Children are able to sort, collate, edit and store simple digital content.*	**create, organise, store, manipulate and retrieve digital content.** *Children demonstrate an ability to organise data and can retrieve specific data for conducting simple searches. Children are able to edit more complex digital data. Children are confident when creating, naming, saving and retrieving content. Children use a range of media in their digital content.*		**selected and ranked, and be discerning in evaluating digital content.** *Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. .*		**selected and ranked, and be discerning in evaluating digital content.** *Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication.*
Information technology			**Unit 3.4 and 3.7** **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.** *Children can collect, analyse, evaluate and present data and*	**Unit 4.3 and 4.6** **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.** *Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked*	**Unit 5.1 and 5.4** **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.** *Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. They*	**Unit 6.3 and 6.4** **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.** *Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the internet. They*

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			information using a selection of software. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails.	content using a range of software. Children share digital content within their community.	objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content.	are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.
Digital literacy	**Unit 1.9** **Recognise common uses of information technology beyond school.** *Children understand what is meant by technology and can identify a variety of examples both in and out of school. They can make a distinction between objects that use modern technology and those that do not e.g. a microwave vs. a chair.*		**Unit 3.2** **Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.** *Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication*	**Unit 4.2** **Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.** *Children can explore key concepts relating to online safety using concept mapping. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact.*	**Unit 5.2** **Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.** *Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.*	**Unit 6.2 and 6.4** **Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.** *Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking. They recognise the value in preserving their privacy when online for their own and other people's safety.*

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			tools. They know more than one way to report unacceptable content and contact.			
Digital literacy	**Unit 1.1** **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.** *Children understand the importance of keeping information, such as their usernames and passwords, private and actively demonstrate this in lessons. Children take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash.*	**Unit 2.2** **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.** *Children know the implications of inappropriate online searches. Children begin to understand how things are shared electronically. They develop an understanding of using email safely and know ways of reporting inappropriate behaviours and content to a trusted adult.*				