# Computing Progression

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| **Digital Literacy** | Be able to navigate a website using links.<br><br>Can access information on the internet through QR codes or links on a device.<br><br>Be able to use a search engine to search for given information or images by using keywords provided by the teacher.<br><br>Be able to say what information is personal and should not be shared online with support.<br><br>Be able to tell an adult if they feel something they see online is inappropriate or hurtful.<br><br>Can change options in models/simulations that represent real or fantasy situations and scenarios to create different outcomes and effects. | Be able to navigate a website using links or buttons.<br><br>Be able to use a search engine to search for given information to answer questions, sorting by text, pictures, sound and video.<br><br>With support, be able to say what information is personal and should not be shared online.<br><br>With support, be able to share pictures or work to an online platform.<br><br>To be able to follow and understand school rules for staying safe online.<br><br>Be able to make changes in a model/simulation and use them to make and test predictions. | Use a range of techniques to navigate a given site<br><br>Develop key questions to search for specific information to answer a problem<br><br>Experience of other forms of online discussion, such as blogs, wikis, quizzes, surveys and video conferencing and begin to upload some work independently to the VLE<br><br>Work within the internet safety rules, understand why they are in place and abide by them<br><br>Explain how to keep safe and the importance of being polite online<br><br>To be able to save work in a way that means it is easy to remember and retrieve | Understand that content on the internet can be located efficiently but is not always relevant. Select relevant information (pictures, text, sound and video) to use in other software<br><br>Be able to upload work to a learning platform and know that it is important to consider the quality of work before posting to be seen by others<br><br>Use at least two online communication methods (eg online discussion, surveys, quizzes, blogs, wikis, shared online folders, web quests) through the Learning Platform  and begin to give useful and polite feedback to others on their work<br><br>Understand and be able to talk about and how to use the Internet safely<br><br>Understand that the school's Learning Platform is a safe enclosed environment, but it is important to keep passwords and other personal information secure | To be able to identify a problem which can be solved by collecting data and to identify which data to collect<br><br>To be able to make predictions for this investigation and understand how to make it a fair test<br><br>To be able to carry out the investigation, ensuring efficiency and accuracy, organising data by designing fields and records in a database<br><br>To be able to Interpret results, using a range of searches and graphs, draw conclusions and analyse the effectiveness of the technology<br><br>To draw conclusions from data and present findings to a specified audience. | To be able to initiate and take part in collaborative learning using a variety of methods e.g. email, discussions, quizzes, surveys, blogs, wikis, webquests, video conferencing<br><br>To be able to talk about how to use the social media and internet search engines safely.<br><br>To be able to develop and understand rules for personal internet safety<br><br>To be able to develop and understand code of conduct for online collaboration, and explain what to do in cases of cyberbullying<br><br>To be able to save media from the internet to be uploaded to an online platform<br><br>To be aware that some media is copyrighted and cannot be used without permission |

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| **Multimedia** | Can produce text, adding and making basic edits to text in appropriate word processing software.<br><br>When entering text, can use their knowledge of where most letters are located on the keyboard, using appropriate punctuation.<br><br>Can use a range of simple tools purposefully, to create and alter the appearance of an image.<br><br>Can use simple video or animation software.<br><br>Can use a sound recorder or on screen recorder to collect and store information as sound. | When producing text, can add and edit text, considering style, colour. layout and font.<br><br>Be able to say where letters are located on the keyboard, increasingly using appropriate punctuation.<br><br>Can use simple tools within suitable software to create digital art.<br><br>Be able to purposefully use different image editing tools, including crop, resize, and flip, exploring effects such as symmetry and filters.<br><br>Be able to sequence and arrange pictures or video clips for a purpose.<br><br>Be able to select and record musical phrases, sound-effects or voice-overs to enhance multimedia work. | Independently select and import graphics and sounds from digital cameras and tablet devices, graphics packages, shared areas and the Internet and combine with text.<br><br>Use font sizes and effects appropriately and text boxes, columns, borders, WordArt<br><br>Cut, copy and paste between applications and use delete, insert and replace<br><br>Use spell checker<br><br>Begin to use more than two fingers to enter text<br><br>Use editing tools in a paint package for a specific purpose e.g build up images by selecting, copying and pasting within the image<br><br>Sequence still images and video and use simple editing techniques to create a presentation<br><br>Use music software to organise, layer and reorganise sounds<br><br>Locate, record, save and retrieve sounds in multimedia software | Be able to evaluate a range of electronic multimedia, appropriate to task e.g website, photostory, leaflet, and recognise key features of layout, design and presentation<br><br>When typing, begin to hold two hands over different halves of the keyboard and use more than two fingers to enter text<br><br>Be able to import a photograph, explore the effects which can be created and use a range of visual effects such as filters, hues and painting over photographs to give different effects<br><br>Sequence and edit video footage and still images once transferred from a digital camera to computer and add text, sound effects and other graphic effects to video.<br><br>Be able to layer sounds using music composition software and evaluate and re-record sound recordings where appropriate | Format text to indicate relative importance.<br><br>Justify text where appropriate.<br><br>Cut and paste between applications.<br><br>Delete/insert and replace text to improve clarity and mood.<br><br>Make corrections using a range of tools (e.g. spell check, find and replace)<br><br>Develop confidence using both hands when typing<br><br>Design and digital presentation for specific audience, selecting appropriate software for the task/audience, planning the structure and layout and of multimedia presentation, evaluating and selecting suitable information and media from a range of electronic resources<br><br>To be able to create a range of hyperlinks to produce a non-linear presentation<br><br>To be able to select, copy and paste within and between photographs | To be able to use different filming techniques and camera angles e.g. zoom, panning, wide shot etc to create different mood/perspective<br><br>To be able to plan a video or animation by drawing a storyboard<br><br>Film, create, edit and refine to ensure quality; present to an audience<br><br>To be able to select and edit sounds, text, movie clips and other effects to suit purpose and audience<br><br>To be able to collect sounds from a variety of sources (sound editing software, online, digital sound recorder)<br><br>To be able to import sounds, (recorded vocals, samples (digital sound files) and recordings from real instruments) into sound editing software |

# Computing Progression

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| **Computer Science (Code Studio)** | Be able to say what an 'algorithm' is.<br><br>Be able to use the appropriate keys or commands to make a virtual or floor robot go forward, backward, left and right.<br><br>Be able to program a bot or sprite by giving simple sequences of commands with an immediate outcome.<br><br>Can use basic symbols to record directional instruction.<br><br>Be able to use a developing range of language and styles of control e.g. tilt and turn/instructional to direct a robot. | Be able to give control devices instructions that contain numerical data (e.g. move 2 steps etc).<br><br>Can use logical reasoning to predict the outcome of a sequence of instructions and test the sequence, amending if necessary.<br><br>Can use the repeat command (loops) to program more efficiently.<br><br>Is able to make use of simple events e.g. mouse click/tap on screen.<br><br>Be able to find a bug in a simple program. | Be able to use the 'repeat' and 'repeat until' command/block to program a bot efficiently.<br><br>Know that groups of instructions can be named as a procedure, use and change a pre-written procedure. Know that procedures can call on other procedures.<br><br>Begin to predict, program, test and amend longer sequences of linked instructions to achieve an intended objective.<br><br>Understand that many real-world devices (such as traffic lights, washing machines) are controlled using computer programs | Be able to plan and enter a sequence of instructions for a 'robot' to achieve specific outcomes.<br><br>Be able to debug sequences where necessary.<br><br>Be able to use 'repeat' to achieve specific solutions to tasks.<br><br>Begin to use 'If', 'when' and 'else' to solve specific problems.<br><br>Begin to use pre-defined variables to alter the outcomes from a program. | Understand what variables and procedures are in real life and be able to create them within a computer program to store and retrieve data<br><br>Think logically that when x happens y is the result and show this using code, flowcharts, diagrams or explanations.<br><br>Use "when and if" commands to create responses.<br><br>Use "say" commands to give information<br><br>Test and debug regularly.<br><br>Program and explain what happens when more than one variable changes. | Use "and" "or" and "not" blocks to change responses and understand what they do.<br><br>Be able to program responses to inputs from sensors such as Makey Makey or Picoboards<br><br>Know when to use "repeat", "repeat until" and "forever if" loops to make programs shorter and more efficient and be able to use them (understanding the differences between them).<br><br>Understand what 'events' are ,such as mouse clicks and broadcasts and use them efficiently within programs to start and stop scripts. |

# Computing Progression

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|---|---|---|---|---|---|---|
| **Data and Data representation** | Be able to use suitable on-screen graphing software to represent information. | Can make use of different types of graphs to represent data collected. Be able to enter data accurately to provide the answers to questions. With help be able to search a pre-prepared database as part of a group, constructing questions and suggesting plausible answers. | Use a database to generate bar charts and graphs to answer questions. Answer questions by searching and sorting a database. Create record cards, (analogue or digital) to store collected information. Transfer records to a pre-prepared digital database. Collect information with a data logger/recorder in real time | Be able to collect data from internet research, digital surveys and digital devices including data loggers and tablet devices. Be able to read and interpret bar and line graphs created through data logging, to draw conclusions to experiments. Be able to enter data into a graphing package and use it to create a range of graphs, and to interpret data across all subjects | To be able to identify a problem which can be solved by collecting data and to identify which data to collect. To be able to make predictions for this investigation and understand how to make it a fair test. To be able to carry out the investigation, ensuring efficiency and accuracy, organising data by designing fields and records in a database. To be able to Interpret results, using a range of searches and graphs, draw conclusions and analyse the effectiveness of the technology. To draw conclusions from data and present findings to a specified audience. | To be able to design questions using keywords, to search a large pre-prepared database. To be able to search using greater and less than. To be able to use graphs to provide supporting evidence for their conclusions. To be able to check for accuracy by checking data and looking at graphs. To be able to present results of database research |

# Computing Progression