Computing Curriculum Map

(Reception – Year 6)

We journey together: loving learning; daring to discover; caring for all; with Jesus as our guide.

Computing	***Autumn***	***Spring***	***Summer***
Reception	***Project Evolve* – Health and Well-being** ***Understanding the World*** • Children to experience various forms of technology in the role play area of the classroom during the Autumn term. • Broken, working and unfamiliar technology should be presented to them. • Children build towards being able to use a specific piece of technology for a purpose e.g. To record a video. ***Project Evolve* - Managing Online Information** ***Taking Photos*** • *Use the iPads to take photos.* • *Understand how to use the different camera's and change from one to the other.* • *To be able to decide whether to use portrait or landscape images based on the picture content.*	***Project Evolve* – Online Relationships** ***Using Technology in the Classroom*** • *To understand how technology assists in learning in the classroom.* • *To look at a variety of technology that can assist learning in the classroom.* ***Project Evolve* – Privacy and Security** ***Coding – Beebots*** • *To be able to move the Beebots the correct number of squares forward.* • *To be able to rotate the Beebots 90°.* • *To be able to program 2-3 instructions into the Beebots.*	***Project Evolve* – Online Bullying** ***Coding – Code Reading Tiles*** • *To be able to create simple codes using coding tiles.* • *To know a code is a set of instructions to make something work.* • *To be able to complete instructions.* • *To recognise if the instructions will not work.* • *To carry out my instructions using a Beebot.* ***Project Evolve* – Self-Image and Identity** ***Combining Images and Text*** • *To be able to select pictures of interest to me.* • *To be able to write sentences about the pictures.* • *To use my sounds carefully.* • *To overlap writing on top of pictures.* • *To create label lines to talk about parts of a picture.*

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Year 1	***Project Evolve – Self Image and Identity*** ***Computing systems and networks - Technology around us*** • To identify technology • To identify a computer and its main parts • To use a mouse in different ways • To use a keyboard to type on a computer • To use the keyboard to edit text • To create rules for using technology responsibly ***Project Evolve - Online Bullying*** ***Creating media - Digital painting*** • *To describe what different freehand tools do* • *To use the shape tool and the line tools* • *To make careful choices when painting a digital picture* • *To explain why I chose the tools I used* • *To use a computer on my own to paint a picture* • *To compare painting a picture on a computer and on paper*	***Project Evolve – Online Reputation*** ***Programming A - Moving a robot*** • *To explain what a given command will do* • *To act out a given word* • *To combine 'forwards' and 'backwards' commands to make a sequence* • *To combine four direction commands to make sequences* • *To plan a simple program* • *To find more than one solution to a problem* ***Project Evolve – Health, Well-being and lifestyle*** ***Data and information - Grouping data*** • *To label objects* • *To identify that objects can be counted* • *To describe objects in different ways* • *To count objects with the same properties* • *To compare groups of objects* • *To answer questions about groups of objects*	***Project Evolve – Online Relationships*** ***Creating media - Digital writing*** • *To use a computer to write* • *To add and remove text on a computer* • *To identify that the look of text can be changed on a computer* • *To make careful choices when changing text* • *To explain why I used the tools that I chose* • *To compare typing on a computer to writing on paper* ***Project Evolve – Privacy and Security*** ***Programming B- Programming animations*** • *To choose a command for a given purpose* • *To show that a series of commands can be joined together* • *To identify the effect of changing a value* • *To explain that each sprite has its own instructions* • *To design the parts of a project* • *To use my algorithm to create a program*

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Year 2	**Project Evolve – Managing Online Information** **Computing systems and networks - IT around us** • To recognise the uses and features of information technology • To identify the uses of information technology in the school • To identify information technology beyond school • To explain how information technology helps us • To explain how to use information technology safely • To recognise that choices are made when using information technology **Project Evolve – Privacy and Security** **Creating media - Digital photography** • *To use a digital device to take a photograph* • *To make choices when taking a photograph* • *To describe what makes a good photograph* • *To decide how photographs can be improved* • *To use tools to change an image* • *To recognise that photos can be changed*	**Project Evolve – Health, Well-Being and Lifestyle** **Programming A - Robot algorithms** • *To describe a series of instructions as a sequence* • *To explain what happens when we change the order of instructions* • *To use logical reasoning to predict the outcome of a program* • *To explain that programming projects can have code and artwork* • *To design an algorithm* • *To create and debug a program that I have written.* **Project Evolve – Online Bullying** **Data and information – Pictograms** • To recognise that we can count and compare objects using tally charts • To recognise that objects can be represented as pictures • To create a pictogram • To select objects by attribute and make comparisons • To recognise that people can be described by attributes • To explain that we can present information using a computer	**Project Evolve – Online Reputation** **Creating media - Digital music** • *To say how music can make us feel* • *To identify that there are patterns in music* • *To experiment with sound using a computer* • *To use a computer to create a musical pattern* • *To create music for a purpose* • *To review and refine our computer work* **Project Evolve – Self-Image and Identity** **Programming B - Programming quizzes** • To explain that a sequence of commands has a start • To explain that a sequence of commands has an outcome • To create a program using a given design • To change a given design • To create a program using my own design • To decide how my project can be improved

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Year 3	**Project Evolve – Privacy and Security** **Computing systems and networks – Connecting computers** • To explain how digital devices function • To identify input and output devices • To recognise how digital devices can change the way that we work • To explain how a computer network can be used to share information • To explore how digital devices can be connected • To recognise the physical components of a network **Project Evolve – Health and Well-Being** **Creating media - Stop-frame animation** • To explain that animation is a sequence of drawings or photographs • To relate animated movement with a sequence of images • To plan an animation • To identify the need to work consistently and carefully • To review and improve an animation • To evaluate the impact of adding other media to an animation	**Project Evolve – Online Bullying** **Programming A - Sequencing sounds** • To explore a new programming environment • To identify that commands have an outcome • To explain that a program has a start • To recognise that a sequence of commands can have an order • To change the appearance of my project • To create a project from a task description **Project Evolve – Online Relationships** **Data and information – Branching databases** • To create questions with yes/no answers • To identify the attributes needed to collect data about an object • To create a branching database • To explain why it is helpful for a database to be well structured • To plan the structure of a branching database • To independently create an identification tool	**Project Evolve – Online Reputation** **Creating media – Desktop publishing** • *To recognise how text and images convey information* • *To recognise that text and layout can be edited* • *To choose appropriate page settings* • *To add content to a desktop publishing publication* • *To consider how different layouts can suit different purposes* • *To consider the benefits of desktop publishing* **Project Evolve – Self-Image and Identity** **Programming B - Events and actions in programs** • To explain how a sprite moves in an existing project • To create a program to move a sprite in four directions • To adapt a program to a new context • To develop my program by adding features • To identify and fix bugs in a program • To design and create a maze-based challenge

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Year 4	**Project Evolve – Health and Well-Being** **Computing systems and networks – The Internet** • *To describe how networks physically connect to other networks* • *To recognise how networked devices make up the internet* • *To outline how websites can be shared via the World Wide Web (WWW)* • *To describe how content can be added and accessed on the World Wide Web (WWW)* • *To recognise how the content of the WWW is created by people* • *To evaluate the consequences of unreliable content* **Project Evolve – Managing Online Information** **Creating media - Audio production** • To identify that sound can be recorded • To explain that audio recordings can be edited • To recognise the different parts of creating a podcast project • To apply audio editing skills independently • To combine audio to enhance my podcast project • To evaluate the effective use of audio	**Project Evolve – Online Bullying** **Programming A – Repetition in shapes** • *To identify that accuracy in programming is important* • *To create a program in a text-based language* • *To explain what 'repeat' means* • *To modify a count-controlled loop to produce a given outcome* • *To decompose a task into small steps* • *To create a program that uses count-controlled loops to produce a given outcome* **Project Evolve – Online Relationships** **Data and information – Data logging** • To explain that data gathered over time can be used to answer questions • To use a digital device to collect data automatically • To explain that a data logger collects 'data points' from sensors over time • To recognise how a computer can help us analyse data • To identify the data needed to answer questions • To use data from sensors to answer questions	**Project Evolve – Online Reputation** **Creating media – Photo editing** • To explain that the composition of digital images can be changed • To explain how cloning can be used in photo editing • To explain that images can be combined • To combine images for a purpose • To evaluate how changes can improve an image **Project Evolve – Self-Image and Identity** ***Programming B – Repetition in games*** • *To develop the use of count-controlled loops in a different programming environment* • *To explain that in programming there are infinite loops and count-controlled loops* • *To develop a design that includes two or more loops which run at the same time* • *To modify an infinite loop in a given program* • *To design a project that includes repetition* • *To create a project that includes repetition*

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Year 5	**Project Evolve – Self Image and Identity** **Computing systems and networks - Systems and searching** • *To explain that computers can be connected together to form systems* • *To recognise the role of computer systems in our lives* • *To identify how to use a search engine* • *To describe how search engines select results* • *To explain how search results are ranked* • *To recognise why the order of results is important, and to whom* **Project Evolve – Managing Online Information** **Creating media - Video production** • *To explain what makes a video effective* • *To use a digital device to record video* • *To capture video using a range of techniques* • *To create a storyboard* • *To identify that video can be improved through reshooting and editing* • *To consider the impact of the choices made when making and sharing a video*	**Project Evolve – Online Bullying** **Programming A – Selection in physical computing** • To create a program to run on a controllable device • To explain that selection can control the flow of a program • To update a variable with a user input • To use a conditional statement to compare a variable to a value • To design a project that uses inputs and outputs on a controllable device • To develop a program to use inputs and outputs on a controllable device • **Project Evolve – Online Relationships** **Data and information – Flat-file databases** • To use a form to record information • To compare paper and computer-based databases • To outline how you can answer questions by grouping and then sorting data • To explain that tools can be used to select specific data • To explain that computer programs can be used to compare data visually • To use a real-world database to answer questions	**Project Evolve – Privacy and Security** **Creating media – Introduction to vector graphics** • To identify that drawing tools can be used to produce different outcomes • To create a vector drawing by combining shapes • To use tools to achieve a desired effect • To recognise that vector drawings consist of layers • To group objects to make them easier to work with • To apply what I have learned about vector drawings **Project Evolve – Online Reputation** **Programming B – Selection in quizzes** • *To explain how selection is used in computer programs* • *To relate that a conditional statement connects a condition to an outcome* • *To explain how selection directs the flow of a program* • *To design a program that uses selection* • *To create a program that uses selection* • *To evaluate my program*

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Year 6	**Project Evolve – Managing Online Information** **Computing systems and networks - Communication and collaboration** • To explain the importance of internet addresses • To recognise how data is transferred across the internet • To explain how sharing information online can help people to work together • To evaluate different ways of working together online • To recognise how we communicate using technology • To evaluate different methods of online communication **Project Evolve – Online Bullying** **Creating media – Web page creation** • To review an existing website and consider its structure • To plan the features of a web page • To consider the ownership and use of images (copyright) • To recognise the need to preview pages • To outline the need for a navigation path • To recognise the implications of linking to content owned by other people	**Project Evolve – Online Reputation** **Programming A – Variables in games** • To define a 'variable' as something that is changeable • To explain why a variable is used in a program • To choose how to improve a game by using variables • To design a project that builds on a given example • To use my design to create a project • To evaluate my project **Project Evolve – Privacy and Security** **Data and information - Introduction to Spreadsheets** • *To create a data set in a spreadsheet* • *To build a data set in a spreadsheet* • *To explain that formulas can be used to produce calculated data* • *To apply formulas to data* • *To create a spreadsheet to plan an event* • *To choose suitable ways to present data*	**Project Evolve – Self-Image and Identity** **Creating media – 3D Modelling** • To recognise that you can work in three dimensions on a computer • To identify that digital 3D objects can be modified • To recognise that objects can be combined in a 3D model • To create a 3D model for a given purpose • To plan my own 3D model • To create my own digital 3D model **Project Evolve – Self Image and Identity** **iMovie** • To be able to make a movie trailer. • To be able to add music to the visual. • To be able to make a film. • To be able to set the scene using the relevant colour packages. • To be able to add the details in about different people and their roles. • To understand the use of different camera angles and how thee change the viewers understanding of the scene. • To be about to take photos or short films. • To be able to edit the parts together to make the film. • To be able to give critique about the work of themselves and others. • To be able to suggest and implement changes. • To be able to export images and films from one program to another.