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| Gotham Primary Computing Progression Planning | | | | | | |
| What is a Computer? Key Skills | | | | | | |
| EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| -Use different digital devices.  - Recognise that you can access content on a digital device.  - Use a mouse, touchscreen or appropriate access device to target and select options on screen.    - Recognise a selection of digital devices.  - Recognise the basic parts of a computer, e.g. mouse, screen, keyboard.  –Select a digital device to fulfil a specific task, e.g. to take a photo. | - Recognise a range of digital devices.  - Select a digital device to fulfil a specific task, e.g. to take a photo.  - Name a range of digital devices, e.g. laptop, phone, games console.  - Log on to the school computer / unlock the school tablet with support.  - Identify the basic parts of a computer, e.g. mouse, keyboard, screen.  - Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer.  - Open key applications independently.  - Save and open files with support.  - Add an image to a document from a given folder/source with support. | - Recognise what a computer is (input > process > output).  - Recognise that a range of digital devices contain computers, e.g. phone, games console, smart speaker.  - Explain what the basic parts of a computer are used for.  - Identify and use input devices, e.g. mouse, keyboard; and output devices, e.g. speakers, screen.  - Open key applications independently.  - Save and open files to/from a given folder.  - Add an image to a document from a given folder/source.  - Resize an image in a document.  - Highlight text and use arrow keys.  - Capture media independently (e.g. take photos, record audio). | - Describe what a computer is (input > process > output).  - Explain the difference between input and output devices on a computer.  - Know where to save and open files (e.g. in shared folder).  - Save files with appropriate names.  - Use a keyboard effectively to type in text.  - Use left-, right- and double-click on the mouse.  - Add an image to a document from the internet.  - Resize and move an image in a document.  - Use a search engine to find simple information.  - Recognise that school computers are connected. | - Recognise that you can organise files using folders.  - Explain what a good file name would look like.  - Delete and move files.  - Use key parts of a keyboard effectively, e.g. shift, arrow keys, delete).  - Know how to copy and paste text or images in a document.  - Crop an image and apply simple filters.  - Use a search engine to find specific information.  - Recognise that school computers are connected together on a network. | - Type using fingers on both hands.  - Use common keyboard shortcuts, e.g. ctrl C (copy), ctrl V (paste).  - Explain what makes a strong password.  - Use folders to organise files. - Know how to mute and unmute audio on a computer or tablet. –  Recognise that there is more than one search engine, and they may produce different results.  - Use a search engine effectively to find information and images.  - Know how to search for an application on a computer/tablet. | - Type efficiently using both hands.  - Use a range of keyboard shortcuts.  - Recognise that different devices may have different operating systems.  - Organise files effectively using folders and files names.  - Use the advanced search tools when using a search engine to find specific information and images.  - Explain the basic function of an operating system.  - Recognise common file types and extensions e.g. jpeg, png, doc, wav  - Recognise a range of Internet services, e.g. email, VOIP (e.g. Skype, FaceTime), World Wide Web, and what they do. |
| Vocabulary | | | | | | |
| Digital device  Mouse  Screen  Keyboard | Computer  Mouse  Screen  Keyboard  Save  Open  Image | Computer  Mouse  Screen  Keyboard  Save  Open  Image | Computer  Mouse  Screen  Keyboard  Save  Open  Resize  Image | Computer  Keyboard  Shift  Arrow Keys  Delete  Save  Open  Crop  Search engine | Computer  Keyboard shortcuts  Mute  Files  Password | Computer  Keyboard shortcuts  Mute  Files  Password  Search engine |

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| Presenting Information & Multimedia | | | | | | | | | | | | |
| EYFS | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Year 6 | |
| - Use technology to explore and access digital content.  - Operate a digital device with support to fulfil a task.  - Create simple digital content, e.g. digital art.  - Choose media to convey information, e.g. image for a poster. | - Create digital content, e.g. digital art.  - Choose media from a selection (e.g. images, video, sound) to present information on a topic.  - Recognise that you can find out information from a website. - Recognise that you can edit digital content to change its appearance.  - Select basic tools/options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush.  - Combine media with support to present information, e.g. text and images. | | - Create simple digital content for a purpose, e.g. digital art.  - Recognise that we can use technology to record and playback audio or take and view photographs.  - Apply edits to digital content to achieve a particular effect, e.g. emphasise part of a text.  - Present ideas and information by combining media, e.g. text and images.  - Explain that you can search for information on the internet. - Plan out digital content, e.g. a simple sketch or storyboard.  - Identify the common features of digital content, e.g. title, images.  - Recognise that we can use different types of media to convey information, e.g. text, image, audio, video. | | - Present ideas and information by combining media independently, e.g. text and images.  - Design and create simple digital content for a purpose/audience, e.g. poster.  - Edit digital content to improve it, e.g. resize text.  - Identify the features of a good piece of digital content.  - Explain why we use technology to create digital content.  - Recognise why we use different types of media to convey information, e.g. text, image, audio, video. | | - Collect, organise and present information using a range of media.  - Design and create digital content for a specific purpose, e.g. poster, animation.  - Edit digital content to improve it according to feedback.  - Identify the features of a good piece of digital content and apply these in own design.  - Explain the benefits of using technology to present information.  - Know where to find copyrightfree content, e.g. creative commons images.  - Collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365, if available. | | - Identify and use appropriate hardware and software to fulfil a specific task.  - Remix and edit a range of existing and their own media to create content.  - Consider the audience when designing and creating digital content.  - Recognise the benefits of using technology to collaborate with others  - Identify success criteria for creating digital content for a given purpose and audience.  - Evaluate their own content against success criteria and make improvements accordingly. | | - Select, combine and remix a range of media to create original content.  - Consider all steps of the design process when creating content (e.g. identify problem, plan, create, evaluate, share.)  - Identify the most effective tools to present information for a specific purpose.  - Explain the benefits of using technology to collaborate with others.  - Evaluate existing digital content in terms of effectiveness and design | |
| Vocabulary | | | | | | | | | | | | |
| Digital  Media | Digital  Image  Video  Sound | | Digital  Image  Video  Sound | | Design  Present  Create | | Edit  Design  Present  Create  Collaborate | | Edit  Design  Present  Create  Collaborate  Evaluate | | Edit  Design  Present  Create  Collaborate  Evaluate  Explain | |
| Data | | | | | | | | | | | | |  | |
| EYFS | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Year 6 | |
| - Access content in a range of formats, e.g. image, video, audio.  - Answer basic questions about information displayed in images e.g. more or less. | - Recognise different forms of digital content, i.e. text, image, video and audio.  - Collect simple data (e.g. likes/dislikes) on a topic.  - Present simple data using images, e.g. number of animals.  - Recognise charts and pictograms and why we use them.  - Explain information shown in a simple chart or pictogram.  - Modify simple charts/pictograms, e.g. add title, item or labels.  - Identify the key features of a chart or pictogram.  - Collect data on a topic (eye colour, pets etc.) and present in a pictogram or chart. | | - Identify different forms of digital content, i.e. text, image, video and audio.  - Recognise charts, pictograms and branching databases, and why we use them.  - Identify an object using a branching database  - Recognise an error in a branching database.  - Create a branching database using pre-prepared images and questions  - Identify the features of a good question in a branching database.  - Independently plan out and create a branching database.  - Evaluate a given branching database and suggest improvements. | | - Recognise charts, pictograms and databases, and why we use them.  - Present information using a suitable chart  - Explore a record card database to find out information.  - Use filters in a database to find out specific information.  - Name the key parts of a database, e.g. record, field, search.  - Answer questions about information in a database.  - Name some benefits of using a computer to create charts and databases.  - Recognise that search engines store information in databases. | | - Draw conclusions from information stored in a database, chart or table.  - Design a questionnaire and collect a range of data on a theme.  - Choose appropriate formats to present data to convey information.  - Recognise that school computers are connected together on a network.  - Recognise that the Internet is made up of computers and other digital devices connected together all around the world.  - Know that you use a web browser to access information stored on the internet.  - Appreciate that you need to use specific software to work with video, images, audio etc. | | - Explain the difference between data and information.  - Appreciate that different programs work with different types of data, e.g. text, number, video.  - Explain the difference between the Internet and the World Wide Web.  - Know the difference between a search engine and a web browser.  - Explain the basics of how search engines work, and that different search engines may give different results.  - Perform complex searches for information using advanced settings in search engines.  - Recognise the benefits and risks of sharing data online. | | - Recognise what a spreadsheet is and what it is used for.  - Explain the difference between physical, mobile and wireless networks.  - Use simple formulae in a spreadsheet to find out information from a set of data.  - Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae.  - Produce graphs from data in a spreadsheet to answer a question.  - Analyse and evaluate data and information in a spreadsheet, chart or database.  - Recognise that poor quality data leads to unreliable results. | |
| Vocabulary | | | | | | | | | | | | |
| Image  Video  Audio | Pictogram  Chart  Data | | Pictogram  Chart  Data  Database | | Pictogram  Chart  Data  Database  Suitable | | Pictogram  Chart  Data  Database  Questionnaire  Internet  Stored | | Data  Information  Internet  World Wide Web  Search Engines  Sharing | | Spreadsheet  Analyse  Evaluate | |
| Digital Literacy | | | | | | | | | | | | | |
| EYFS | | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Year 6 | |
| - Are aware that some online content is inappropriate.  - Are aware that information can be public or private.  - Know to tell an appropriate adult if they see something on the computer that upsets them. | | - Use a simple password when logging on, where relevant.  - Explain why we use passwords.  - Recognise examples of personal information e.g. name, image.  - Know who to tell if concerned about content or contact online.  - Recognise that digital content belongs to the person who created it.  - Talk about their use of technology at home. | | - Remember a simple password to log onto the computer or a website.  - Identify rules for acceptable use of technology in school.  - Recognise what personal information is and the need to keep it private.  - Recognise that spending a lot of time in front of a screen can be unhealthy.  - Recognise that some information found online may not be true. | | - Explain why we need to keep our password safe.  - Recognise that digital content belongs to the person who first created it, but we can give permission for others to use it.  - Recognise when to share personal information and when not to.  - Recognise that some people lie about who they are online.  - Are aware that games and films have age ratings. | | - Remember and use an individual password.  - Recognise what kinds of websites are trustworthy sources of information.    - Recognise the benefits and risks of different apps and websites.  - Recognise that the media can portray groups of people differently.  - Can rate a game or film they have made and explain their rating. | | - Know where to find copyright free images and audio, and why this is important.  - Critically evaluate websites for reliability of information and authenticity.  - Demonstrate responsible use of online services, and know a range of ways to report concerns. | | - Explain what makes a strong password and why this is important at school and in the wider world.  - Explain how algorithms are used to track online activities with a view to targeting advertising and information.  - Know that there are laws around the purchase of games; the production, sending and storage of images; what is written online; and around online gambling | |
| Vocabulary | | | | | | | | | | | | | |
| Upset | | Password  Technology | | Unhealthy  Information | | Safe  Permission  Ratings | | Trustworthy  Benefits  Risks | | Copyright  Evaluate  Reliability  Responsible | | Algorithms | |
| Programming and Algorithms | | | | | | | | | | | | | |
| EYFS | | Year 1 | | Year 2 | | Year 3 | | Year 4 | | Year 5 | | Year 6 | |
| Program a Beebot to achieve a goal  -Complete a simple programme on a computer. | | - Follow a given sequence including forwards, turns and backwards. Predict the outcome of a set of instructions and test the results.  - Use symbols to represent an instruction in the correct order. e.g. ↑→ for forward and turn. Write a sequence for others to follow. Know how to clear the code  - Know that when I press GO the sequence will run.  - Know that when a key (e.g. space bar) is pressed, the sprite/character will move. | | - Understand that a sequence of instructions needs to be clear, precise and unambiguous.  -Understand that the order in which instructions are given will make a difference to the outcome.  - Sequence instructions including forwards, back and turns more efficiently.  - In pattern spotting, children recognise which elements of the sequence repeats  - Use a number to specify movement rather than repeated commands (e.g. in Scratch Junior forward 4 rather than ↑↑↑↑  -Understand how to read and interpret a repeat in loop in an algorithm (set of instructions)  -Know that when arrow keys are pressed, direction is determined or an event will happen  -Make predictions about sequences of instructions/algorithms  -Evaluate programs that are run and debug to solve the problem | | -Sequence instructions in the correct order with increasing number of commands.  -Understand that a sequence of instructions in computing is called an Algorithm.  - Evaluate programs that are run and debug to solve the problem  - Spot a pattern in a practical activity – and know which actions/instructions are repeated and which action/instructions are not.  - Understand informal notation for showing a move is repeated. E.G [→] x 3 = move right 3 times  -Use repeat loops in Scratch to simplify code  - Uses robots/sprites on screen to perform tasks or complete instructions/code  - Be able to create an animation or game where clicking on certain ‘triggers’ (objects/sprites/keys) will cause something to happen. E.g. animations in PowerPoint  - Parallelism – Allow more than one event to happen at the same time e.g. having more than one set of blocks or instructions running at the same time. | | - Sequence instructions in the correct order to create an animation sequence, draw a shape or solve a problem.  - Be able to assess success of given instructions and identify and correct any errors that occur.  - Be able to evaluate the effectiveness of an algorithm written by their peers in class.  - Understand what simple loops and repeats are and how they can make a program more efficient.  - Pattern spotting - be able to identify which commands need to be repeated and how many times to achieve a desired end.  -Use the green flag to start a program and one other ‘yellow hat’  -Know that a range of triggers will start an event e.g. space bar, mouse click, press play/go (Use Yellow Hats in Scratch)  -Use sensing (the turquoise blocks in Scratch) to make selections. | | - Understand and use algorithms which include:  • Repeat loops  • Event handling  • A variety of inputs to control events e.g. space bar, arrow keys etc  - Secure understanding of use of simple repeat blocks.  -Understand Forever loop means continuous  - Use the instruction “repeat until” block including a sensing block to limit the repeating loop  Use a repeat until action determined by a variable. e.g.  - Use ‘if, then, else’ statements e.g. in a quiz: if answer correct…  - Understand what variables are and how to use them and where to place them in a program. (orange blocks in Scratch). | | - understand and use algorithms which include:  • Repeat loops  • Event handling /inputs • Selection  • Variables  -Be able to identify bugs in a sequence when program fails.  - Read/write nested loops (loops within a loop) e.g. use a repeat loop to draw a square, then put this algorithm inside another loop to create a repeated pattern.  - Use a variable as an input to trigger different events such as: in Scratch sending a broadcast in Scratch to other sprites.  - Use selection to govern different events using the ‘if / else’ blocks, green blocks and a variable.  -Secure understanding what variables are and how to use them. (orange blocks in Scratch).  -Understand that the “ask” block is a special pre-programmed variable and be able to use it in a program.  -Know and understand what and how to use the list blocks can store lists of data in a scratch program | |
| Vocabulary | | | | | | | | | | | | | |
| Program  Computer  Beebot  Sequence | | Algorithm  Debugging  Sequencing  Selection | | Algorithm  Debugging  Sequencing  Repetition  Selection | | Algorithm  Debugging  Sequencing  Repetition  Blocks  Sprite  Script | | Algorithm  Debugging  Sequencing  Repetition  Variables  Blocks  Sprite  Script  Costume  Command | | Algorithm  Debugging  Sequencing  Blocks  Sprite  Script  Costume  Command | | Algorithm  Debugging  Sequencing  Repetition  Variables  Block  Sprite  Script  Costume  Command | |
| Our Questions | | | | | | | | | | | | | |
|  | | How can we create artwork using a computer?  How can we record sounds and reflect upon our own work?  How do we follow instructions to create a sequence?  What is an Algorithm? | | Can Technology be used purposefully?  Can I use simple algorithms to create my own programs? | | Caught on film; Can you film and edit a stop motion video?  Can you program your own race car game? | | Can you create a multimedia presentation that is persuasive?  How can we find, record, save and retrieve information using search technologies?  Can you design and evaluate a historical game with loops and repeats? | | What software and digital devices do we need for making our own radio station? How can we advertise this effectively?  How do I make a game on Scratch with event handling, repetition and selection? | | Can you create a multimedia presentation to present your findings?  How can I do effective internet searches and use the internet safely?  How can I use different software to present data?  How can I design and code my own game including variables, event handling, repetition and selection? | |