Progression in Computing at Our Lady of the Assumption Catholic Primary School

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|   |  Year R   | Year 1  | Year 2  | Year 3  | Year 4  | Year 5  | Year 6  |
| Computer Science  |  | I know what algorithms are - programs execute byfollowing precise andunambiguousinstructions.I know how to create and debugsimple programs.I know how to use logical reasoning topredict the behaviourof simple programs. | I know whatalgorithms areI know how algorithms are implemented as programs on digital devices;I know how to create and debug simple programsI know how to use logical reasoning to predict the behaviour of simple programs by writing simple cause and effect sentences. . | I know how to design, write and debug programs thataccomplish specificgoals, includingcontrolling orsimulating physicalsystems; solveproblems bydecomposing theminto smaller parts.I know how to use sequence,selection and repetition inprograms; work withvariables and variousforms of input andoutput.I know ways to explain how some simple algorithmswork and to detectand correct errors inalgorithms andprograms.I know computernetworks, includingthe internet; howthey can providemultiple services,such as the WorldWide Web, and theopportunities theyoffer forcommunication andcollaboration. | I know how to design, write anddebug programs thataccomplish specificgoals, includingcontrolling orsimulating physicalsystems; solveproblems bydecomposing theminto smaller parts.I know how to use sequence,selection and repetition inprograms; work withvariables and variousforms of input andoutput.I know ways to explain how some simple algorithmswork and to detectand correct errors inalgorithms andprograms.I know computernetworks, includingthe internet; howthey can providemultiple services,such as the WorldWide Web, and theopportunities theyoffer forcommunication andcollaboration. | I know how to design, write anddebug programs thataccomplish specificgoals, includingcontrolling orsimulating physicalsystems; solveproblems bydecomposing theminto smaller parts.I know how to use sequence,selection and repetition inprograms; work withvariables and variousforms of input andoutput.I know ways to explain how some simple algorithmswork and to detectand correct errors inalgorithms andprograms.I know computernetworks, includingthe internet; howthey can providemultiple services,such as the WorldWide Web, and theopportunities theyoffer forcommunication andcollaboration. | I know how to design, write anddebug programs thataccomplish specificgoals, includingcontrolling orsimulating physicalsystems; solveproblems bydecomposing theminto smaller parts.I know how to use sequence,selection and repetition inprograms; work withvariables and variousforms of input andoutput.I know ways to explain how some simple algorithmswork and to detectand correct errors inalgorithms andprograms.I know computernetworks, includingthe internet; howthey can providemultiple services,such as the WorldWide Web, and theopportunities theyoffer forcommunication andcollaboration. |
|  | I can explain that an algorithm is aset of instructions.(1.4, 1.5)I can turn an algorithm into code thatthe computer can understand.(1.4, 1.7)I can work out what is wrong whenthe steps are out of order ininstructions. (1.4, 1.5)I can say that if something does notwork how it should it is because mycode is incorrect. (1.7)I can try and fix my code if it isn’tworking properly. (1.7)I can make good guesses of what isgoing to happen in a program. Forexample, where the turtle might go. | I can explain an algorithm is a set ofinstructions to complete a task.(2.1)I can carefully plan my algorithm so it will work when I make it into code.(2.1)I can design a simple program using 2Code that achieves a purpose.(2.1)I can find and correct some errors in my program.(2.1)I can say what will happen in aprogram.(2.1)I can spot something in a program that has an action or effect (doessomething ) (2.1) | I can make a real-life situation into an algorithm for a program. (3.1)I can design an algorithm carefully, thinking about what I want it to do and how I can turn it into code. (3.1)I can identify an error in my program and fix it. (3.1)I can experiment with timers in my programs. (3.1)I can identify the difference in using between the effect of a timer or repeat command in my code. (3.1)I can explain that a variable stores information while a program is running (executing). (3.1)I can identify ‘If’ statements, repetition and variables. (3.1)I can read programs with several steps and predict what it will do. (3.1)I can identify different ways that the internet can be used for communication. (3.5)I can use email such as 2Email to respond toothers appropriately and attach files. (3.5) | I can turn a real-life situation to solve into analgorithm, using a design that shows how I canaccomplish this in code. (4.1, 4.5)I can use repetition in my code. For example,using a loop that continues until a condition is met such as the correct answer being entered.(4.1)I can use timers within my program designs moreaccurately to create repetition effects. Forexample, I can create a counting machine. (4.1)I can use selection (decision) in myprogramming. For example, using an ‘ifstatement’ for a question being asked and theprogram takes one of two paths. (4.1)I can use variables within my program and knowhow to change the value of variables. (4.1)I can use the user inputs and output featureswithin my program, such as ‘Print to screen’. (4.1)I can identify errors in my code by using differentmethods, such as steeping through lines of codeand fixing them. (4.1)I can read programs that contain several stepsand predict the outcomes with increasingaccuracy. (4.1, 4.5)I can recognise the main component parts ofhardware which allow computers to join and forma network. (4.8)I can explain that network and communicationcomponents can be found in many different deviceswhich allow them to join the internet. (4.2, 4.7, 4.8) | I can make more complex real-life problems intoalgorithms for a program. (5.1)I can test and debug my programs as I work. (5.1, 5.5)I can convert (translate) algorithms that containsequence, selection and repetition into code thatworks. (5.1)I can use sequence, selection, repetition, and someother coding structures in my code. (5.1)I can organise my code carefully for example, namingvariables and using tabs. I know this will help medebug more efficiently. (5.1)I can use logical methods to identify the cause of anybug with support to identify the specific line of code.(5.1)I can explain the importance of computer networks and howthey help solve problems and enhance communication. (5.2)I can recognize the main dangers that can be perpetuatedvia computer networks. (5.2)I can explain what personal information is and knowstrategies for keeping this safe. (5.2)I can use the most appropriate form of onlinecommunication according to the digital content. Forexample, use 2Email, 2Blog and Display Boards.(5.2 & others) | I can turn a complex programming task into analgorithm. (6.1)I can identify the important aspects of aprogramming task (abstraction). (6.1)I can decompose important aspects of aprogramming task in a logical way, identifyingappropriate coding structures that would work. (6.1)I can test and debug my program as I work on itand use logical methods to identify a cause of abug. (6.1)I can identify a specific line of code that is causing aproblem in my program and attempt a fix. (6.1)I can translate algorithms that include sequence,selection and repetition into code and nest thesestructures within each other. (6.1)I can use inputs and outputs within my codedprograms such as sound, movement and buttonsand represent the state of an object (6.1, 6.7)I can interpret (understand) a program in parts andcan make logical attempts to put the separate partstogether in an algorithm to explain the program as awhole. (6.1)I can explain the difference between the internetand the World Wide Web. (6.2, 6.4,6.6)I can explain what a WAN and LAN is and describethe process of how access to the internet in schoolis possible. (6.2,6.6) |
| Information Technology  |   |  I know how to use technologypurposefully to create,organise, store,manipulate andretrieve digital content. |  I know how to use technologypurposefully to create,organise, store,manipulate andretrieve digital content. | I know how to use searchTechnologies effectively, appreciate how results areselected and ranked,and be discerning inevaluating digitalcontent.I know how to select, use and combine a variety ofsoftware (includinginternet services) on arange of digitaldevices to design andcreate a range ofprograms, systemsand content thataccomplish givengoals, includingcollecting, analysing,evaluating andpresenting data andinformation. | I know how to use search Technologies effectively, appreciate how results areselected and ranked,and be discerning inevaluating digitalcontent.I know how to select, use and combine a variety ofsoftware (includinginternet services) on arange of digitaldevices to design andcreate a range ofprograms, systemsand content thataccomplish givengoals, includingcollecting, analysing,evaluating andpresenting data andinformation. | I know how to use searchtechnologieseffectively, appreciatehow results areselected and ranked,and be discerning inevaluating digitalcontent.I know how to select, use andcombine a variety ofsoftware (includinginternet services) on arange of digitaldevices to design andcreate a range ofprograms, systemsand content thataccomplish givengoals, includingcollecting, analysing,evaluating andpresenting data andinformation |  I know how to use searchtechnologieseffectively, appreciatehow results areselected and ranked,and be discerning inevaluating digitalcontent.I know how to select, use and combine a variety ofsoftware (includinginternet services) on arange of digitaldevices to design andcreate a range ofprograms, systemsand content thataccomplish givengoals, includingcollecting, analysing,evaluating andpresenting data andinformation |
|  | I can sort sound, pictures andtext.(1.2)I can add sound, pictures andtext to a program such as2Create a Story.(1.6)I can change content on a filesuch as text, sound and images.(1.3, 1.6, 1.7, 1.8)I can name my work.(1.2, 1.3, 1.6, 1.7, 1.8)I can save my work.(1.2, 1.3, 1.6, 1.7, 1.8)I can find my work.(1.2, 1.3, 1.6, 1.7, 1.8) | I can organise data – for example, using a database such as 2Investigate.(2.3, 2.4)I can find data using specific searches – for example, using 2Investigate.(2.4, 2.5)I can use several programs to organise information – for example, using binary trees such as 2Question or spreadsheets such as 2Calculate.(2.4, 2.8)I can edit digital data such as data in music composition software like 2Sequence.(2.7 and most units)I can name, save and find my work. (2.3, 2.4, 2.6, 2.7, 2.8 & most units)I can include photos, text and sound in my creations.(2.8, 2.6) | I can carry out searches to find digital content on a range of online systems, such as within Purple Mash or on an internetsearch engine.(Across units)I can collect data and input it into software.(3.3, 3.6, 3.8)I can analyse data using features within softwareto help such as, formula in 2Calculate(spreadsheets). (3.3, 3.6, 3.8)I can present data and information usingdifferent software such as 2Question (branchingdatabase) or 2Graph (graphing tool). (3.3, 3.6,3.8,3.9)I can consider what the most appropriate software to use when given a task by myteacher. (Across units)I can create purposeful (appropriate) contentand attach this to emails.(3.3, 3.5, 3.6, 3.7, 3.8, 3.9) | I understand the purpose of a searchengine and the main features within it.(4.7)I can look at information on a webpageand make predictions about theaccuracy of information containedwithin it. (4.7)I can create and improve my solutionsto a problem based on feedback. Forexample, create a program using2Code. (4.1, 4.2)I can review solutions that others havecreated, using a checklist of criteria.(4.1, 4.2)I can work collaboratively to createcontent and solutions. (4.1, 4.3, 4.4,48)I can share digital content using avariety of applications such as: 2Blog,2Email and Display Boards. (Across units) | I can search precisely when using a search engine. For example, I know Ican add additional words or removes words to help find better results. (5.2)I can explain in detail how accurate, safe and reliable the content is on awebpage. (5.2)I can make appropriate improvementsto digital work I have created. (Across units)I can comment on how successful a digital solution is that I have created.For example, a program built in 2Code that sorts decimals numbers. (Across units)I can work collaboratively with others creating solutions to problems usingappropriate software such as 2Code.(Across units)I can use collaborative modes such as within 2Connect to work with others andshare it. (5.7) | I can use filters when searching for digitalcontent. (6.2,6.9)I can explain in detail how accurate and reliable a webpage and its content is. (6.2)I can compare a range of digital contentsources and rate them in terms of contentquality and accuracy. (6.1, 6.3, 6.4, 6.5, 6.7,6.9)I can consider the intended audience carefully when I design and make digitalcontent. (6.1, 6.3, 6.4, 6.5, 6.7,6.9)I can design and create my own online blogs. (6.4)I can use criteria to evaluate the quality ofnmy own and others digital solutions,suggesting refinements. (6.1, 6.3, 6.4, 6.5, 6.7,6.9) |
| Digital Literacy  |   | I know that technology has uses outside of school.I know how to use technology safelyand respectfully. I know how to keep my personal information private;I know where to go forhelp and support whenthey have concernsabout content orcontact on the internetor other onlinetechnologies.  | I know that technology has uses outside of school.I know how to use technology safelyand respectfully. I know how to keep my personal information private;I know where to go forhelp and support whenthey have concernsabout content orcontact on the internetor other onlinetechnologies.  | I know how to use technology safely, respectfully andResponsibly. I know how to recogniseacceptable/unacceptablebehaviourI know how to identify arange of ways toreport concern aboutcontent and contact. | I know how to use technology safely, respectfully andResponsibly. I know how to recogniseacceptable/unacceptablebehaviourI know how to identify arange of ways toreport concern aboutcontent and contact. | I know how to use technology safely, respectfully andResponsibly. I know how to recogniseacceptable/unacceptablebehaviourI know how to identify arange of ways toreport concern aboutcontent and contact. |  I know how to use technology safely, respectfully andResponsibly. I know how to recogniseacceptable/unacceptablebehaviourI know how to identify arange of ways toreport concern aboutcontent and contact. |
|  | I can say what technology is.(1.9)I can say what examples of technology are in school.(1.9)I can say what examples of technology are at home.(1.9)I know that a chair uses old technology and a smart phoneuses new technology.(1.9)I can keep my login information safe.(1.1 and most units) | I can find information I needusing a search engine.(2.5)I can explain the consequences of notsearching online safely.(2.2, 2.5)I can share work andcommunicate electronically – forexample using 2Email or thedisplay boards.(2.2 and others)I can report unkind behaviour and things that upset me online, to a trusted adult.(2.2)I can see where technology isused at school such as in theoffice. (2.2)I can notice that my creationssuch as programs in 2Code,need similar skills to the adultworld. e.g. The program used forcollecting money for school trips.(2.1) | I can create a secure password.(3.2)I can explain the importance ofhaving a secure password andnot sharing it with others. (3.2, 3.5)I can explain the negativeconsequences of not keepingpasswords safe and secure. (3.2, 3.5)I can explain the importance ofkeeping safe online andbehaving respectfully. (3.2)I can use communication toolssuch as 2Email respectfully and use good etiquette. (3.2, 3.5)I can report unacceptable content and contact online in more than one way to a trusted adult. (3.2) | I can show a good understanding ofthe online safety rules we learn at school. (4.2 & across curriculum)I can demonstrate how to use different online technologiessafely. (4.2 & across curriculum)I can demonstrate how to use a few different online services safely. (4.2 & across curriculum)I can explain I have a right to privacy both on and offline.(4.2 & across curriculum)I can recognise that my wellbeing canbe affected by how I usetechnology.(4.2 & across curriculum)I can report with ease any concerns with content and contact online and knowimmediate strategies to keep safe. (4.2 & across curriculum) | I can show a secure knowledge of online safety rules taught atschool. (5.2 & across units)I can demonstrate the safe andrespectful use of different online technologies and online services.(5.2 & across units)I can always relate appropriate online behaviour to my right to have personal privacy. (5.2 & across units)I can explain how to not let my mental wellbeing or others be affected by use of online technologies andservices. (5.2 & across units) | I can demonstrate safe andrespectful use of a range ofdifferent technologies and online services. (6.2, 6.4)I can identify more discreteinappropriate behaviours online. For example, someone who maybe trying to groom me or someoneelse. (6.2)I can use critical thinking to help me stay safe online. (6.2)I can explain the value of protecting my privacy and others online. (6.2, 6.4) |