Buttsbury Junior School Computing Progression

Year 3	Common uses of information technology inside and beyond school.	Data handling Collecting, analysing, evaluating real world data/problem solving	Programming Controlling and programming using hardware and software.	Digital media- Creating, organising, store, manipulate and retrieve digital content.	Modelling and simulation software-	Online Safety
	Use different font sizes, colours and effects to communicate meaning. Insert and edit simple tables. Use appropriate editing tools to ensure their work is clear and error free (using tools such as spell checker, thesaurus). Use cut, copy and paste to refine and reorder content. Select suitable text and images from electronic resources and use it appropriately in their own work.	Use search technologies effectively, appreciate how results are selected and ranked Understand the dynamics of search engines and know that there are different search engines - some within sites and some for the whole of the Internet (e.g. Google). Use them appropriately. Develop key questions and key words to search for specific information to answer a problem. Use researched information purposefully to complete specific tasks e.g. copy, paste and edit information to present work Develop skills to know which data needs to be collected and design a	Design, write and debug programs that accomplish specific goals, controlling physical systems Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs Solve open ended problems with a floor robot, or other programmable devices. Solve problems by decomposing them into smaller parts.	Storyboard an animation prior to creating it Create a short-animated sequence from captured images in simple storyboarding software Use an onion layer to create smooth transitions Import a background into an animation	Create simple flow diagrams to show a series of events and decisions (offline). Create simple flow diagrams to control physical devices (real or screen simulations) using outputs only.	**Online Relationships** Explain some risks of communicating online with others I don't know well. **Privacy and Security** Give reasons why I should only share information with people I choose to and can trust. **Health, Wellbeing and Lifestyle** Explain why spending too much time using technology can sometimes have a negative impact on me. Give some examples of activities where it is easy to spend a lot of time engaged (e.g. games, films, videos).

		questionnaire to aid its collection. Collect appropriate information, enter it into a database and use the database to answer simple questions. Determine the data needed to solve a specific problem; organise, present, analyse and interpret the data in tables and charts Understand what a database is by creating a physical one Consider how much easier it is using ICT for data handling				

Buttsbury Junior School Computing Progression

Year 3 Brain Busters	Computing Skills and Word	Search Engines	Probots	Flowol	Pivot Animator	Excel
	BB1: You can create word documents on Microsoft Word	BB1: The more specific your search is, the better results you will get.	BB1: An algorithm is a set of instructions.	BB1: A flowchart uses pictures to represent steps in a process.	BB1: An animation is a combination of different scenes to create motion.	BB1: A database holds information.
	BB2: The 'A' icon when clicked will alter the colour of the text.	BB2: Search results are ranked in order of usefulness and relevance.	BB2: Debug means to correct errors.	BB2: An oval represents the start or end point of a flow diagram.	BB2: Pivot animator is a program used to create an animation.	BB2: Top trumps are an example of a database.
	BB3: You have to use the insert button to create a table.	BB3: Google is the most popular search engine.	BB3: Decompose means to break down into smaller parts.	BB3: A parallelogram is used to represent inputs or outputs.	BB3: Animations can be used to tell stories.	BB3: Excel is a commonly used program for databases.
	BB4: You can copy and paste from the internet into a Word Document.	BB4: Use the right button on your mouse to copy and paste.	BB4: After debugging an algorithm we test it.	BB4: A simulation is used to test instructions in a Flowchart.	BB4: You need to add a frame each time you want to save a movement.	BB4: A spreadsheet holds lots of different types of data.
	BB5: Spell check is used to correct spelling errors	BB5: Copyright means someone has ownership over a product.	BB5: A procedure is a process within an algorithm.	BB5: A flow diagram can be used to control multiple inputs and outputs.	BB5: Animations work best through short, concise movements.	BB5: Data from spreadsheets can be presented in charts and graphs.

Year 3 Vocabulary	Computing Skills and Word	Search Engines	Probots	Flowol	Pivot Animator	Excel
	Computer Microsoft Font Screen Windows Table Mouse Edit Copy Keyboard	Search Engine Rank Kiddle Copyright Browser Order Copy Paste	Decompose Navigate Algorithm Debug Test Procedure Program	Output Control Input Simulation Flow diagram	Animation Frame Storyboard Onion skin Import Media	Spreadsheet Column Row Cell Database Chart

Buttsbury Junior School Computing Progression

Year 4	Common uses of information technology inside and beyond school.	Data handling Collecting, analysing, evaluating real world data/problem solving	Programming Controlling and programming using hardware and software.	Digital media- Creating, organising, store, manipulate and retrieve digital content.	Modelling and simulation software-	Online Safety
	Use layout, format, graphics and illustrations for different purposes or audiences. Recognise key features of layout and use design features such as text boxes, columns and borders. Use page setup to select different page sizes and orientations. Select and import images and prepare for use (cropping, resizing, editing). Start to independently select ways to communicate their own ideas. Contribute to discussion forums, blogs and surveys on a Learning Platform and create their own.	NA	Design, write and debug programs that accomplish specific goals Use Logo programming algorithms (pen-up/pen-down, repeat commands etc.) to create shapes/patterns. Test to detect errors and modify procedures or sequences where necessary. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Create a procedures (e.g. a square in Logo) Create sequences (e.g. a logo procedure that rotates x degrees and	Use ICT to select and record voice and sounds and use recorded sound files in other applications. Start to evaluate media used in the world around us What is the message of the clip/image/sound? Does it work? Why? Acquire, store and retrieve images from cameras, scanners or the internet and begin to use paint packages or photo-manipulation software to change an image Select specific areas of a painting, copy and paste to make repeating patterns. Resize elements.	Discuss ways simulations are used to help us (e.g. flight simulations to teach pilots, driving simulators, weather pattern simulations etc.). Discuss their use of simulations and compare with reality. Be able to explore the effect of changing variables. Work with variables and various forms of input and output Use variables to make and test predictions to support learning in other subject areas.	**Online Bullying** Explain why I need to think carefully about how content I post might affect others, their feelings and how it may affect how others feel about them (their reputation). **Self-image and identity** Explain how my online identity can be different to the identity I present in 'real life'. **Online Reputation** Describe how others can find out information about me by looking online.

Buttsbury Junior School Computing Progression

	Skills need to be applied in different applications and contexts with pupils starting to make choices. Begin to understand about online identities and differences between private or public presence Discuss and evaluate blogs/wikis/websites		draws another square and so on.)	Develop greater control over the digital stills use the enhanced tools (Landscape, Zoom). Discuss and evaluate the quality of their own and others' captured images.		

Year 4 Brain Busters	**Duck Builder**	**MSW Logo**	**Audacity**	**Publisher**	**Paint.net**	**Gsuite**
	BB1: A simulation is a safe way of testing things.	BB1: Algorithms are instructions for computers to follow	BB1: A jingle is a short song or tune.	BB1: Publisher allows you to format and position documents easily.	BB1: A logo is a symbol made up of images and texts.	BB1: GSuite is a group of tools that helps to provide collaboration and communication.
	BB2: Duck Builder is an example of a simulation.	BB2: Computers will follow algorithms exactly the way they are written	BB2: A programme used to do specific tasks is called software e.g. Audacity.	BB2: Guides are used to help with your design.	BB2: Paint.net is software used to create images.	BB2: We must use chats sensibly as everything we type and send is stored.
	BB3: Simulations are used to train astronauts.	BB3: 'Bugs' in algorithms are present because of human error	BB3: We can control features such as record and edit using software.	BB3: Royalty free images are non-transferrable	BB3: Paintbrushes can be used to change size, fill and colour.	BB3: You can share a file when 'chatting online' by clicking the + symbol.
	BB4: A parameter is a limit.	BB4: When writing algorithms, we need to link our maths skills	BB4: To import a file means to bring it from one format to another.	BB4: Copyright is the right a creator has over their work/design.	BB4: Layers are a way to edit parts of an image.	BB4: A forum is an online discussion board.

Buttsbury Junior School Computing Progression

	BB5: Changing parameters in a simulation affects the outcome.	BB5: MSWlogo uses algorithms to draw shapes	BB5: Voice overs are words spoken by a person who is not seen.	BB5: Target audience are the group of people who the product/ service is aimed at.	BB5: Selection tools can create shapes.	BB5: A contacts list is a collection of screen names.

Year 4 Vocabulary	**Duck Builder**	**MSW Logo**	**Audacity**	**Publisher**	**Paint.net**	**Gsuite**
	Parameter Simulation Specified Variable Audience Purpose	Algorithm Program Procedures Patterns Fd=Forward Bk=Backward Rt=Right turn Lt=Left turn Computational thinking	sound record import internet jingle pitch volume microphone sound wave	leaflet design Publisher guide format re-size royalty free copyright Word Art	Paint.net logos symbols brushes image watermark layers tools letterforms	message communication digital email blog GSuite Share Personal forum

Buttsbury Junior School Computing Progression

Year 5	Common uses of information technology inside and beyond school.	Data handling Collecting, analysing, evaluating real world data/problem solving	Programming Controlling and programming using hardware and software.	Digital media- Creating, organising, store, manipulate and retrieve digital content.	Modelling and simulation software-	Online Safety
	NA	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 an appropriate search engine to find information related to their topic. Develop strategies for finding information checking for bias and different viewpoints (using different keywords, cross checking with other sources etc.). Discuss how internet search engines find, store and rank data. Develop skills to question where web	Evaluate ready-made games and simulations before designing own to know what makes a good game. Design own game or simulation and use a programming tool to create it for use by others. Explain the algorithms to show an understanding of the logical steps and debug where necessary. Work with variables and various forms of input and output. In Scratch, develop more complex flow diagrams/sequences for a specific purpose Use selection, repetition and variables in algorithms (more	Independently select, edit and combine sound files. Manipulate the sounds (such as reversing sounds, adding echo, altering speed etc) and using them appropriately considering audience and purpose. Use ICT to produce music for a specific purpose, considering the impact on the audience (e.g. length, style, genre etc.). Evaluate media used in the world around us (video clips, images, sounds etc.). What is the message? Does it work? Why? Plan and create a short-animated sequence to communicate an idea,	NA	**Online Relationships** Describe some of the communities in which I am involved and describe how I collaborate with others positively. **Privacy and Security** Explain how many free apps or services may read and share my private information with others. **Health, Wellbeing and Lifestyle** Describe ways technology can affect healthy sleep and can describe some of the issues.

		content might originate and understand that this gives clues to its authenticity/reliability (by looking at web address, author, linked pages etc.). Discuss issues of copyright and downloading material (e.g. mp3s, images, videos etc.). Reference sources used in their work. Use the pre-programming features of data logging software and devices to set up a specific data capture, perhaps overnight. Use graphical information to answer questions and solve simple problems. Use a range of sensors (temperature, light, sound, etc.) in a variety of situations in the course of scientific investigations.	complex loops, repeats or timed events). Work with variables and various forms of input and output. Detect and correct errors (debug) to improve desired outcomes. Solve problems by decomposing them into smaller parts.	using a storyboard and timeline adding own narration or music. Combine stills, video and sound using a video editing package. Make use of transitions and special effects in video editing software and understand the effect they have on the audience.		

		Discuss jobs where data loggers are used in the world (e.g. meteorologists, volcanologists, seismologists). Research to find out how they log data.				

Year 5 Brain Busters	Networks and Search Engines	Kodu	Data Logging	Scratch – Broadcasting	Audacity	Stop Animation
	BB1: A computer network is a group of computers that are connected.	BB1: A sub-routine is an action that is a result of a changing routine.	BB1: Data logging is a way of measuring and recording information.	BB1: A sprite is a programable character.	BB1: Audacity is a music editing software.	BB1: A stop animation involves lots of frames being created and put together.
	BB2: Information and data can be shared across a network.	BB2: A digital environment is the physical setting of a game.	BB2: Data loggers can measure sound, light and temperature.	BB2: A script is a set of instructions which tell the sprite what to do.	BB2: The sound file (music) is called a 'track'.	BB2: A frame is a snapshot.
	BB3: The internet is a global network.	BB3: A routine is a repetitive task.	BB3: The metric measure of temperature is Celsius (°C)	BB3: Input is information entered into the computer.	BB3: Importing music means to transfer sound files into a program.	BB3: 'Shorts' is a name for short films.
	BB4: Copyright means giving credit to content creators.	BB4: You can programme using the instructions 'when' and 'do'. E.g. When this happens, do this.	BB4: Sound is measured in decibels (dBA)	BB4: A variable is something that can be changed in a computer game.	BB4: A fade-in is when the volume of a track slowly increases.	BB4: A storyboard is used to plan a stop animation.
	BB5: Search engines search hundreds of billions of pages on the world wide web.	BB5: An NPC is a non-player character that is pre-programmed.	BB5: Light intensity is measured in Lux (lx)	BB5: Conditions are created by the programmer to influence	BB5: An effect can be added to a track to manipulate the sound of the track. E.g. distortion.	BB5: 'The Nightmare Before Christmas' is a famous stop animation film.

				actions in a game.		

Year 5 Vocabulary	Networks and Search Engines	Kodu	Data Logging	Scratch – Broadcasting	Audacity	Stop Animation
	network server router IP address wireless internet	Variable Routine sub-routine	Data Analyse Record Intervals Probe Measure Automated intensity	Sprite Script Condition Rule Object if/then decomposition	Interface fade-in/out track looping effect	Transitions Frames Onion layer

Buttsbury Junior School Computing Progression

Year 6	Common uses of information technology inside and beyond school.	Data handling Collecting, analysing, evaluating real world data/problem solving	Programming Controlling and programming using hardware and software.	Digital media- Creating, organising, store, manipulate and retrieve digital content.	Modelling and simulation software-	Online Safety
	Use and refine their skills while independently creating, sending and responding to emails, blogs and forums. Produce formal or informal messages appropriate to the task or to solve problems (requesting information, sharing data etc.). Understand about online identities and differences between private (Learning Platform) or public presence (social networks). Know what acceptable online behaviour is. Critically evaluate blogs/wikis/websites). What makes a good site? Explore safe social network sites.	Design questions using key words, to search a large pre-prepared database. Use complex searches (and/or, is greater/less than) to search data when looking for relationships and patterns in data. Construct, refine and interpret frequency tables, bar charts with grouped discrete data and line graphs; interpret pie charts. Identify and enter the correct formulae into cells, modify the data, make predictions of changes and test them. Use more advanced formulae (Sum, average, mode etc.).	Evaluate ready-made games, apps and simulations before designing own to know what makes a good game. What will their own game look like? Design own game, simulation or app and use a programming tool to create it for use by others. Explain the algorithms to show an understanding of the logical steps and debug where necessary. Work with variables and various forms of input and output. Write sequences which use outputs and inputs (using selection 'if… then…' type commands) to control events in response to conditions.	Combine stills, video and sound using a video editing package. Make use of transitions and special effects in video editing software and understand the effect they have on the audience. Enhance a presentation by acquiring, storing, and combining images from different sources. Plan and create a short movie to communicate an idea, using a storyboard and timeline adding own narration or music. Evaluate media used in the world around us and what messages varying camera angles portray.	Use an object-based graphics package to design(model). Create images using a range of techniques. Use measurement tools to create scale Use guidelines	**Online Bullying** Describe how to capture bullying content as evidence to share with others who can help me. **Self-image and identity** Explain how identity online can be copied, modified or altered. **Online Reputation** Describe some simple ways that help build a positive online reputation.

	Develop the use of hyperlinks to produce interactive presentations or websites. Understand how pages link together and recognise the need for clarity. Produce a diagram to show the links between pages.	Enter labels and numbers into a spreadsheet. Enter formulae into a spreadsheet and modify the data, (simple calculations + - × ÷). Use a spreadsheet to draw a graph to help answer specific questions.	Use sub routines to decompose the problem into smaller parts Explain the logical steps of the flow diagram in the design process. View code in their own games to start to understand how commercial games are created (e.g. Scratch).			

Year 6 Brain Busters	**Blogs, Websites and email**	**Excel**	**Film Trailers**	**Scratch Games**	**Powerpoint**	**Sketch Up**
	BB1: Online identity is how you are perceived online.	BB1: Spreadsheets can be used to store, filter and search for data.	BB1: Trailers show key parts of a film.	BB1: Scratch is used to code games.	BB1: Hyperlinks create a link to websites and PowerPoint pages.	BB1: Sketch Up is a 3D modelling program.
	BB2: Communicating and posting online creates your online identity.	BB2: SUM = calculating data in cells	BB2: The trailer is used to promote the film.	BB2: Algorithms = set of instructions.	BB2: A 'Home Button' is a hyperlink to the starting page	BB2: The shape tool creates the outline of a 2D shape.
	BB3: Trolls are people who negatively comment repeatedly.	BB3: Data is inputted into cells.	BB3: A storyboard is used to plan a trailer.	BB3: Debug = correct a mistake in algorithms.	BB3: Flow charts can be used to plan hyperlinks	BB3: The push pull tool is used to create a 3D model.
	BB4: Fake news is misleading information.	BB4: Data can be presented as bar charts or pie charts.	BB4: Filmmakers use transitions between shots.	BB4: Variables = information that can change e.g. score.	BB4: Multiple choice games use hyperlinks.	BB4: The orbit, pan and zoom tools allow you to view your shape from all angles.

Buttsbury Junior School Computing Progression

	BB5: E-mails are formal	BB5: AVERAGE = SUM divided by amount of data	BB5: Editing is a key part of the film making process.	BB5: Tests must be carried out to check for bugs before games go live.	BB5: A hyperlink can be a button, a web address or a picture	BB5: The offset tool can be used to create detail.

Year 6 Vocabulary	Blogs, Websites and email	Excel	Film Trailers	Scratch Games	Powerpoint	Sketch Up
	Fake news communication social media cyberbullying online identity e-mail misinformation trolling blog	Spreadsheet Filter Formula(e): SUM AVERAGE Cell Data mean	Storyboard Stills Transitions Special Effects Soundtrack Edit	Algorithms test code Debug evaluate variables	Hyperlink linear non-linear Diagram link	Perspective Axis Scale Model 2D and 3D Orbit