

Barleyhurst Park Primary School

Progression of skills: Computing

| | Foundation | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|-------------------------------|------------|--|--------|---|---|--|--|
| Multimedia Text And Images | | To group by characteristics. To identify the basic data types of image, video, audio and text. To match images and audio data types using a simple drag and drop activity. To draw their favourite dinosaur, add a text name and simple text description. To create a simple, pictorial storyboard, retelling a story in the correct order. | | 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 | To create a presentation which is interesting and informative. To use the features of the program to enhance the content e.g. transitions and animations. To search for, save and import pictures into a presentation. To edit and review content for accuracy and interest. To explain that digital images can be changed. To describe how images can be changed for different uses. To make good choices when selecting different tools. To recognise that not all images can improve an image. | To be able to draw 3D shapes using SketchUp. To be able to add detail to 3D drawings. To be able to add and manipulate 3D models. To be able to create a complex 3D model. 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. | 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. To create a mock-up of an interface of a new app. |



| Multimedia Sound | To identify the basic | To understand that | To identify that | To develop skills in |
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| And Motion | dete tur se fins s | ro understand that | sound can be | managing and |
| | aata types of image, | animations are | digitally recorded | manipulating images |
| | video, audio and text. | produced by viewing a | To use a diaital | audio and video |
| | To match images and | sequence of frames in | device to record | To present ideas for a |
| | audio data types | order and that the | sound | new piece of wearable |
| | using a simple drag | brain perceives this as | To evolain that a | tech including a |
| | and drop activity. | a movina imaae | digital recording is | recorded advert |
| | To capture role play, | To understand that | stored as a file | |
| | using a simple digital | animations are | To explain that audio | |
| | camera. | | can be changed | To be able to use |
| | To capture role play, | smoother if they have | through editing. | appropriate software |
| | using a simple digital | more frames with | To show that | and other tools |
| | audio device | smaller movements. | different types of | effectively to write a |
| | (microphone). | To import an | audio can be | film script. |
| | To team that images, | appropriate | combined and played | To locate and check |
| | he combined using | background, saving it | together. | appropriate digital |
| | software | first from the internet. | To evaluate editing | content, and provide |
| | sojtware. | To animate a range of | choices. | accurate crediting of |
| | | different figure tupes | | sources. |
| | | aijjereni jigure types | | To use digital |
| | | and discuss why too | | recording devices to |
| | | many, or too few, | | film and import into |
| | | pivot points can be | | video editing software. |
| | | challenging. | | To plan, conduct and |
| | | | | import video |
| | | | | interviews as part of a |
| | | | | short film. |
| | | | | To use video editing |
| | | | | software to create a |
| | | | | short film. |
| | | | | To use video editing |
| | | | | software to turn a film |
| | | | | project into a finished |
| | | | | movie and present it. |
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| Handling Data | To collect data using | To identify the basic | I | (Covered in Year 4 | To create a data set |
|---------------|---|-----------------------|---|----------------------|---|
| Hanaling Dala | ro collect data using | To identify the basic | | (Covered in Tear 4 | To create a data set |
| | a tally sneet. To display data using | aala lypes of image, | | Science) | in a spreaasneei. Ta huild a data aat in |
| | To display data using | video, audio and | | to create a | To build a dala sel in |
| | simple pictograms. | text. | | branching aatabase. | a spreaasneet. |
| | To sort a list based | Io ask and answer | | To explain why it is | To explain that |
| | on one criteria. | simple questions | | helpful for a | formulas can be used |
| | | about data. | | database to be well | to produce calculated |
| | | To organise digital | | structured | data. |
| | | content in simple | | | To apply formulas to |
| | | ways. | | | data. |
| | | To know what a | | | lo create a |
| | | branching database is | | | spreadsheet to plan |
| | | and how it can be | | | an event. |
| | | used. | | | I o choose suitable |
| | | To create a simple | | | ways to present data |
| | | branching database. | | | |
| | | To design a simple | | | |
| | | tally sheet for data | | | |
| | | collection. | | | |
| | | To collect data from | | | |
| | | relevant neonle using | | | |
| | | relevant people asing | | | |
| | | a tally sheet. | | | |
| | | To understand | | | |
| | | that data can be | | | |
| | | displayed | | | |
| | | graphically and | | | |
| | | this can make | | | |
| | | data easier to | | | |
| | | interpret. | | | |
| | | lo know what a | | | |
| | | block graph is. | | | |
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| Lives To recourse a view technol home a independent | le to switch s on and off. ognise and variety of logy in and school endently. T d d f f f f f f f f f f f f f | To learn the names of basic parts of the computer. To explain, in simple terms, the functions of main parts of a computer. To learn that a nouse is an input device that controls a conter on the screen. To become more confident using a nouse when completing simple tasks. To learn that a teyboard is an input device that allows a asser to input letters, numbers and symbols. To become more confident using a teyboard by typing simple words and sentences combining numbers, letters and symbols. To learn that a ceyboard by typing simple words and sentences combining numbers, letters and symbols. To learn that a creen is an output device that displays nformation. To learn that a CPU contains the computer 'brain'. To be able to explain that a CPU processes | To identify the main parts of a computer. To describe the function of the main parts of a computer. To know that a computer follows instructions. To explain the basic functions of the CPU. To explain the basic function of the memory. To describe a simple relationship between the parts of a computer. To name a sound file format, for example .mp3. To know that sound and video files are stored on a digital device. To name a video file format, for example .mov. To explain the basic function of the hard drive. To discuss that a hard drive stores data and form analogies with other data storage devices. | To explain how digital devices function. To identify input and output devices. To recognise how digital devices can change the way 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. | 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. To describe how content can be added and accessed on the World Wide Web. To recognise how the content of the WWW is created by people. To evaluate the consequences of unreliable content. | 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. To recognise how we communicate using technology. To evaluate different methods of online communication. | |
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| instructions given by input devices. To be able to explain that a CPU gives instructions to output devices. | To name common uses of technology within school. To name common uses of technology outside of school. To explain why technology is useful in the local | | |
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| | environment. | | |



| Programming | devices on and off. Take a photo of a particular item/person. Expressive arts Story writing through the use of multimedia tools. -Include their own voice recording and musical sounds. Understanding the world -Use paint projects to explore different celebrations. -Purposeful selection of colours. -Purposeful mark making. Begin to understand how to instruct using Bee Bots. | incorrectly sequenced instructions. To predict what will happen if incorrectly sequenced instructions are followed. To sequence instructions into the correct order. To learn that an 'algorithm' is a term used to describe a sequence of instructions for a computer to follow. To understand why algorithms should be accurate. To identify and correct errors in sequencing. To know and understand the term 'debugging'. To know what a flowchart is and understand how it can be followed. To rearrange a simple flowchart into the correct order. To debug their own and others' flowcharts. | flowchart is and understand how it can be followed. To arrange a simple flowchart into the correct order. To use 'repeat', 'repeat until' and 'wait until' instructions within a flowchart. To debug their own and others' flowcharts. To be able to identify algorithms represented in flowcharts that will create 2D shapes. To identify and correct errors in flowchart algorithms. To begin to understand that computers use programs to implement algorithms. To control an onscreen device. To give instructions accurately to an onscreen device. To begin to understand that a computer program. | programming environment (Scratch) 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 a project. To create a project from a task description 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 | 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 program into parts / chunks. To create a program that uses count- controlled loops to produce a given outcome. To be able to program an Edison robot using barcodes. To us EdBlocks to write simple sets of code for Edison robots. To be able to use 'loop' command blocks and different outputs. | visual programming is. To investigate and evaluate the features of a programming software. To program Kodu using 'when' and 'do' instructions. Top use tools and features to create an original landscape. To program a character to be controlled around a custom track to reach a goal. To program a character to follow an automatic path. To be able to use EdScratch to create coding to program a robot. To edit variables so that programming becomes more accurate and the robot completes its journey. To debug algorithms if mistakes occur so that the robot is able to complete the given task. To use loop coding blocks to allow a set of instructions to be | fundamentals of visual coding and problem solving. To program a personalised version of a popular platform game. To evaluate a range of different types of programming through short gaming experiences. To use EdScratch alongside a secondary device (remote control/ barcode) to program and control a robot(s). To edit variables so that programming becomes more accurate and the robot completes its task successfully. To debug algorithms if mistakes occur so that the robot is able to complete given tasks. To use loop coding blocks to allow a set of instructions to be repeated until a given time. |
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| To identify and represent repetition in a flowchart. To be able to explo that an algorithm i a term used to describe a sequence of instructions. To be able to debu algorithms. To control an onscreen device. To predict what wi happen when controlling an onscreen device. To begin to understand that a computer program executes an algorithm. To be able to spot errors and debug instructions to achieve specific goals. | executes an algorithm. To be able to spot errors and debug algorithms and programs. To understand that a programmable robot can be controlled by pressing buttons. To predict what will happen when programming a floor robot. To identify and correct errors in programs (debugging). To test and debug a programmed algorithm to achieve an intended goal. To explain verbally how they chose the best algorithm and programmed their robot. | To evaluate the impact of adding other media to an animation 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. | | repeated until a given time. 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. | |
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|--|--|--|--|---|--|



| Online Safety | Recognise that | To identifu and | To discuss people | To recognise | To know how to | To look at the | To say what bullying |
|---------------|---------------------|-----------------------|------------------------|-----------------------|-------------------------|-----------------------|------------------------|
| JJ | anuone can sau | discuss how to stay | who are not friends | cuberbulluina. | respond to hurtful | sender and subject | and cuberbullying |
| | no to somebody | safe at different | that they might meet | To identify a safe | messages online. | to spot a spam | are. |
| | who makes them | physical locations. | online. | person to tell if | To edit own | email. | To suggest ways in |
| | feel sad, | To begin to | To know that an | cyberbullying is | messages to make | To identify the | which people could |
| | uncomfortable. | understand how to | avatar is a picture to | encountered. | sure I am not being | potential dangers of | deal with |
| | embarrassed or | stau safe when | represent a person | To know that | unkind. | spam email. | cuberbulluing |
| | upset. | online. | online. | cyberbullying can | To access a trusted | To know what to do | To know why |
| | 1 | To understand how | To know that an | happen via a range | search engine. | with spam emails. | cuberbulluing can be |
| | Recognise ways | to behave positively | avatar is a way of | of devices. | To use strategies | To explain why it is | as harmful as in- |
| | to use the | with others when | protecting identity | To identify adverts | which improve results | important to cite a | norson bulluing |
| | internet to | face-to-face and | online. | online. | when searching | source. | To loop in the |
| | communicate. | online. | To discuss the | To identifu a | online. | To cite a website. | |
| | | To create a | differences between | targeted advert. | To explain how to | To follow a citation | uuaress par of a |
| | Describe ways | memorable password | collaborating when | To explore how | use other people's | to access an online | website so check jor |
| | that some people | that is not easily | face-to-face and | companies use | work respectfully. | resources. | security. |
| | can be unkind | identified by others. | when online. | websites to promote | To explain what a | To explain the rules | To identify the lock |
| | online and offer | To understand why | To respect the views | products. | citation is. | for creating a strong | symbol in an address |
| | examples of how | passwords need to be | of others. | To create a strong | To explain why | password. | bar. |
| | this can make | kept private. | To explain how | password. | plagiarism is harmful. | To explain why | To find a link to a |
| | others feel. | To stay safe by | comments can be | To explain why a | To identify | having a strong | privacy policy. |
| | , | accurately entering | misunderstood when | strong password is | information that | password is | To understand why I |
| | Understand how | the website address | online compared with | important. | should not be shared | important. | should ask an adult if |
| | to use the | To understand what | face-to-face. | To explain what | online. | To recognise changes | T am unsure. |
| | internet to find | to do if they visit a | To know who to go | privacy settings are. | To know why it is | that have been made | To identify warning |
| | information and | wabsita thay don't | to for help and | To identify an email | dangerous to share | to an original | signs that a website |
| | identify devices to | recognise | support when they | that should not be | some information | photograph. | might not be secure. |
| | use. | To begin to | have concerns about | opened. | online. | To digitally alter a | lo identify personal |
| | | understend heurt- | content on the | To know how to | To understand why | photograph. | information. |
| | Identify rules that | understand now to | internet. | safely send an email. | some websites ask | To understand not | To explain why |
| | help keep us safe | stay safe when | To begin to | To know how to | for registration | everything seen | someone might have |
| | and healthy in | online. | understand how to | safely receive an | information. | online is true. | an online |
| | and beyond the | To discuss people | stay safe when | email. | To explain what | To understand how | Friendship. |
| | home when using | who are not friends, | online. | To identify different | digital citizenship is. | fake photographs | To explain what to |
| | technology. | who they might meet | To identify what to | forms of online | To explain how to be | can make people feel | ao if I am asked or |
| | | online. | do when a friend | communities. | a good citizen in real | bad about | tota something online |
| | Identify some | To know that online | upsets them – tell | To identify the | life. | themselves | which makes me |
| | simple examples | friends should behave | someone | positive and negative | To apply | To explain how to | Uncomfortable. |
| | of my personal | kindly and if they | To explain what | aspects of an online | understanding of | stay safe online. | to explain some of |
| | information and | upset you, tell | ʻdigital footprint' | community. | online safety to write | | the dangers of |
| | can describe who | someone. | means. | | a guide. | | revealing |



| would be | To say why it is | To explain how other | To use online safetu | To give examples of | personal information |
|-----------------|--------------------------|------------------------|----------------------|---------------------|-----------------------|
| trustworthu to | important to name | people might use the | knowledge to plan a | unsafe online | to an online friend |
| share this | and date my work. | information I put | party using online | behaviour. | To know what a |
| information wit | h. To begin to decide | online. | methods. | To explain how to | stereotupe is |
| 5 | what needs copyright. | To identifu which | | applu online safetu | To understand how a |
| | To be able to select | keuwords provide | | rules to a given | stereotupe can be |
| | and use safe search | aood search results. | | scenario | harmful |
| | filters. | To be able to use a | | To explain how to | To compare gender |
| | J To know to speak to | website to search for | | stau safe online. | stereotupes |
| | a trusted adult if I | information. | | To give examples of | To identifu a gender |
| | see, hear or read | To identifu websites | | unsafe behaviour. | stereotupe in a |
| | something online that | that are suitable for | | J | media message |
| | upsets me. | mu aae. | | | To identifu a |
| | To be able to spot | To know what to do | | | situation I should be |
| | when something | if a website makes | | | careful in online |
| | online might not be | me feel | | | To choose an |
| | safe. | uncomfortable in any | | | appropriate action |
| | To be able to make | way. | | | online to stay safe |
| | links between the | To be able to explain | | | To know what the |
| | offline and online | likes and dislikes | | | SMART acronum |
| | world. | about a website. | | | means |
| | To recognise what | To be able to use | | | To use knowledge of |
| | personal information | clues to decide who a | | | online sefetu to |
| | can affect my safety. | website is aimed at. | | | create a multiple |
| | To know who to tell | To be able to identify | | | choice quiz |
| | if someone asks for | unkind online | | | To support others in |
| | my personal | behaviour. | | | to support others in |
| | information. | To know what to do | | | their understanding |
| | To say why email is a | if someone is being | | | of online safety. |
| | good way of | unkind to me online. | | | |
| | communicating. | To be able to safely | | | |
| | To suggest ways to | search for | | | |
| | use email safely. | information online. | | | |
| | To know what to do | To be able to choose | | | |
| | if an email is received | appropriate websites | | | |
| | from someone | for my age. | | | |
| | unknown. | | | | |
| | To recognise potential | | | | |
| | dangers online. | | | | |



| | To guide others to | | | |
|--|--------------------|--|--|--|
| | make safe choices | | | |
| | online. | | | |



| | Year 1 | Year 2 | Year | 3 | Year 4 | Year ! | 5 | Year 6 |
|-------------------------------|--|--|---|--|--|---|--|---|
| Multimedia Text And Images | Children begin to understand technology can be used for ar and images you can communi Children develop their skills ir and organising information. KS1 Computing National Cur Children use technology purporganise, store, manipulate ar content. Children can: a add text strings, text bo objects and images, mar b use various tools, such o stamps and shapes, and and shape; c use applications and dev communicate ideas, wor demonstrate control; d save, retrieve and organ use key vocabulary to demonstraing application, software, window, move, screen, close, click, drag, keys, mouse, click, button, dould drag, present. | the particular purposes ad that by adding text cate with technology. I typing, selecting tools riculum osefully to create, ad retrieve digital exes and show and hide hipulating the features; is brushes, pens, eraser, set the size, colour rices in order to k, messages and ise work; rate knowledge and aint, colour, brush, tools, e, size, poster, launch, minimise, restore, size, log on, log off, keyboards, ole click, | Chill keyl dem oppe digii Chill intee the com com serv crea acco eval Chill a b c d e f | dren develop their skills board commands, organ constrate effect. In LKS2 ortunity to express them tal technology, art, Pow dren should continue to rating tools as in KS1. 2 Computing National C dren understand compu- met; how they can prov world wide web, and th imunication and collabo obine a variety of softwa ices) on a range of digit ite a range of programs omplish given goals, incl- luating and presenting of dren can: create different effects technological tools, de use appropriate keybo text on a device; use applications and o communicate ideas, w save, retrieve and eva amendments; insert a picture/text/gr internet or a personal use key vocabulary to understanding in this line, line colour, fill co size, text box, format, image, object, link, hy move, screen, split, cre close, exit, search, prir snipping tool, shift, un highlight, cursor, toolt | of formatting using ising their work to 2, they will have the nselves more through rerPoint and posters. o demonstrate control when furriculum itter networks, including the ride multiple services, such as ise opportunities they offer for ration. They select, use and are (including internet tal devices to design and , systems and content that luding collecting, analysing, data and information. s with different emonstrating control; bard commands to amend devices in order to rork, and messages; luate work, making raph/hyperlink from the file; o demonstrate knowledge and strand: draw, object, shape, lour, group, ungroup, font, image, wrap text, plan, link, perlink, minimise, restore, size, eate, organise, file, folder, nt, password, screenshot, too, redo, menu, dictionary, bar, spellcheck. | Child mod their conf to cr KS2 Child softv digit prog given evalu Child a b c d use ke under colour orbit, | dren begin to look at els and learning how editing skills further. ident in inserting links reate effect. Computing National dren select, use and co ware (including interne cal devices to design a grans, systems and co n goals, including collo uating and presenting dren can: use the skills already content using unfam select, use and comb technology tools to o review and improve support others to im save, retrieve and ev work, making amendments insert a picture/text/s internet or personal ey vocabulary to demi standing in this strand r, format, heading, hy pan, zoom, eraser, dir | new software, creating 3D to orbit, zoom and develop They become more , images and formatting text Curriculum ombine a variety of et services) on a range of nd create a range of ntent that accomplish eecting, analysing, data and information. I developed to create iliar technology; ine the appropriate create effect; their own work and prove their work; raluate their ; graph/hyperlink from the file; onstrate knowledge and d: window, layout, text, font, perlink, 2D shape, 3D shape, nension, measurement, guide. |



| Multimedia Sound And Motion | Children begin to develop their creativity using technology through recording sound. Children will also begin to develop their editing skills and control of the tools. KS1 Computing National Curriculum Children use technology purposefully to create, organise, store, manipulate and retrieve digital content. Children can: a use software to record sounds; b change sounds recorded; c save, retrieve and organise work; use key vocabulary to demonstrate knowledge and understanding in this strand: commands, add sound. | Children develop their editing skills further by cropping, organising and arranging film clips. They are able to share work and offer feedback and ideas for improvement with animation and film, giving their opinion on which software to use. In LKS2, children also look at the history of animation and reflect upon the changes over time. KS2 Computing National Curriculum Children select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Children can: a use software to record, create and edit sounds and capture still images; b change recorded sounds, volume, duration and pauses; c use software to capture video for a purpose; d crop and arrange clips to create a short film; e plan an animation and move items within each animation for playback; use key vocabulary to demonstrate knowledge and understanding in this strand: audio, sound, video, movie, embed, link, file format, animate, animation, still image, flip book, frame, onion skinning, loop, frame rate, record, stop, play, stop motion, stop frame. | Children begin to look more into multimedia broadcasting, learning new skills including recording jingles, podcasts and narration. They become more confident in post-production with editing, trimming and refining their work based on plans they have made. KS2 Computing National Curriculum Children select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Children can: a collect audio from a variety of resources including own recordings and internet clips; b use a digital device to record sounds and present audio; c trim, arrange and edit audio levels to improve quality; d publish their animation and use a movie editing package to edit/refine and add titles; use key vocabulary to demonstrate knowledge and understanding in this strand: audio, record, edit, play stop, skip, waveform, input, output, record, edit, play podcast, digital content, downloadable, backing track, voiceover, mute, gain, production, post-production, documentary, project, evaluation, screening, ceremony, upload. |
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| Handling Data | Children begin to explore expressing information in tables, sorting and organising information for others to be able to understand. KS2 Computing National Curriculum Children select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Children can: a talk about the different ways data can be organised; b sort and organize information to use in other ways; c search a ready-made database to answer questions; use key vocabulary to demonstrate knowledge and understanding in this strand: Google Docs, insert, table. | Data Handling in UKS2 focuses on selecting the correct method to display data and using software such as spreadsheets. Children also learn how to check the accuracy of data and compare data for a specific purpose. KS2 Computing National Curriculum Children select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. Children can: d construct data on the most appropriate application; e know how to interpret data, including spotting inaccurate data and comparing data; f use keyboard shortcuts and functions to input data on spreadsheets; g add data to an existing database; |
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| | | use key vocabulary to demonstrate knowledge and understanding in this strand: Google Docs, insert, table, spreadsheet, cell, row, column, formula/formulas, calculate, format, edit, insert, ascending, descending. |



| Technology In Our Lives | Children begin to make links to how they use technology outside of the classroom. They begin to think about the benefits of using technology in their lives, making links to learning about online safety. KS1 Computing National Curriculum Children recognise common uses of technology beyond school. They use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Children can: a recognise ways that technology is used in the home and community, e.g. taking photos, blogs, shopping; b use links to websites to find information; c recognise age-appropriate websites; d use safe search filters; use key vocabulary to demonstrate knowledge and understanding in this strand: filter, Google, search engine, image, keyboard, email, internet, subject, address, communicate, sender, safe, secure. | Children refer to online safety rules when discussing technology in their lives. They are able to navigate between websites and use safe search terms on trusted search engines. They become more confident in using email for communication, including attaching and saving files from emails. KS2 Computing National Curriculum Children understand computer networks, including the internet; how they can provide multiple services, such as the world wide web, and the opportunities they offer for communication and collaboration. They use search technologies effectively, appreciate how results are selected and ranked, and are discerning in evaluating digital content. Children can: a explain ways to communicate with others online; b describe the world wide web as the part of the internet that contains websites; c add websites to a favourites list; d use search tools to find and use an appropriate website and content; e use strategies to improve results when searching online; use key vocabulary to demonstrate knowledge and understanding in this strand: filter, Google, search engine, image, keyboard, email, subject, address, communicate, sender, safe, secure, internet, world wide web, social media. | Children can use safe search terms on trusted search engines, and evaluate websites based on layout and information. They become more confident in understanding Google rankings, adverts and the reliability of websites. KS2 Computing National Curriculum Children understand computer networks, including the internet; how they can provide multiple services, such as the world wide web, and the opportunities they offer for communication and collaboration. They use search technologies effectively, appreciate how results are selected and ranked, and are discerning in evaluating digital content. Children can: a search for information using appropriate websites and advanced search functions within Google; b use strategies to check the reliability of information (cross-check with another source such as books); c talk about the way search results are selected and ranked; d check the reliability of a website, including the photos on site; e tell you about copyright and acknowledge the sources of information; use key vocabulary to demonstrate knowledge and understanding in this strand: world wide web, search, search engine, advanced search, results, Google, browser, terms of use, bias, authority, citation, plagiarism, source, website, secure, https, site, domain, website, browser, address bar. |
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| Coding And Programming | boding And ProgrammingChildren begin to understand their influence on technology by developing their programming skills to determine output. They begin to understand that an algorithm is a series of steps for solving problems and a code is a series of steps that machines can execute. They begin to explore debugging, predicting when codes may not work and changing them.KS1 Computing National Curriculum Children understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. They create, debug and use logical reasoning to predict the behaviour of simple programs.Children can:agive commands one at a time to control direction and movement, including straight, forwards, backwards, turn; | Children build on their programming skills by solving problems and programming commands to achieve a specific outcome. They begin to write programs, explain algorithms and identify errors in their work. KS2 Computing National Curriculum Children design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; they solve problems by decomposing them into smaller parts. They use sequence, selection, and repetition in programs and work with variables and various forms of input and output. They use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Children can: a use logical thinking to solve an open-ended problem by breaking it up into smaller parts; b write a program putting commands into a | Children build on their programming skills by using new systems such as a flowchart. They continue to break down problems and create algorithms to solve them. They are able to explain the outcome of an algorithm with confidence and accuracy. KS2 Computing National Curriculum Children design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; they solve problems by decomposing them into smaller parts. They use sequence, selection, and repetition in programs and work with variables and various forms of input and output. They use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Children can: a use external triggers and infinite loops to demonstrate control; b follow a sequence of instructions, e.g. in a flowchart and modify a flowchart using symbols; c use conditional statements and edit variables; d decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program; e keep testing a program and recognise when it needs to be debugged; use key vocabulary to demonstrate knowledge and understanding in this strand: flowchart, algorithm, control, output, symbol, start, stop, delay, process, decision, loop, backdrop, script, block, repeat, commentary, sequence, consequence, debug, program, Kodu, world, object, tool palette, program environment, smooth, flatten, raise. |
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| | c give a set of instructions to follow and predict what will happen; d improve/change their sequence of commands by debugging; use key vocabulary to demonstrate knowledge and understanding in this strand: algorithm, instruction, order, debug, program, turn, left, right, clockwise, anticlockwise, blocks, sequence, project, repeat, repeat forever, invisible, grow, shrink. | c give a set of instructions to follow and predict what will happen; d keep testing a program and recognise when it needs to be debugged; e use variables to create an effect, e.g. repetition, if, when, loop; use key vocabulary to demonstrate knowledge and understanding in this strand: decompose, decomposing, logical sequence, flowchart, sprite, block, command, algorithm, answer, correct, errors, program, algorithm, instructions, commands, forward (fd), left (lt), right (rt), move, turn, clear screen (cs), variable. | |



| Online Safety | Children begin to consider their activity on the internet and learn about ways to keep themselves safe and why it is important to do so. They also compare appropriate and inappropriate activity on the internet and decide what to do next. KS1 Computing National Curriculum Children can use technology safely and respectfully, keeping personal information private; they identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. Children can: a identify what things count as personal information; b identify what is appropriate and inappropriate behaviour on the internet; c agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords; d seek help from an adult when they see something that is unexpected or worrying; e demonstrate how to safely open and close applications and log on and log off from websites; use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet. | Children become more aware of their digital footprint by reflecting on their experience on the internet. They are able to understand more about age-appropriate websites and adverts and how adverts are used by companies. Children are also introduced to the concept of plagiarism and citation. KS2 Computing National Curriculum Children use technology safely, respectfully and responsibly. They recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact. Children can: a reflect on their own digital footprint and behaviour online; b identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying; c agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords; d seek help from an adult when they see something that is unexpected or worrying; e demonstrate understanding of age-appropriate websites and adverts; use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public. | Children are encouraged to identify online risks and share their knowledge of the risks and consequences for people online. They begin to think more critically about what they see online and look at the concept of fake news and false photographs. KS2 Computing National Curriculum Children use technology safely, respectfully and responsibly. They recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact. Children can: a protect their password and other personal information; b be a good online citizen and friend; c judge what sort of privacy settings might be relevant to reducing different risks; d seek help from an adult when they see something that is unexpected or worrying; e discuss scenarios involving online risk; use key vocabulary to demonstrate knowledge and understanding in this strand: spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, secure, safe, account, online, private, social media, adverts, cyberbullying, reporting, anonymous, victim, fraud/fraudulent, policy, private/personal. |
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