Information Technology

Year Group	Information Technology Skills	Data Handling	Data Logging	Electronic Communication	Modelling and Simulations	Research	Sound and Music	Text Processing and Multimedia
R	• Use technology purposefully to create digital content	Look at early learning goals skills.						
1	• Use technology purposefully to create digital content • Use technology purposefully to store digital content • Use technology purposefully to retrieve digital content	- Develop simple classification skills by carrying out simple sorting activities (probably away from the computer) - Use simple graphing programs to produce pictograms and other simple graphs - Use graphing software to change the graph type (eg pictogram to bar chart) - Interpret graphs, discuss information contained and answer simple questions - Begin to use simple search tools in a prepared database to answer simple questions (eg how many children have brown hair)	- Children are not expected to develop their own skills in using data logging equipment in KS1. - Whole class demonstrations by the teacher on an interactive whiteboard of a data logger monitoring live data (eg changing sound levels over time) can be used very effectively.	- Contribute ideas to a class email. - Use simple authoring tools to contribute to a blog or a forum on the VLE. - Insert an image into the blog/ forum.	- Use a mouse to move and place items accurately on a screen. - Explore a simulation in other curriculum areas and talk about what happens. - Make choices in an adventure game or simulation.	- Begin to understand that computers use menus, icons and hyperlinks to provide information and instructions and begin to use these to navigate web sites / CD ROMs or stored information. - Access different information using a range of equipment (tape recorders, website, TV, DVD etc). - Use a mouse to select buttons on websites to find information. - Log on to the VLE independently and use this to access different websites.	Sound Recorders - Use sound recorders / players to listen to pre recorded sound. - Begin to use sound recorders (at and away from the computer) to record and playback sounds (eg voices, instruments, sounds around them …) Music - Explore electronic music and sound devices. - Use software to explore sound and musical phrases. - Begin to compose music using icons to represent musical phrases (Compose World, 2Simple Music Toolkit)	- Develop familiarity and correct use of the keyboard, backspace, shift (for capital letters – not caps lock), return, space bar etc. - Select appropriate images - Begin to select a sound to add to work - Add text to photographs, graphics and sound e.g. captions, labelling and simple sentences. - Use word lists to select text (if necessary) - Use templates and other appropriate support to create simple presentations for different purposes - Use the return key to create line breaks - Begin to edit their work in the light of their own discussions and observations - With support, save their own work.
2	• Use technology purposefully to organise digital content • Use technology purposefully to manipulate digital content • Use technology purposefully to create digital content • Use a variety of software to	- Further develop classification skills by carrying out sorting activities (probably away from the computer) - Use simple graphing programs to produce pictograms and other simple graphs to create and answer questions. Number and label the graphs appropriately.	- Children are not expected to develop their own skills in using data logging equipment in KS1. - Whole class demonstrations by the teacher on an interactive whiteboard of a data logger monitoring live data (eg changing	- Contribute ideas to a class email and identify the email address. - Use simple authoring tools to create their own message on the VLE. - With support, write and send a short email from a class account (eg a letter to Santa).	- Enter information into a computer simulation - Explore the effects of changing the variables in simulations and use them to make and test predictions e.g. BBC science clips or using an art package - Respond to feedback and test new changes	- Use appropriate icons, menus and hyperlinks to navigate web sites / CD ROMs or stored information. - Access different information using a range of equipment (cd players, website, TV, DVD etc) and discuss the advantages and disadvantages of each.	Sound Recorders - Use sound recorders (at and away from the computer) to record and playback sounds (eg voices, instruments, sounds around them …) - Experiment with a range of devices which create and record sound Music - Explore a range of electronic music and	- Use the keyboard with increasing familiarity including the use of shift for capital letters. - Know how to add different punctuation including full stops, commas and the use of the shift key for ! and ? - Word process short texts. - Navigate around text in a variety of ways (mouse, arrow keys, highlighting

	accomplish given goals	- Use graphing software to change the way a graph type (eg pictogram to bar chart). Explain how each differ. - Interpret graphs, discuss information contained, answer questions and draw conclusions from the data collected. - Use simple search tools in a prepared database to answer simple questions (eg how many children have brown hair). - Sort and classify a group of items by asking simple yes / no questions - Use a branching database program to sort and identify items	sound levels over time) can be used very effectively.	- Author their own pages on the VLE (e.g. Wiki). - Use editing and formatting techniques.		- Enter text into a search engine to find specific given web sites. - Locate specific sites by typing a website address (URL) into the address bar in a web browser.	sound devices including keyboards, software and different peripherals - Use software to explore sound and musical phrases for a purpose - Compose music using icons to represent musical phrases (Compose World, 2Simple Music Toolkit)	text) as they edit their work - Make use of images, video and sound to enhance text in multimedia work - Record a sound to add to work - Use templates and other appropriate support to create simple presentations for different purposes - Begin to develop basic editing skills including different presentational styles (e.g. font, colour, size, style) - Edit their work in the light of their own discussions and observations - Save work and retrieve information
3	• Use search technologies effectively • Use a variety of software to accomplish given goals • Collect information • Design and create content • Present information	- Answer questions by organising, representing and interpreting data. - Begin to develop skills to identify clearly what data needs to be collected and design a questionnaire to aid its collection. - Add new records to a file and place in formation in the correct field using the correct conventions. - Use key words to search a database to answer questions. - Use the search tool to find answers to simple questions. - Consider plausible answers. - Create frequency tables, tally charts, pictograms and simple bar charts to show	- Begin to investigate changes in the environment using a data-logging device. - With support, use data loggers to capture measurements (sound, temperature, light) continuously over time. - With support, use a data logger to "snap shot" a series of related but separate readings in the course of an appropriate investigation.	- With support, log on to an email account, open emails, create and send appropriate replies. - Create and send an email to a prearranged partner. - Open an attached file sent with an email. - Contribute to discussion forums, blogs and surveys, perhaps on the VLE. - Create their own blog. - Create their own pages on the VLE (e.g. in a Wiki), adding text and images (link to multimedia).	- Enter data into a computer simulation and talk about the rules found - Be able to explore the effect of changing variables. Use them to make and test predictions to support learning in other subject areas. - Discuss their use of simulations and compare with reality - Use a simple pre-prepared spreadsheet to record data and produce graphs (link to Finding things out theme) - Change the contents of cells in a simple pre-prepared spreadsheet (link to Finding things out theme)	- Follow a simple search to find specific information from a web site or CD ROM. - As a class, develop key questions and key words to search for specific information to answer a problem (eg a question such as where could we go on holiday? would become holiday destinations) - Retrieve accessed information through the use of Favourites. - Begin to use found information purposefully to complete specific tasks e.g. copy, paste and edit relevant information (links to Exchanging and sharing information) - Understand the dynamics of search	Sound - Use ICT to select and record voice and sounds – (e.g. Dictaphone, digital voice recorder, Sound recorder in Activprimary). - Begin to use recorded sound files in other applications. - Locate sound files from different sources including the Internet, CD ROM, learning platform and Multimedia software (eg Activprimary) - Select and import existing sound files in sound editing software (eg Audacity). Music - Use music software to experiment with capturing, repeating and reordering sound patterns.	- Edit font sizes, colour and effects and explain the effect the changes have. - Begin to use layout, format, graphics and illustrations for different purposes or audiences - Insert simple tables - Use page setup to select different page sizes and orientations - Use Cut, copy and paste to refine and reorder content. - Use spell checker tools to ensure their work is clear and error free. - Select suitable text and pictures from electronic resources (eg Espresso) and use it appropriately their own work. - Select and import sounds from their own recording. - Select and import graphics from digital

						engines and know that there are different search engines - some within sites, and some for the whole of the Internet (eg Google). - Use search engines for different media (e.g. Google Image Search, video, www.findsounds.com)	- Use music software to create a simple multipart percussion composition. - Share work on a learning platform for others to review.	cameras, graphics packages and other sources. - Begin to understand how text boxes can be used to achieve different layouts
	results and observations. - Compare different charts and graphs and understand they are used for different purposes. - With support, create and use a branching database to organise, and analyse information to answer questions.							
4	• Use search technologies effectively • Use a variety of software to accomplish given goals • Collect information • Design and create content • Present information	-Develop skills to identify clearly what data needs to be collected. - Design simple questionnaires to record numbers, text and choices - Collect appropriate information, enter it into a database and use the database to answer simple questions - Raise questions of the data and translate them into search criteria to find information (e.g. most common/ favourite etc.) - Consider plausible answers and recognise when the search must be inaccurate. - Choose, print and annotate appropriate graphs to answer simple questions e.g. bar charts, line charts and pie charts. - Create and use a branching database to organise, and analyse information to answer questions	- Use data loggers to capture measurements (sound, temperature, light) continuously over time. - Use a data logger to "snap shot" a series of related but separate readings in the course of an appropriate investigation. - Investigate changes in the environment using a data-logging device. - Use data loggers both connected to the computer (live) and remotely, capturing data to the software at a later stage.	- Log on to an email account, open emails, create and send appropriate replies. - Create and send an email to a prearranged partner, selecting the recipient from a class address book. - Create their own address book / add to an existing one. - Attach different files to emails - Contribute to discussion forums, blogs and surveys, perhaps on the VLE considering the audience and purpose of the writing. - Create their own discussions, blogs and surveys. - Create their own pages on the VLE giving consideration to the impact of the layout when presenting their work.. - Begin to use video conferencing as a class, if appropriate. (Perhaps with another class or	- Develop skills at systematically exploring the effect of changing variables. Use them to make and test predictions to support learning in other subject areas - Discuss their use of simulations and compare with reality - Use a spreadsheet to record data and produce graphs (link to Finding things out theme) - Change the contents of cells in a spreadsheet and explain how this affects the output (link to Finding things out theme) - Use a spreadsheet to explore simple patterns (eg in a number square of some kind)	- Follow a simple search to find specific information from a web site or CD ROM. - Develop key questions and key words to search for specific information to answer a problem (eg a question such as where could we go on holiday? would become holiday destinations) - Save and retrieve accessed information through the use of Favourites, History, and Save As… - Use found information purposefully to complete specific tasks e.g. copy, paste and edit relevant information (links to Exchanging and sharing information) - Develop a greater understanding of the dynamics of search engines and know that there are different search engines - some within sites, and some for the whole of the Internet (eg Google). Use them appropriately.	Sound - Develop the use of ICT to select and record voice and sounds – (e.g. Dictaphone, digital voice recorder, Sound recorder in Activprimary) - Use recorded sound files in other applications. - Locate and use sound files from Internet, CD ROM, learning platform and Multimedia software (eg Activprimary) - Select, import and edit existing sound files in sound editing software (eg Audacity). Music - Use music software to organise and reorganise musical phrases using notes on a scale. - Use ICT to create and perform sounds or music that would otherwise not be possible live – e.g. playing a multi-part piece or a very fast piece. - Share there work on the learning platform for others to play and review	- Select different font sizes, colour and effects to communicate meaning for a given audience. - Use layout, format, graphics and illustrations for different purposes or audiences - Insert and edit simple tables - Select an appropriate page sizes and orientations for their task - Use Cut, copy and paste to refine and reorder content - Use appropriate editing tools to ensure their work is clear and error free (using tools such as spell checker, thesaurus, find and replace) - Select suitable text, sounds, videos and graphics from electronic resources (eg Espresso) and use it appropriately their own work - Select and import sounds from their own recording, edit their sounds to prepare them for use. Create their own effects and music. - Select and import graphics from digital cameras, graphics packages and other sources and prepare for

				school, even abroad as part of a wider topic.) - To find and use copyright free images when publishing work on the web		- Choose the most appropriate search engines for the task, including those for different media (e.g. Google Image Search, video, www.findsounds.com) - Skim read and sift information to check its relevance and modify search strategies if necessary.	- Begin to show an awareness of copyright when selecting music and sound	use (cropping, resizing, editing) - Create a range of hyperlinks and produce a non-linear, interactive presentation - Recognise key features of layout and use design features such as text boxes, columns, borders.
5	• Select a variety of software to accomplish given goals • Select, use and combine internet services • Analyse information • Evaluate information • Collect data • Present data	- 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. - Modify a search pattern in order to find specific information. - Check for accuracy by checking data, using different views, search tools, and graphing. Identify and correct inaccuracies. - Solve complex enquiries involving selecting, processing, and presenting data; drawing conclusions from their work (eg is there a relationship between minibeast habitat and diet?) - Construct, refine and interpret frequency tables, bar charts with grouped discrete data and line graphs; interpret pie charts. - Present findings to a specified audience and display in other software.	- With support, use the pre-programming features of data logging software and devices to set up a specific data capture, perhaps overnight. - Use a range of external sensors (e.g. heart rate monitors) in a variety of situations in the course of scientific investigations. - Begin to use graphical information to answer questions and solve simple problems.	- Independently create, send and respond to emails, blogs and forums. (With appropriate supervision and due regard for e safety) - Begin to produce formal or informal messages appropriate to the task or to solve problems (requesting information, sharing data, etc.) - As a class or group make use of video conferencing technology to exchange ideas and collaborate on projects	- Enter labels and numbers into a spreadsheet ⬜ Enter formulae into a spreadsheet and modify the data, (simple calculations + - × ÷) - Make predictions and changes and check results ⬜ Use 'SUM' to calculate the total of a set of numbers in a range of cells - Change data in a spreadsheet to answer 'what if...?' questions and check predictions - Use a spreadsheet to draw graphs.	- Select an appropriate search engine to find information related to their topic. - Develop strategies for finding information (using different keywords, cross checking etc). - Continue to develop an deeper understanding of the internet and the toolbars including History, Favourites, Save as, Google chrome etc. - Consider the effectiveness of their search results and begin to refine it where necessary. - Discuss issues of copyright and downloading material e.g. mp3s, images, videos etc. - Recognise different types of webpages which can be easily created and modified by individuals and question their reliability. e.g. wikis, blogs. - Begin to reference sources used in their work	Sound - Select, edit and combine sound files from internet sources to create a podcast file. - Develop skills in manipulating sounds (such as reversing sounds, adding echo, altering speed …). - Select and use a variety of appropriate devices to record musical and non-musical sounds. Music - Create their own sounds and compositions and save them for use in projects. - Vary the speed of compositions and explain the effect it has on the music. - Use ICT to produce music for a specific purpose.	- Develop and use criteria to evaluate the suitability and ease of use, a range of web sites, pages on Learning Platforms, online resources and presentations - Begin to understand how pages are linked together and recognise the need for clarity. Contribute to a class diagram to show the links between pages - Develop their use of hyperlinks to produce more effective interactive, non linear presentations. - Use a variety of transitions and animations in presentations. Consider the effect on the audience and the appropriateness of such devices. - Independently select and import images and video from digital cameras, graphics packages and other sources and prepare it for processing using ICT - Select, import and edit sounds from their own recording, create their own effects and music and import from other sources Begin to use

						- Copy, paste, save and use pictures, text and sound.		these sounds in presentations. - Begin to format and edit work to improve clarity and mood, use a range of tools e.g. cut and paste, justify, tabs, find and replace - Develop consistency across a document, using the same styles of font, colour, size for headings, body text etc throughout a document or a set of web-pages - Select information to meet the needs of the audience - Through peer and self-evaluation children begin to evaluate their design, and make improvements
6	• Collect data • Present data • Combine a variety of software to accomplish given goals • Select, use and combine software on a range of digital devices • Analyse data Evaluate data • Design and create systems	- 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. - Modify a search pattern in order to find specific information. - Check for accuracy by checking data, using different views, search tools, and graphing. Identify and correct inaccuracies. - Solve complex enquiries involving selecting, processing, and presenting data; drawing conclusions from their work (eg is there a relationship between minibeast habitat and diet?) - Construct, refine and interpret frequency	- Use the pre-programming features of data logging software and devices to set up a specific data capture, perhaps overnight. - Confidently use a range of external sensors (heart rate monitors, alternative energy, light gates etc) in a variety of situations in the course of scientific investigations. - Use a data logger as a timing device with light gates - Use graphical information to answer questions and solve simple problems.	- Refine their skills at independently creating, sending and responding to emails, blogs and forums. (With appropriate supervision and due regard for e safety) - Understand how to zip a folder of work for data compression and send it as an attachment. - Produce formal or informal messages appropriate to the task or to solve problems (requesting information, sharing data, etc.) - As a class or group continue to make use of video conferencing technology to exchange ideas and collaborate on projects.	- Enter and edit formulae in a spreadsheet and modify the data, (simple calculations + - × ÷) - Make considered, well thought out predictions and changes and check results - Use more advanced formulae (Sum, average, mode etc) - Copy formulae to create tables of results - Use a spreadsheet to draw a graphs to help answer specific questions - Change the data and formulae in a spreadsheet to answer 'what if ...?' questions and check predictions - To consider appropriate layout and design of their information and data	- Continue to develop their knowledge of search engines appropriate for different searches and explain their choice. - Develop a bank of strategies for finding information quickly and efficiently (using different keywords, cross checking etc). - Consider the effectiveness of their search results and refine where necessary. - Discuss issues of copyright and downloading material e.g. mp3s, images, videos etc and apply this when creating presentations. - Develop skills to question where web content might originate from and understand that this gives clues to its authenticity /	Sound - Independently select, edit and combine sound files from internet sources to create a podcast file. - Develop skills in manipulating sounds (such as reversing sounds, adding echo, altering speed ...) and use them appropriately considering audience and purpose - Independently select and use a variety of appropriate devices to record musical and non-musical sounds. - Upload and download projects to the VLE / MP3 players / mobile phones / computers etc. 　　Music - Vary the tempo and track starting position on the timeline to create complex sounds and compositions to	- Develop and use criteria to evaluate the design and layout when evaluating a range of web sites, pages on Learning Platforms, online resources and presentations - Understand how pages are linked together and recognise the need for clarity. Produce a diagram to show the links between pages - Use images to link to websites to produce more effective interactive, non linear presentations. - Create action buttons to move from slide to slide in a presentation. - Make effective use of transitions and animations in presentations. Consider the effect on the audience and the appropriateness of such devices.

		tables, bar charts with grouped discrete data and line graphs; interpret pie charts. - Present findings to a specified audience and display in other software			- Format cells to fix the number of decimal places. - Set up a spreadsheet to model a mathematical investigation.	reliability (by looking at web address, author, linked pages etc.) - Skim and select information checking for bias and different viewpoints - Check plausibility of information by using a variety of sources on the same topic - Reference sources used in their work - Copy, paste, save and use pictures, text and sound and be able to import into a document for a specific audience or task (links to Exchanging and Sharing Information)	add to their presentations / films / images / photos. - Use ICT to produce music for a specific purpose, considering the impact on the audience (eg length, style, genre etc.)	- Independently select and import images and video from digital cameras, graphics packages and other sources and prepare it for processing using ICT. Begin to use these images in presentations. - Select and import sounds from their own recording, create their own effects and music and import from other sources. Use these sounds in presentations. - Develop consistency across a document, using the same styles of font, colour, size for headings, body text etc throughout a document or a set of web-pages giving careful consideration to their suitability to purpose. - Format and edit work to improve clarity and mood, use a range of tools e.g. cut and paste, justify, tabs, find and replace - Make use of reviewing tools in word processors to collaborate in evaluating each other's work. - Through peer and self evaluation children evaluate their design, and make improvements