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**Navigation Primary Computing Knowledge Map**

|  | **Computer Science** | **Digital Literacy** | **Information Technology** |
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| Reception | Within the new EYFS curriculum the ‘Technology’ strand has been removed from ‘Understanding the World’ and has not been replaced with any updated guidance, however, computing and technology are still vitally important subjects to teach to children in early years. Teaching computing within the curriculum ensures that children enter Year 1 with a strong foundation of knowledge. Computing lessons in the EYFS also ensure that children develop listening skills, problem-solving abilities and thoughtful questioning — as well as improving subject skills across the seven areas of learning. We live in a technological world and therefore technology is integral to their daily lives and experiences. We aim to ensure that all children begin their learning so they can safely, responsibly and skillfully use digital technologies appropriately.. | | |
|  | • I know how to follow simple spoken algorithms.  • I know how to spot simple patterns in movements and objects.  • I know how to sequence simple familiar tasks (e.g getting ready for school).  • I know how to use a touch screen or appropriate access device to target and select options on screen.  • I know how to input a simple sequence of commands to control a digital device with support (Sphero Indi). | Reception use the Project Evolve Resources for their learning. These include:  I know how to recognise that I know how to say ‘no’ / ‘please stop’ / ‘I’ll tell’ / ‘I’ll ask’ to somebody who asks me to do something that makes me feel sad, embarrassed or upset.  • I know how to explain how this could be either in real life or online.  • I know how to recognise some ways in which the internet can be used to communicate.  • I know how to give examples of how I (might) use technology to communicate with people I know.  • I know how to put information on the internet.  • I know how to describe ways that some people can be unkind online.  • I know how to offer examples of how this can make others feel.  • I know how to talk about how I know how to use the internet to find things out.  • I know how to name my work so that others know it belongs to me. | • I know how to play on a touch screen game and use computers/keyboards/mouse in role play.  • I know how to sort physical objects, take a picture and discuss what I have done.  • I know how to record my voice over a picture.  • I know how to create a simple digital collage.  • I know how to move and resize images with my fingers or mouse.  • I know how to animate a simple image to speak in role.  • I know how to create a simple animation to tell a story including more than one character.  • I know the difference between a photography and video.  • I know how to record a short film using the camera.  I know how to take a photograph.  • I know how to use a painting app and explore the paint and brush tools.  • I know how to find ways to change your voice (tube, tin can, shouting to create an echo). |
| Year 1  **Key Vocabulary**  Algorithm  Sequence  Command  Screen  Robot  Run  Button  Click  bug  debug  Drag  Save  Online  Offline  Password  predict | I know how to create programs using 2Code to accomplish specific goals e.g. Purple Mash- 2code and Bee-Bots.  I know how to use logical reasoning to predict program behaviour e.g Purple Mash and Bee-Bots.  I know how to debug simple programs to correct errors e.g. Purple Mash and Bee-Bots.  I know how to control robots and other physical systems using code e.g. Bee-Bots. | I know how to safely and respectfully use technology to create content.  I have a secure understanding of the Project Evolve topics for year 1 as set out in the Education for a connected world (2020) pg 6-46. | I know how to use databases and search technologies to find information e.g. Purple Mash.  I know how to create animations using software tools e.g. Purple Mash- 2Create-a-Story.  I know how to create and edit digital content using a range of tools e.g. Purple Mash- 2create a story. |
| Year 2  **Key Vocabulary**  Program  Instruction  Click Event  Start Event  Step  Computer  Monitor  Keyboard  Mouse  Screen  Upload  Stop  Login  Cursor  Projector  Tablet  Onion skin  Sequence  Search  Load  Data  Midi file  Multimedia  animation | I know what an algorithm is and their importance in completing tasks.  I know how to design and create programs using 2Code to achieve a specific purpose and correct errors in them.  I know how to predict and identify the behaviour and effects of programs.  I know how to use coding skills to control a robot (Sphero) to complete tasks and improve its performance. i.e. follow the route of a 2D shape. | I know how to save and locate digital work using naming and filing conventions. i.e. saving work on Purple Mash.  I know how to incorporate multimedia elements such as photos, text, and sound in digital creations.  I know how to create visual stories using sequence of images and adjust the speed of animation to create effects. i.e. Great Fire of London.  I know how to edit digital data, such as data in music composition, using 2sequence and explain the changes made.  I have a secure understanding of the Project Evolve topics for year 2 as set out in the Education for a connected world (2020) pg 6-46. | I know how to organise and find data using databases and search tools such as 2Investigate.  I know how to use technology to edit and manipulate digital data, such as music composition e.g. Musical Editor. |
| Year 3  **Key Vocabulary**  Block-based coding  Scratch  Sprite  Loop  Repetition  Condition  Input  Output  Secure Password  Bookmark  Formula  Branching Database Document sharing.  Data analysis | I know how to write algorithms using coding blocks in Scratch. i.e. turning a sprite  I know how to utilise loops, including repeat and forever loops, to repeat actions or sequences of instructions. i.e. the repetition of line drawing to create polygons  I know how to design a simple catching game using appropriate loops. | I know how to create and maintain a secure password, understanding its importance and I know how to create and maintain a secure password, understand its importance and not why it is unwise to share it with others.  I know how to create important bookmarks on a Chrome browser.  I know how to use 2Email to respond to others appropriately, attach files, and communicate respectfully. i.e. sending an email with a drawing attached  I know how to work collaboratively by sharing documents and returning to work at a later date.  I have a secure understanding of the Project Evolve topics for year 3 as set out in the Education for a connected world (2020) pg 6-46. | Navigate a trackpad on a Chromebook and access Google Drive to save and share work.  I can navigate a trackpad on a Chromebook and access Google Docs to save and share work.  I know how to use software to collect, analyze, and present data, such as formula in 2Calculate spreadsheets and 2Question branching database.  I know how to understand and utilise the different ways the internet can be used for communication. |
| Year 4  **Key Vocabulary**  webcam  printer  router  CPU  fan  power supply motherboard hard drive  heat sink  RAM  Input  output command  formula  prompt  multi-line mode debugging  decompose  predication procedure  run speed  key words  reliability | I know how to work with variables and adjust them to create what I want. i.e. adding a score to a quiz in Scratch.  I know how to use repetition and selection in my code, i.e. creating different outcomes in my quiz for right and wrong answers.  I know how to use the duplicate function and combine different effects to create my own quiz, i.e. To ask multiple questions efficiently on Scratch through duplication.  I can decompose a process into stages.  I can test and debug programs and algorithms.  I know how to name computer components and main hardware components and explain their job, e.g. monitor, keyboard, mouse, speakers, webcam, printer, router, CPU, fan, power supply, motherboard, hard drive, heat sink, RAM.  I know examples of inputs (e.g. mouse, keyboard) and outputs (printer, speakers, monitor).  I know how to input simple instructions in 2Logo e.g. fd, bk, rt, lt, pu and pd  I know how to use the pu and pd commands and the repeat command in 2Logo to create shapes.  I can create instructions to draw patterns of increasing complexity i.e. repeating flower and star patterns. | I know how to be a responsible, competent, confident and creative user of information and communication technology.  I have a secure understanding of the Project Evolve topics for the year. | I know how to add different types of data to cells in 2Calculate and represent it in different ways, e.g. Using a chart.  I know how to add a formula to a cell to automatically make a calculation.  I know how to create a model of real-life situations using 2Calculate., e.g budgeting.  I know the following vocabulary: ~~average~~, formula, column, spreadsheet, ~~budget~~, ~~formula~~, chart. table, cells  I know how to locate information on the search results page.  I know how to search effectively to find out information.  I know how to assess whether an information source is true and reliable. |
| Year 5 | I know the different parts of the internet and know how information is transported.  I know how to create and program original characters and backdrops for a game. i.e. creating a maze game around a theme.  I know how to enhance game design with features and effects, i.e. adding sounds, variables.  I know how to program sprite costume changes, point-scoring, and levels.  I know how to write and test code in a simulator (modulator) before testing in the real world. i.e. when using the emulator with Microbits. | I have a secure understanding of the Project Evolve topics for year 5 as set out in the Education for a connected world (2020) pg 6-46 | I know the appropriate tools to use to collect and record data in a database, i.e. using the internet to research county populations.  I know appropriate ways to present collected data.  I know how to utilise various operators to refine searches within a database.  I know how to design and create a customised database with appropriate fields.  I know how to order and present data based on calculations in a spreadsheet.  I know how to use spreadsheets to solve problems and plan a budget.  I know how to design spreadsheets for specific purposes and enter, edit, and calculate data accurately i.e. create financial models in their Enterprise project. |
| Year 6  **Key Vocabulary**  Binary  Selection  Start Event  Digital Input  Digital Output  If..Else  C.A.D  3d Modelling  SEO  Crumble Controller  Spiders  Key Words  Multimedia  Internet service provider  Ranking  Server  Access Points  Wifi/Lan connection  Misinformation  Disinformation | I know how to read and create binary numbers and understand their use in coding.  I know how to create reliable code for a specific purpose. i.e.to create an animation in Scratch.  I know how to create appropriate animations with structured timing and event sequencing to create a story in Scratch.  I know how to use and incorporate different inputs and sensors. i.e. when creating an alarm system using a crumble.  I know how to compare input data for resources that require integer or Boolean values, i.e. using an ultrasonic sensor to create an event. | I know how to explain how search results are selected and ranked, including the use of spiders and SEO.  I know how to plan and create a high-ranking webpage using different media and hyperlinks. i.e. editing our website for SEOs.  I have a secure understanding of the Project Evolve topics for year 6 as set out in the Education for a connected world (2020) pg 6-46. | I know how to use design software to manipulate and view 3D images and recreate landmarks through abstraction. i.e. When creating 3D models in TinkerCad.  I know how to combine different media tools and understand their various uses to fulfill a task i.e. when making a transition website.  I know how to consider audience, tone, and structure when planning a specific outcome. i.e. When making a transition website  I know how to use text, image, sound, and video editing tools to refine my work. i.e. When creating my transition website. |