Computing Overview Y1-6

Year 1/2 Cycle 1					
Autumn 1 Castles and Fairytales	**Autumn 2 Toys**	**Spring 1 Space**	**Spring 2 Mexico**	**Summer 1 Explorers**	**Summer 2 Habitats**
Logging on, shutting down, using a mouse, saving and retrieving files **Software: MS Word** **Outcome: Type name and save and retrieve file** Skills covered: Multimedia texts and images (IT) *add text, text boxes and images, manipulating the features* *load, save, retrieve and print work;* Technology in our lives (DL) *recognise ways that technology is used in the home and community, e.g. taking photos, blogs, shopping;* **E-safety** Skills covered: Online safety (DL) *identify what things count as personal information;* *identify what is appropriate and inappropriate behaviour on the internet, considering people's feelings* *agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;* *seek help from an adult when they see something that is unexpected or worrying;* *demonstrate how to safely open and close applications and log on and log off from websites;*	**Using a range of tools to create shapes, editing colours/shape fill** **Software: MS Paint** **Outcomes: Christmas card design/designing favourite toys** Skills covered: Multimedia texts and images (IT) *use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape;* *use applications and devices in order to create and communicate ideas, work, messages*	**Using software to record and change sounds Software: https://musiclab.chromeexperiments.com/Song-Maker** **Outcome: Space themed music composition** Skills covered: Multimedia sound and motion (IT) *use software to record sounds;* *change sounds recorded;*	**Typing sentences and inserting images** **Software: MS Powerpoint** **Outcome: Mexico facts or recipe powerpoint** Skills covered: Multimedia texts and images (IT) *add text, text boxes and images, manipulating the features;* *present short text starting to use two hands when typing (Y2)* *use applications and devices in order to create and communicate ideas, work, messages* **Using the internet to find information about Mexico** Skills covered: Technology in our lives (DL) *recognise ways that technology is used in the home and community, e.g. taking photos, blogs, shopping;* *use links to websites to find information;* *recognise age-appropriate websites;* *use safe search filters;*	**Programming and debugging using Beebots and mats** Skills covered: Coding and programming (CS) *give commands one at a time to control direction and movement, including straight, forwards, backwards, turn;* *give a set of instructions to follow and predict what will happen; (Y2)*	**Programming using scratch** **Software: Scratch** **Outcome: Explorer quiz** Skills covered: Coding and programming (CS) *control the nature of events: repeat, loops, single events and add and delete features;* *improve/change their sequence of commands by debugging (Y2)*
Teach computing: **Year 1 Computing systems and networks – Technology around us** https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-technology-around-us	**Teach computing:** **Year 1 Creating media – Digital painting** https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-painting	**Teach computing:** **Year 2 Creating media – Making music** https://teachcomputing.org/curriculum/key-stage-1/creating-media-making-music	**Teach computing:** **Year 1 Creating media – Digital writing** https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing	**Teach computing:** **Year 1 Programming A – Moving a robot** https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot	**Teach computing:** **Year 2 Programming B – An introduction to quizzes** https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes
Year 1/2 Cycle 2					
Autumn 1 Dinosaurs	**Autumn 2 Fire**	**Spring 1 Chocolate**	**Spring 2 Superheroes**	**Summer 1 Stepping back in time**	**Summer 2 Be wild**
Logging on, shutting down, using a mouse, saving and retrieving files **Software: MS Word** **Outcome: Type name and save and retrieve file** Skills covered: Multimedia texts and images (IT) *add text, text boxes and images, manipulating the features* *load, save, retrieve and print work;* Technology in our lives (DL) *recognise ways that technology is used in the home and community, e.g. taking photos, blogs, shopping;* **E-safety** Skills covered: Online safety (DL) *identify what things count as personal information;* *identify what is appropriate and inappropriate behaviour on the internet, considering people's feelings* *agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;* *seek help from an adult when they see something that is unexpected or worrying;* *demonstrate how to safely open and close applications and log on and log off from websites;*	**Using a range of tools to create shapes, editing colours/shape fill** **Software: MS Paint** **Outcome: Greta Fire of London silhouette city picture** Skills covered: Multimedia texts and images (IT) *use various tools, such as brushes, pens, eraser, stamps and shapes, and set the size, colour and shape;* *use applications and devices in order to create and communicate ideas, work, messages*	**Collecting and representing data in pictograms/bar charts on favourite chocolate bars/ information about different counties that grow cocoa etc.** **Software: Web-based software e.g.** j2e pictogram **Outcome: Pictogram** Skills covered: Data handling (IT) *Create simple graphs by putting data in to a graphing program* *Create and search a simple branching database.*	**Superhero comic- taking photos and importing images and sounds (Photostory 3)** Skills covered: Multimedia texts and images (IT) *add text, text boxes and images, manipulating the features;* *present short text starting to use two hands when typing (Y2)* *use applications and devices in order to create and communicate ideas, work, messages* Multimedia sound and motion (IT) *use software to record sounds;* *change sounds recorded;*	**Programming and debugging using Beebots and mats** Skills covered: Coding and programming (CS) *give commands one at a time to control direction and movement, including straight, forwards, backwards, turn;* *give a set of instructions to follow and predict what will happen; (Y2)*	**Programming plant growth simulation** **Software: Scratch** Skills covered: Coding and programming (CS) *control the nature of events: repeat, loops, single events and add and delete features;* *improve/change their sequence of commands by debugging (Y2)*
Year 2- Computing systems and networks – IT around us https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-it-around-us	**Year 1 Creating media – Digital painting** https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-painting	**Teach computing:** **Year 2- Data and information – Pictograms** https://teachcomputing.org/curriculum/key-stage-1/data-and-information-pictograms	**Teach Computing:** **Year 2- Creating media – Digital photography** https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-photography	**TTeach computing:** **Year 2- Programming A – Robot algorithms** https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms	**Teach computing** **Year 1 Programming B – Introduction to animation** https://teachcomputing.org/curriculum/key-stage-1/programming-b-introduction-to-animation
Year 3/4 Cycle 1					

Autumn 1 Sunny Hunny	Autumn 2 Egyptians	Spring 1 Kenya	Spring 2 Inventions	Summer 1 Stone Age to Iron Age	Summer 2 Rainforests
Logging on, saving, using mouse, saving and retrieving files, creating year group folders Skills covered: Multimedia texts and images (IT) *use appropriate keyboard commands to amend text on a device;* *save and retrieve files to and from the correct folders and evaluate work, making amendments;* **Computing systems** Skills covered: Technology in our lives (DL) *understand local and worldwide networks* **E-safety** Skills covered: All Online safety skills (see computing skills progression grid)	**Programming: To create programs by planning, modifying and testing commands to create shapes and patterns.** **Software: Beebots and Logo Outcome: Plan, modify and test commands to create shapes and patterns.** Skills covered: Skills covered: Coding and programming (CS) use logical reasoning to explain how simple algorithms work design and write a program, putting commands into a sequence to achieve a specific outcome and that control or simulate virtual events; give a set of instructions to follow and predict what will happen; keep testing a program and recognise when it needs to be debugged; use variables to create an effect, e.g. repetition, if, when, loop;	**Collecting data using data loggers and presenting information** **Software: MS Excel** **Outcome: database and graphs of data collected** Skills covered: Data handling (IT) *talk about the different ways data can be organised;* *sort and organise information to use in other ways e.g. using a simple spreadsheet* *search a ready-made database to answer questions;* *design a questionnaire and make graphs using data collected*		**Fairground rides (crumbl)** **Programming Crumble to create moving carousels** **Software/hardware: Crumble** **Outcome- programmed carousel** Skills covered: Coding and programming (CS) *use logical reasoning to explain how simple algorithms work* *design and write a program, putting commands into a sequence to achieve a specific outcome and that control or simulate virtual events;* *give a set of instructions to follow and predict what will happen;* *keep testing a program and recognise when it needs to be debugged;* *use variables to create an effect, e.g. repetition, if, when, loop;*	**Branching databases- Creating branching databases for animals** **Software: Web-based software e.g.** https://www.j2e.com/jit5#branch **Outcome: branching database** Data handling (IT) *talk about the different ways data can be organised;* *create and search a detailed branching database*
Teach computing: **Year 3- Computing systems and networks – Connecting computers** https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers	**Teach computing:** **Year 4- Programming A – Repetition in shapes** https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes	**Teach computing:** **Year 4- Data and information – Data logging** https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging	**Teach computing: N/A**	**Teach computing:** **Year 3- Data and information – Branching databases** https://teachcomputing.org/curriculum/key-stage-2/data-and-information-branching-databases	**N/A**

Year 3/4 Cycle 2

Autumn 1 Romans	Autumn 2 Rivers and Mountains	Spring 1 Anglo Saxons and Vikings	Spring 2 Anglo Saxons and Vikings	Summer 1 Magic	Summer 2 USA Far and Away
Logging on, saving, using mouse, saving and retrieving files, creating year group folders Skills covered: Multimedia texts and images (IT) *use appropriate keyboard commands to amend text on a device;* *save and retrieve files to and from the correct folders and evaluate work, making amendments;* **The Internet/ online safety** Skills covered: Technology in our lives (DL) *explain ways to communicate with others online;* *describe the world wide web as the part of the internet that contains websites;* *understand local and worldwide networks* *understand how results are selected and ranked by search engines and use search tools to find and use a range of multimedia including websites and content;* *use strategies to improve results when searching online;* *type and url to find a website and add websites to a favourites list;* *question the validity of information on the internet* All Online safety skills (see computing skills progression grid)	Year 4 – Photo editing Learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have and evaluate the effectiveness of their choices. Software and Hardware requirements The suggested software for this unit is Paint.net: https://www.getpaint.net/download.html which requires a download and is compatible with Windows devices. Other image editing software is available such as Pixlr or PhotoPea.	**Adventure story of Beowulf – Stop frame animation** **Software: ipad app e.g.iMotion** **Outcome: Animation of scene from Beowulf** Skills covered: Multimedia sound and motion (IT) *use software to record, create and edit sounds and capture still images;* *change recorded sounds, volume, duration and pauses;* *use software to capture video for a purpose;* *crop and arrange clips to create a short film;* *plan an animation and move items within each animation for playback;*		**Make it/code it: Magic 8 ball** **Software/hardware: Micro:bit** **Outcome: Magic 8 ball program using micro:bit** Skills covered: Coding and programming (CS) *use logical reasoning to explain how simple algorithms work* *design and write a program, putting commands into a sequence to achieve a specific outcome and that control or simulate virtual events;* *give a set of instructions to follow and predict what will happen;* *keep testing a program and recognise when it needs to be debugged;* *use variables to create an effect, e.g. repetition, if, when, loop;*	**Publishing** **Software/hardware: Microsoft publisher** **Outcome:?** Skills covered: Multimedia texts and images (IT) *Type more quickly with both hands, altering the font, orientation and size of text.* *use appropriate keyboard commands to amend text on a device;* *use tools such as cut and paste, split screen, print screen etc* *use applications and devices in order to communicate ideas, work, and messages incorporating multimedia content* *save and retrieve files to and from the correct folders and evaluate work, making amendments;* *upload and use images from a camera* *edit, resize, rotate and invert images*
Teach computing: **Computing systems and networks – The Internet** **Year 4-** https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet	**Teach computing:** **Photo editing:** **Year 4- Creating media – Photo editing** https://teachcomputing.org/curriculum/key-stage-2/creating-media-photo-editing	**Teach computing:** **N/A Programming**	**Teach computing:** **Year 3- Creating media – Desktop publishing** https://teachcomputing.org/curriculum/key-stage-2/creating-media-desktop-publishing	**Teach computing:** **Year 3- Creating media – Animation** https://teachcomputing.org/curriculum/key-stage-2/creating-media-animation	**Teach computing:** **N/A**

Year 5/6 Cycle 1

Autumn Term A Passage to India		Spring Term Ancient Greece		Summer Term Europe (+Y5 mini topic and production)	
Computer systems and networks- sharing information and search engines Skills covered: Technology in our lives (DL) *understand what servers are and how they provide servers to networks.* *understand how computer networks enable computers to communicate and collaborate.* *search for information using appropriate websites and advanced search functions within Google e.g. “”* *use strategies to check the reliability of information (cross-check with another source such as books);* *talk about the way search results are selected and ranked;* *check the reliability of a website, understanding that website such as Wikipedia are made by users and using knowledge of domain names to aid judgement* *tell you about copyright and acknowledge the sources of information;* **E-safety** All online safety skills (see computing skills progression grid)	**Crumble programming- Tuk tuks (linked with DT)** **Software/hardware: Crumble** **Outcome: Make a programmed Tuktuk with sensor** Skills covered: Coding and programming (CS) *create programs incorporating variables and subroutines to achieve specific goals.* *use sensors and infinite loops to control programs/hardware* *use conditional statements and edit variables;* *decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program;* *keep testing a program and recognise when it needs to be debugged;*	**Databases and spreadsheets to collect, organise, sort and filter data** **Software:** https://www.j2e.com/database/ **and MS Excel** **Outcome: Spreadsheet** Skills covered: Data Handling (IT) *construct data on the most appropriate application;* *know how to interpret data, including spotting inaccurate data and comparing data;* *use keyboard shortcuts and functions to input data on spreadsheets* *use spreadsheets which involve sum formulas to create averages and totals.* *Filter and search databases/spreadsheets* *Make graphs from calculations on a spreadsheet*	**Designing and programming an Ancient Greece quiz using Scratch** **Software: Scratch** **Outcome: Quiz** Skills covered: Coding and programming (CS) *create programs incorporating variables and subroutines to achieve specific goals.* *use sensors and infinite loops to control programs/hardware* *use conditional statements and edit variables;* *decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program;* *keep testing a program and recognise when it needs to be debugged;*	**Creating and editing videos** **Software: Microsoft video editor** **Outcome: Short film** Skills covered: Multimedia sound and motion *collect audio from a variety of resources including own recordings and internet clips;* *use a digital device to record sounds and present audio;* *trim, arrange and edit audio levels to improve quality;* *plan and create multi-scene animations* *publish their animation and use a movie editing package to edit/refine and add titles;*	**Y6- Producing a year book page using desktop publishing (skills covered-multimedia text and images)** **Y5- Producing a webpage** **Software:** **Outcome: Webpage** Skills covered: Multimedia text and images *use the skills already developed to create multimedia content for a given audience* *select, use and combine the appropriate technology tools to create effect;* *review and improve their own work and support others to improve their work;* *save, retrieve and evaluate their work, making amendments* *insert a picture/text/graph/hyperlink from the internet or personal file*
Teach computing: **Year 5- Computer systems and networks- sharing information** https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-sharing-information	**Microbit litter pickers** **Software/hardware: Micro:bit** **Outcome:Litter counting program** https://www.barefootcomputing.org/new_resources Skills covered: Coding and programming (CS) *create programs incorporating variables and subroutines to achieve specific goals.* *use sensors and infinite loops to control programs/hardware* *use conditional statements and edit variables;* *decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program;* *keep testing a program and recognise when it needs to be debugged;*	**Teach computing:** **Year 5- Data and information – Flat-file databases** https://teachcomputing.org/curriculum/key-stage-2/data-and-information-flat-file-databases **Year 6- Data and information – Spreadsheets** https://teachcomputing.org/curriculum/key-stage-2/data-and-information-spreadsheets	**Teach computing:** **Year 5- Programming B – Selection in quizzes** https://teachcomputing.org/curriculum/key-stage-2/programming-b-selection-in-quizzes	**Teach computing:** **Year 5- Creating media- Video editing** https://teachcomputing.org/curriculum/key-stage-2/creating-media-video-editing	**Teach computing:** **Year 6- Creating Media- Web page creation** https://teachcomputing.org/curriculum/key-stage-2/creating-media-web-page-creation

Year 5/6 Cycle 2

Autumn Term Fighting for Freedom		Spring Term Tomorrow’s World		Summer Term Golden Age of Islam (+Y5 mini topic and production)	
Computing systems and networks- communication Skills covered: Technology in our lives (DL) *understand what servers are and how they provide servers to networks.* *understand how computer networks enable computers to communicate and collaborate.* *search for information using appropriate websites and advanced search functions within Google e.g. “”* *use strategies to check the reliability of information (cross-check with another source such as books);* *talk about the way search results are selected and ranked;* *check the reliability of a website, understanding that website such as Wikipedia are made by users and using knowledge of domain names to aid judgement* *tell you about copyright and acknowledge the sources of information;* **E-safety** All online safety skills (see computing skills progression grid)	**Vector drawing to create an image related to topic** **Software: vector drawing program, such as** Vectr **Outcome: Vector drawing** Skills covered: Multimedia text and images (IT) *create and edit images using a variety of software packages*	**Crumble programmed bridges** **Software/hardware: Crumble** **Outcome:Lifting bridge with sensor** https://www.barefootcomputing.org/new_resources **Skills covered:** Coding and programming (CS) *create programs incorporating variables and subroutines to achieve specific goals.* *use sensors and infinite loops to control programs/hardware* *use conditional statements and edit variables;* *decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program;* *keep testing a program and recognise when it needs to be debugged;*	3D Modelling Software: https://www.tinkercad.com Outcome: 3D model of building Skills covered: Multimedia text and images *use the skills already developed to create multimedia content for a given audience* *select, use and combine the appropriate technology tools to create effect;* *review and improve their own work and support others to improve their work;* *save, retrieve and evaluate their work, making amendments* *create and edit images using a variety of software packages*	**Producing a webpage** **Software:** **Outcome: Webpage** Skills covered: Multimedia text and images *use the skills already developed to create multimedia content for a given audience* *select, use and combine the appropriate technology tools to create effect;* *review and improve their own work and support others to improve their work;* *save, retrieve and evaluate their work, making amendments* *insert a picture/text/ paragraph/hyperlink from the internet or personal file*	**Y6- Producing a year book page using desktop publishing (skills covered-multimedia text and images)** **Y5- Creating and programming a game** **Software: Scratch** **Outcome: Computer game** Skills covered: Coding and programming (CS) *create programs incorporating variables and subroutines to achieve specific goals.* *use sensors and infinite loops to control programs/hardware* *use conditional statements and edit variables;* *decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program;* *keep testing a program and recognise when it needs to be debugged;*
Teach computing: **Year 6- Computing systems and networks- communication** https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication	**Teach computing:** **Year 5 – Creating media- Vector drawing** https://teachcomputing.org/curriculum/key-stage-2/creating-media-vector-drawing	**Teach computing:** **Year 6 – Programming B – Sensing** https://teachcomputing.org/curriculum/key-stage-2/programming-b-sensing	**Teach computing:** **Year 6 - - Creating media – 3D modelling** https://teachcomputing.org/curriculum/key-stage-2/creating-media-3d-modelling	**Teach computing:** **Year 6- Creating Media- Web page creation** https://teachcomputing.org/curriculum/key-stage-2/creating-media-web-page-creation	**Teach computing:** **Y ear 6 – Programming A – Variables in games** https://teachcomputing.org/curriculum/key-stage-2/programming-a-variables-in-games