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| **Computing Curriculum Milestone 2** | | | | | | | |
| **Aspect** | **Key Vocabulary** | | **Sticky Facts** | | | **Essential Knowledge** | |
| **SMSC Programme**  Online Safety Curriculum using the EAware Online Programme. | Upload  Permanent  Permission  Edit  Digitally manipulated | | **Photos:**   * When a photo is uploaded to the internet it I there forever. * You should always ask the persons permission before uploading an image. * Some pictures on the internet have been edited. | | | * **Use EAware programme to remain safe with online.** * Give examples of the risks posed by online communications. * Understand the term ‘copyright’. * Understand that comments made online that are hurtful or offensive are the same as bullying. * Understand the rules for keeping safe online when sharing ideas. * Recognise that all the information online may not be accurate or reliable. * Understand the idea of copyright on certain text / images on the internet. * Understand the need to keep their passwords private. * Understand if they share things online it may be seen by others. * Know how to respond if asked for personal information online. * Recognise that cyber bullying is not acceptable and know how to report an incident. | |
| Time  Internet  Balance  Healthy  Lifestyle  Screen time | | **Time Online:**   * Spending too much time on line can have a detrimental effect on your health. * It’s important to have a healthy balance in life. * It is important to spread time between activities effectively. | | |
| Fake  Pretend  Links  Phishing  Searching  SPAM | | **Things are not always as they seem:**   * What we see on line is not always what we think. * It is easy for people to lie on line. * It is possible to be tricked into doing thing on line. | | |
| Bullying  Cyberbullying  Consequences  Citizenship  Responsible | | **Cyberbullying**:   * Cyberbullying is the use of technology to harass, threaten, embarrass, or target another person. * There are dangers online and there are several ways to keep safe. * There are several consequences to cyber bullying. * In school we have an openness to discuss cyberbullying. | | |
| Password  Personal  Strong  Weak  Identify theft | | **Passwords**:   * We must keep our personal information safe online. * Without a strong password, our information online is at risk. * A good password should be unique, never written down; 12 character at least; mix with caps lock, symbols or numbers; no personal info; never shared with anyone. | | |
| Online  Real Life  Communicate  Safely  Personal  Relationship | | **Friends**:   * There is a difference between real friends and online friends. * We must stay safe when communicating online and not share personal details. | | |
| **Cycle A** | | | | | | | |
| **Dungeons and Dragons**  **Networks:**  **To Connect**  **Using Programmes:**  **To Communicate** | * Digital devices accept inputs and can produce outputs. * Suggest differences between using digital devices and using non-digital tools. * Explain how messages are passed through multiple connections. * A network switch is needed because they keep traffic between two devices from getting in the way of other devices on the same network * Switches allow you to control who has access to various parts of the network and you can monitor usage. * A computer network is made up of a number of devices. | | | **Connecting Computers**   * Use sequence, selection, and repetition in programs; work with variables and various forms of input and output * 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 * 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. | | | |
| * An animation flipbook uses images, which progress gradually in position from one page to the next. These images then create the impression of movement when you flick through. * Little changes for each frame give the impression of movement. * The storyboard is a series of images that map the key events of the story, presented chronologically. * Onion skinning in animation is an editing technique used to see several frames of an animation simultaneously. | | | **Creating Media – Stop Go Animation** 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 informationUse technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | |
| **A Street in Our Time**  **Programming:**  **To Code** | * Commands in Scratch are represented as blocks. * A sprite is an image that can be programmed. * The stage is the background and a back drop is an image that can be shown in the stage area. * An algorithm is a sequence of step-by-step instructions to solve a problem. * Algorithms can be written in code, or be a sequence of blocks | | | **Programming – Sequencing Sounds**   * Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts * Use sequence, selection, and repetition in programs; work with variables and various forms of input and output * Use logical reasoning to explain how some simple algorithms work, and to detect and correct errors in algorithms and programs * 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. | | | |
| **Data Handling:**  **To Collect** | * A branching database is a way of classifying a group of objects – also called a binary tree. * To separate objects, create questions based on certain attributes that require a yes / no answer. * Questions need to be ordered carefully in order to get similar sized groups. | | | **Branching Databases**   * 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 * Use technology safely, respectfully and responsibly | | | |
| **Gods and Mortals**  **Using Programmes:**  **To Communicate**  **Programming:**  **To Code** | * Simple text can be changed quickly by an administrator. Images, on the other hand, need to be designed, created, and uploaded before being used. * Text and images can communicate messages clearly. * You can change font style, size, and colours for a given purpose and then edit text. * MS Word offers two page orientation options: landscape and portrait. * Fields in Microsoft Word are used as placeholders for data that might change in a document. * You can copy (Ctrl-C) and paste (Ctrl-V) images and text on a word document. | | | **Creating Media – Desktop Publishing**   * Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content * 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. | | | |
| * An action is the result from the execution of a function whereas an event can occur spontaneously. * To make a sprite move, go to “MOTION” and select “go to x and y” and change the co-ordinates. * For movement, you can choose keys on the keyboard. | | | **Programming: Events and Actions in Programmes**   * Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts * Use sequence, selection, and repetition in programs; work with variables and various forms of input and output * Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs * 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 | | | |
| **Cycle B** | | | | | | | |
| **It All Started in a Cave**  **Networks:**  **Communicate**  **Using Programmes:**  **Communicate** | * The internet is a network of networks * A computer network uses cables, wireless signals, or fibre optics to enable devices to communicate and share resources. * Network security is important because it keeps sensitive data safe from cyber-attacks and ensures the network is usable and trustworthy. * The World Wide Web contains websites and web pages * Servers are computers that store webpages, sites, or apps. * The internet can be used to create content online. * Web media is a form of communication that uses audio, text, and visuals on the web. * Some information on line may not be honest | | | **The Internet**   * 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 * Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content * 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 * Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | |
| * An input device (microphone) and output devices (speaker or headphones) are required to work with sound digitally. * You can edit sound recordings by trimming the sound wave. * A podcast is a digital medium consisting of audio (or video) episodes that relate to a specific theme. * Audacity is a free digital audio editor and recording application software. * You can export you audio recordings to different devices. | | | **Creating Media – Audio Production**   * Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content * 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 * Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact | | | |
| **Great Adventures**  **Programming:**  **To Code**  **Data Handling:**  **To Collect** | * A code snippet is a reusable block of code. * Explain the effect of changing a value of a command. * In coding, you can use repetition such as a count controlled loop (A command that repeatedly runs a defined section of code a predefined number of times). * Debugging is the process of finding and fixing errors or “bugs” in the source code of any algorithm. | | | **Programming: Repetition in Shapes**   * Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts * Use sequence, selection, and repetition in programs; work with variables and various forms of input and output * Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs * 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. | | | |
| * Certain data sets can answer a given question. * A digital device can use a sensor to collect data. * Data can be viewed in different ways – such as charts and graphs. * A data logger is an electronic device that records data over time or about location either with a built-in instrument or sensor. | | | **Data Logging**   * Use sequence, selection, and repetition in programs; work with variables and various forms of input and output * 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. | | | |
| **They Came, They Saw, They Conquered**  **Using Programmes:**  **Communicate**  **Programming:**  **To Code** | * Photo editing software can edit / improve an image. * Images can be rotated. * Cropping is the process of removing a piece of an image in order to improve it. * In digital image processing the clone tool is used to copy one part of an image over another part. | | | **Creating Media: Photo Editing**   * 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 * Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. | | | |
| * An infinite loop is a command that repeatedly runs a defined section of code indefinitely. * Different parts of a loop can be changed. * You can re-use code snippet for different sprites. | | | **Programming: Repetition in Games**   * Design, write, and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts * Use sequence, selection, and repetition in programs; work with variables and various forms of input and output * Use logical reasoning to explain how some simple algorithms work, and to detect and correct errors in algorithms and programs * 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. | | | |
| **Key Stage 2 Computing Glossary** | | | | | | | |
| **To Code** | | **To Communicate** | | | **To Collect** | | **To Connect** |
| **Variable:**  A named piece of **data**stored in a computer’s memory, which can be accessed and changed by a **computer program.**  **Subroutine:**  A named sequence of **commands**designed to perform a specific task.  **Selection**:  Part of a **program** where if a **condition** is met, then a set of **commands** is **run.**  **Run (Exceute):**  To action the **commands** in a **program.**  **Repetition:**  Part of a **program** where one or more **commands** are **run** multiple times in a **loop.**  **Procedure:**  A named set of **commands**that can be called multiple times throughout a **program**. This type of **subroutine** does not return a value.  **Loop:**  **Commands**that repeatedly **run**a defined section of **code.**  **Debugging:**  The process of finding and correcting errors in a **program.** | | **Software**:  The **programs**used to control **computers**and perform specific tasks.  **Output Device:**  A piece of **hardware that** is controlled by **outputs**from a **computer.**  **Input Device:**  A piece of **hardware**used to control, or send **data** to, a **computer.**  **Hardware:**  The physical parts of a **computer system.**  **Digital Device:**  The physical parts of a **computer system.**  **Computer System:**  A combination of **hardware** and **software** that can have **data** **input** to it, which it then **processes** and **outputs**. It can be **programmed** to perform a variety of tasks. | | | **Template:**  A pre-built database table formatted with categories.  **Table:**  The main function of a table in a database is to organize and store data. Tablesare arranged in rows and columns,  **Report:**  Shows data for printing, display, or interaction and is selected from one ormore tables.  **Query:**  A process for pulling data from tables for informational or reporting purposes.  **Field:**  The location for a piece of data or information.  **Data Set:**  A collection of related **data.**  **Data:**  A letter, word, number etc. that has been collected for a purpose, but **stored** without context. | | **World Wide Web**:  A service provided via the internet that allows access to web pages and other shared files.  **WAP (Wireless Access Point):**  A network device that allows wireless computing devices to connect to a wired **network**  **WiFi:**  A technology that allows devices to wirelessly access a **network**and transfer **data.**  **Website:**  A collection of interlinked **web pages**, stored under a single **domain.**  **Web Page:**  A **HTML**document viewed using a **web browser.**  **Web browser:**  A**program** used to view, navigate, and interact with**web pages.**  **URL (Uniform Resource Locator):**  The address of a file on the **internet.**  **Network Switch:**  A device that manages the flow of **data packets** within a **computer network.**  **Server:**  A networked **computer**that manages, **stores,**and provides **data**such as files to other computers.  **Router**:  A device that manages the flow of data between **computer networks.**  **Hyperlink:**  Text or media that when clicked, takes the user to another specified location (**URL**).  **HTML (Hyper Text Mark up language):**  A standardised language used to define the structure of **web pages.**  **Computer Network:**  A group of interconnected computing devices. |