Church Lane Primary School and Nursery

Computing Curriculum



The Church Lane Primary School and Nursery Computing Curriculum is split in to 5 concepts:

E-safety

Programming

Handling Data

Multimedia

Technology in our lives

These overarching concepts will be covered in a variety of milestones as shown on the next page. They are split in to ‘levels’. KS1 will begin their journey on ‘Level 1 Lite’ then will move through to ‘lite level 2’. Once in KS2 the children will work through KS2 level 1 in Year 3, before moving on to levels 2,3 and 4. The sessions will be progressively more difficult.

Due to the curriculum being introduced in September 2021, the initial outlay, which is on the following page, shows the introduction levels. The children will then progress yearly once the curriculum is embedded.

September 2021 - Initial overview (introduction to new curriculum)

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| --- | --- | --- | --- | --- | --- |
| Year 1KS1 Lite level 1 | Year 2KS1 lite level 1 | Year 3KS2 level 1 | Year 4KS2 level 1 | Year 5KS2 level 2 | Year 6KS2 level 2 |
| **iLoop**ProgrammingMultimedia | **iLoop**ProgrammingMultimedia | **iSong**ProgrammingMultimediaHandling Data | **iSong**ProgrammingMultimediaHandling Data | **iDance**ProgrammingMultimedia | **iDance**ProgrammingMultimedia |
| **iCode**Programming | **iCode**Programming | **iLogic**ProgrammingMultimedia | **iLogic**ProgrammingMultimedia | **Advance iFunction**ProgrammingHandling Data | **Advance iFunction**ProgrammingHandling Data |
| **iMove**MultimediaHandling Data | **iMove**MultimediaHandling Data | **iSafety**E-safetyIn our lives | **iSafety**E-safetyIn our lives | **iSocial**E-safetyIn our lives | **iSocial**E-safetyIn our lives |
| **iPhotograph**Multimedia | **iPhotograph**Multimedia | **iStop Motion**Multimedia | **iStop Motion**Multimedia | **iEdit**ProgrammingHandling Data | **iEdit**ProgrammingHandling Data |
| **iSecure**E-safetyIn our lives | **iSecure**E-safetyIn our lives | **iCollaborate**E-safetyIn our lives | **iCollaborate**E-safetyIn our lives | **iPublish**MultimediaHandling Data | **iPublish**MultimediaHandling Data |
| **iInvent**In our livesE-safety | **iInvent**In our livesE-safety | **iControl**ProgrammingHandling Data | **iControl**ProgrammingHandling Data | **iBlast Off**ProgrammingHandling DataMultimedia | **iBlast Off**ProgrammingHandling DataMultimedia |

September 2022 – embedded overview

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| Year 1KS1 Lite level 1 | Year 2KS1 lite level 2 | Year 3KS2 level 1 | Year 4KS2 level 2 | Year 5KS2 level 3 | Year 6KS2 level 4 |
| **iLoop**ProgrammingMultimedia | **iGenre**ProgrammingMultimedia | **iSong**ProgrammingMultimediaHandling Data | **iDance**ProgrammingMultimedia | **iHip-Hop** | **iRemix** |
| **iCode**ProgrammingHandling Data | **iFunction**ProgrammingHandling Data | **iLogic**ProgrammingMultimedia | **Advance iFunction**ProgrammingHandling Data | **idebug** | **iDevelop** |
| **iMove**MultimediaHandling Data | **i2D**ProgrammingHandling Data | **iSafety**E-safetyIn our lives | **iSocial**E-safetyIn our lives | **iCompany** | **iCV** |
| **iPhotograph**MultimediaHandling Data | **iMagazine**ProgrammingMultimediaHandling Data | **iStop Motion**Multimedia | **iEdit**ProgrammingHandling Data | **Advancedi2D** | **iDigital** |
| **iSecure**E-safetyIn our lives | **iConnect**E-safetyIn our lives | **iCollaborate**E-safetyIn our lives | **iPublish**MultimediaHandling Data | **Iadvertise** | **Icommunicate** |
| **iInvent**In our livesE-safety | **iFilm**ProgrammingMultimediaHandling Data | **iControl**ProgrammingHandling Data | **iBlast Off**ProgrammingHandling DataMultimedia | **itech** | **iteach** |

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| End of Year expectations (Year 1) |
| e-Safety | Programming | Handling Data | Multimedia | Technology in our lives |
| Knowing how to keep personal details and passwords private.Understanding what to do and who to talk to when worried online. | Give instructions by pressing buttons and describe what happens and begin to use the word algorithm.Begin to create sequences using software/apps to create movement and patterns and begin to use the word debug. | Talk about how information can be shown and collected and sorted using technology including photos, videos and sound. I can add information to a pictograph. | Be creative with a variety of technology tools to create and present ideas.Use a keyboard to enter text and save information in a special place and retrieve it again. | Recognise ways in which technology is used in the classroom, home and community.Use links for websites to find information |

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| End of Year expectations (Year 2) |
| e-Safety | Programming | Handling Data | Multimedia | Technology in our lives |
| Explain why passwords and important information shouldn’t be shared.Describe things that can happen online to cause worry or concern and talk about what to do and who to talk to.Understand that not everyone is who they say they are on the Internet. | Give instructions to people by using forwards, backwards and turn.Create sequences using the word algorithm to program a robot and understand how to debug.Use programming software to make objects move. | Talk about different technologies can collect information on a camera, microscope or sound recorder.Make and save graphs and charts using data collectedBegin to understand a branching database. | Use technology to organise and present ideas in different ways.Use a keyboard to add, delete and space text for people to read. Using online tools to share ideas.Save and open files on a device. | Explain why technology is used in the classroom, home and in the community.Understand that other people can produce information that we use.Identify benefits of using technology and talk about differences between the Internet and things in the physical world. |

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| End of Year expectations (Year 3) |
| e-Safety | Programming | Handling Data | Multimedia | Technology in our lives |
| Talk about what makes a secure password and why they are important and how I can protect my personal information when online. Use the safety features of websites; reporting concerns to an adult. Recognise websites and games appropriate for my age and make good choices about how long I spend online. Ask an adult before downloading files and games from the Internet.  | Break an open-ended problem up into smaller parts. Put programming commands into a sequence to achieve a specific outcome. Keep testing my program and can recognise when I need to debug it. Use repeat commands and describe the algorithm I will need for a simple task. Detect a problem in an algorithm which could result in unsuccessful programming.  | Talk about the different ways data can be organised. Search a ready-made database to answer questions and collect data to help me answer a question. Add to a database and make a branching database. Use a data logger to monitor changes and can talk about the information collected.  | Create different effects with different technology tools. Combine a mixture of text, graphics and sound to share my ideas and learning. Use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. Evaluate my work and improve its effectiveness. Use an appropriate tool to share my work online.  | Save and retrieve work on the Internet, the school network or my own device. Talk about the parts of a computer. Explain ways to communicate with others online. Describe the World Wide Web as the part of the Internet that contains websites. Use search tools to find and use an appropriate website. Think about whether I can use images that I find online in my own work.  |
| End of Year expectations (Year 4) |
| e-Safety | Programming | Handling Data | Multimedia | Technology in our lives |
| Choose a secure password and an appropriate screen name when I am using a website and talk about the ways I can protect myself and my friends from harm online. Use the safety features of websites as well as reporting concerns to an adult and know that anything I share online can be seen by others. Choose websites, apps and games that are appropriate for my age and help my friends make good choices about the time they spend online. Talk about why I need to ask a trusted adult before downloading files and games from the Internet. Comment positively and respectfully online and through text messages.  | Use logical thinking to solve an open-ended problem by breaking it up into smaller parts. Use an efficient procedure to simplify a program. Use a sensor to detect a change which can select an action within my program. Know that I need to keep testing my program while I am putting it together. Use a variety of tools to create a program and recognise an error in a program and debug it. Recognise that an algorithm will help me to sequence more complex programs and will also help solve problems in other learning such as Maths, Science and Design and Technology.  | Organise data in different ways. Collect data and identify where it could be inaccurate. Plan, create and search a database to answer questions. Choose the best way to present data to my friends. Use a data logger to record and share my readings with my friends.  | Use photos, video and sound to create an atmosphere when presenting to different audiences. Be confident to explore new media to extend what I can achieve. Change the appearance of text to increase its effectiveness. Create, modify and present documents for a particular purpose. Use a keyboard confidently and make use of a spellchecker to write and review my work. Use an appropriate tool to share my work and collaborate online. Give constructive feedback to my friends to help them improve their work and refine my own work.  | Explain whether a resource I am using is on the Internet, the school network or my own device. Identify key words to use when searching safely on the World Wide Web. Think about the reliability of information I read on the World Wide Web. Tell you how to check who owns photos, text and clipart. Create a hyperlink to a resource on the World Wide Web. Recognise that websites use different methods to advertise products.  |
| End of Year expectations (Year 5) |
| e-Safety | Programming | Handling Data | Multimedia | Technology in our lives |
| Choose a secure password and screen name. Protect my password and other personal information. Explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult. Know that anything I post online can be seen, used and may affect others. Talk about the dangers of spending too long online or playing a game. Explain the importance of communicating kindly and respectfully. Discuss the importance of choosing an age-appropriate website, app or game. Explain why I need to protect my computer or device from harm.  | Decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. Refine a procedure using repeat commands to improve a program. Use a variable to increase programming possibilities. Change an input to a program to achieve a different output. Use ‘if’ and ‘then’ commands to select an action. Talk about how a computer model can provide information about a physical system. Use logical reasoning to detect and debug mistakes in a program. Use logical thinking, imagination and creativity to extend a program.  | Use a spreadsheet and database to collect and record data. Choose an appropriate tool to help me collect data.. Present data in an appropriate way. Search a database using different operators to refine my search. Talk about mistakes in data and suggest how it could be checked.  | Use text, photo, sound and video editing tools to refine my work. Use the skills I have already developed to create content using unfamiliar technology. Select, use and combine the appropriate technology tools to create effects that will have an impact on others. Select an appropriate online or offline tool to create and share ideas. Review and improve my own work and support others to improve their work.  | Describe different parts of the Internet. Use different online communication tools for different purposes. Use a search engine to find appropriate information and check its reliability. Recognise and evaluate different types of information I find on the World Wide Web. Describe the different parts of a webpage. Find out who the information on a webpage belongs to. Know which resources on the Internet I can download and use. Describe the ways in which websites advertise their products to me.  |
| End of Year expectations (Year 6) |
| e-Safety | Programming | Handling Data | Multimedia | Technology in our lives |
| Protect my password and other personal information. Explain the consequences of sharing too much about myself online. Support my friends to protect themselves and make good choices online, including reporting concerns to an adult. Explain the consequences of spending too much time online or on a game. Explain the consequences to myself and others of not communicating kindly and respectfully. Protect my computer or device from harm on the Internet.  | Deconstruct a problem into smaller steps, recognising similarities to solutions used before. Explain and program each of the steps in my algorithm. Evaluate the effectiveness and efficiency of my algorithm while continually testing the programming of that algorithm. Recognise when to use a variable to achieve a required output. Use a variable and operators to stop a program. Use different inputs (including sensors) to control a device or onscreen action and predict what will happen. Use logical reasoning to detect and correct errors in a algorithms and programs.  | Plan the process needed to investigate the world around me. Select the most effective tool to collect data for my investigation. Check the data collected for accuracy and plausibility. Interpret the data collect. Present the data collected in an appropriate way. Use the skills developed to interrogate a database.  | Talk about audience, atmosphere and structure when planning a particular outcome. Confidently identify the potential of unfamiliar technology to increase my creativity. Combine a range of media, recognising the contribution of each to achieve a particular outcome. Explain a particular online tool for a specific purpose. Be digitally discerning when evaluating the effectiveness of my own work and the work of others.  | Tell you the Internet services I need to use for different purposes. Describe how information is transported on the Internet. Select an appropriate tool to communicate and collaborate online. Talk about the way search results are selected and ranked. Check the reliability of a website. Talk about copyright and acknowledge the sources of information that I find online. Know that websites can use my data to make money and target their advertising. |

Progression document

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Area | Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| iJam |  |  | How do you create a song using Garage band?Use the app GarageBand and its simple features (live loop) and begin to understand smart instruments.Begin to recognise parts of songs | How do you create a song using Garage band?Use the app GarageBand and its simple features (live loop) and begin to understand smart instruments.Begin to recognise parts of songs | How do you create a full song (including Intro, Verse, Chorus and a Breakdown)?Use a variety of instruments (using GarageBand).Recognise the affect and impact tempo has against musical genres | How do you create a full song (including Intro, Verse, Chorus and a Breakdown)?Use a variety of instruments (using GarageBand).Recognise the affect and impact tempo has against musical genres | Why is BPM (beats per minute) important?Identify the beats in sample songs and try to match them using GarageBandCompose a song in a certain style (Dance) | Why is BPM (beats per minute) important?Identify the beats in sample songs and try to match them using GarageBandCompose a song in a certain style (Dance) |
| iProgram |  |  | How do you create shapes using code?Use games to learn key coding skillsUse apps such as ‘Kodable’; ‘Blockly’ and ‘Hopscotch’ to program simple shapes | How do you create shapes using code?Use games to learn key coding skillsUse apps such as ‘Kodable’; ‘Blockly’ and ‘Hopscotch’ to program simple shapes | How do you create artwork using code?Understand steps, loops and code to solve problems and create artworkUse ‘if statements’ to program | How do you create artwork using code?Understand steps, loops and code to solve problems and create artworkUse ‘if statements’ to program | How do you solve real world problems using code?Use operators and syntax to codeCreate classic arcade games that mimic real life situationsObserve current code and then expand it | How do you solve real world problems using code?Use operators and syntax to codeCreate classic arcade games that mimic real life situationsObserve current code and then expand it |
| iAnimate (KS1)iOffice (KS2) |  |  | How do you create a stop motion animation?Animate characters and manipulate them to create ‘clean shots’ and avoid ‘earthquakes’ | How do you create a stop motion animation?Animate characters and manipulate them to create ‘clean shots’ and avoid ‘earthquakes’ | How do you stay safe while using digital devices?Learn about Networks, cyber bullying and online gamingLearn about location permissions, online contact and social media | How do you stay safe while using digital devices?Learn about Networks, cyber bullying and online gamingLearn about location permissions, online contact and social media | What is social media disappeared? Design and create a social media platformCreate a Keynote presentation to collate all work throughout the term | What is social media disappeared? Design and create a social media platformCreate a Keynote presentation to collate all work throughout the term |
| iCreate |  |  | What are the techniques to taking a photograph?Understand focal point, foreground, background and the importance of light when taking photographsEdit photos using Adobe Photoshop Express | What are the techniques to taking a photograph?Understand focal point, foreground, background and the importance of light when taking photographsEdit photos using Adobe Photoshop Express | How do you create a stop motion animation?Use Chroma Key and Sound FX to add effects to your clipAdd post-production effects to complete your video | How do you create a stop motion animation?Use Chroma Key and Sound FX to add effects to your clipAdd post-production effects to complete your video | How do you edit and produce a music video?Edit, cut and splice footage to create a music videoChoose appropriate clips to match audio | How do you edit and produce a music video?Edit, cut and splice footage to create a music videoChoose appropriate clips to match audio |
| iCommunicate |  |  | What do we need to do to stay safe on digital devices?Learn how to trust the Internet both with thing you see and people you encounterKnow what personal information is and why it should not be sharedLearn who to speak to regarding anything that is upsetting them | What do we need to do to stay safe on digital devices?Learn how to trust the Internet both with thing you see and people you encounterKnow what personal information is and why it should not be sharedLearn who to speak to regarding anything that is upsetting them | What is blogging/ vlogging/ podcasting and how do you create one?Learn about blogs/ vlogs and podcastsUnderstand how to use advanced functions on GarageBand Learn how to communicated effectively to audiences | What is blogging/ vlogging/ podcasting and how do you create one?Learn about blogs/ vlogs and podcastsUnderstand how to use advanced functions on GarageBand Learn how to communicated effectively to audiences | What do you do once you have taken a photograph?Learn photography practice such as focal point, focus, perspective and rule of thirdsLearn how to create a magazine about school using photographs you have takenUse StripDesigner to create a final product | What do you do once you have taken a photograph?Learn photography practice such as focal point, focus, perspective and rule of thirdsLearn how to create a magazine about school using photographs you have takenUse StripDesigner to create a final product |
| iTech |  |  | How has technology changed over the years (19th-21st Century)?Learn how cameras, phonographs, telegraphs, televisions, telephones and the computer have changed (looks/uses)Learn the history of these inventionsLearn why we do not use some of these inventions anymore | How has technology changed over the years (19th-21st Century)?Learn how cameras, phonographs, telegraphs, televisions, telephones and the computer have changed (looks/uses)Learn the history of these inventionsLearn why we do not use some of these inventions anymore | How do you control and device using code?Learn how external factors affect how programs runLearn how robotics are used within industryLearn how to design a robot to fit the needs for it | How do you control and device using code?Learn how external factors affect how programs runLearn how robotics are used within industryLearn how to design a robot to fit the needs for it |  |  |