

Computing Progression through the school

	Autumn	Spring	Summer
Year 3	Authoring	Accuracy counts	Turtles and games
Strand	Create	Digit research; Info ... info	eworlds
	To understand that ICT can be used to improve accuracy and efficiency of word-based texts.	To understand that the internet provides various ways to access information. Explore ways of finding information.	Be aware that devices are programmed using instructions to respond to events and conditions.
	To understand that ICT can support clarity and engage readers of word-based texts. Use a range of approaches to improve word-based texts.	To know that interpretation of information is central to both searching and presenting. Identify key words.	To program physical and onscreen turtles to reach various targets.
	To understand that objects need to be formatted and organised to suit a specific purpose. Use a range of tools to control, format and organise graphic objects.	To understand that internet search engines can locate large amounts of information rapidly. To know that information located may not be relevant or appropriate. Use a range of tools within a search engine to find and select information.	To know that instructions need to be correctly sequenced to achieve specific objectives. Predict the outcome of simple given programs and test their ideas using onscreen turtles.
Shading denotes esafety points	To explore the effectiveness of different multimedia in communicating a message/idea and providing options for the audience.	To be aware that digital information can be inaccurate, biased or unsafe. Check accuracy and reliability using more than one source, beginning to distinguish between fact and opinion.	To use directional and drawing commands to create different 2D shapes onscreen.
	To know that digital resources can be combined in different applications. Explore different multimedia applications and use to combine resources.	To understand that information found on the internet cannot be copied, used or manipulated without gaining permission from the owner and that sources must be acknowledged.	To know that instructions can be shortened and refined. Use the repeat function. To understand that prediction and trial and error are important.
	To know how to plan and create a multimedia text. Use their chosen application to create an example.	To understand the need to process and edit the information from searches. Select, edit and refine information for a given audience.	To understand that sets of instructions can be grouped to perform a certain task and save these instructions in a named procedure.
	To understand why and how a multimedia text can be modified for different audiences. Edit a text to provide the audience with choice.	To understand that data is held about individuals on the internet and recognise the need to keep data secure. Explore internet safety sites to develop a set of simple rules for personal online safety.	To understand that named procedures can be included within other sets of instructions, and that procedures can call other procedures.

	To review and evaluate their work, discussing the choices they have made.	To understand that spreadsheets are useful for recording data and creating graphs: enter data from investigations; produce tables and graphs of results. Analyse and draw conclusions.	To know that ICT is used to develop simulations of real and virtual environments. Compare simulations with the environments/actions being simulated.
	To save and organise their work appropriately.	To understand that spreadsheets allow numerical data to be changed quickly and easily. Enter numbers and use simple mathematical formulae to support work in calculation.	To investigate the different options presented within a simulation, making informed choices and recognising that different decisions produce different outcomes.
	To understand and apply the rules around copyright and ownership for their own and others' work.	To explore the effectiveness of ICT in generating graphs and charts for different purposes. Create graphs for different purposes. Analyse and draw conclusions.	To make and test predictions within a range of different simulations, producing a record of their work.
	To know that digital resources may not be appropriate and what to do if such resources are accessed.	To know that information exists in different formats and that the representation can affect understanding. Compare the effectiveness of presenting information in different ways	To be aware that many online simulations and games include chat facilities. Use these with care.
		To review and evaluate their work, discussing the choices they have made and checking for accuracy.	To review and evaluate their work, discussing the choices they have made and checking for accuracy.
		To save and organise their work in appropriate places.	
Year 4	Bringing images to life	Keeping informed	Developing communication and sound
Strand	Create	Info ... info	Create; Digital communication
Shading denotes safety points	To understand that digital images can be changed and edited. Explore different still digital images, reviewing how they have been manipulated.	To know that ICT can be used to collect and store information in an organised way and that this can help find answers to questions.	To review electronic communications used at home/school. Explore style, language and format considering how these meet the audience and purpose.
	To know that digital imaging software enables images to be changed, edited and enhanced. Investigate aspects.	To be aware of how ICT can be used to show changes in environmental conditions.	To use a safe online environment to communicate, using appropriate language and style. Use email and attachments for messages. Add and use contacts.

To experiment with digital images understanding that they can be altered to communicate different moods or ideas.	To understand how dataloggers can be used to capture, record and analyse environmental data. Capture and analyse data	Collaborate in safe and appropriate online environments; Respect others and use appropriate language/style.
To understand the need to seek consent before capturing and/or using the images of other people.	To understand that data from dataloggers can support investigation. Use dataloggers and analyse data to support findings.	To know how to capture/import sounds into sound editing software, including narration, sound effects and music.
To know that some digital images may not be appropriate and understand what to do if such materials are accessed.	To understand that branching databases can sort and identify objects. Review the effectiveness of the questions.	To understand how ICT can be used to organise and modify sounds. Experiment with editing tools/techniques.
To understand that animation is a technique that can be used to convey a message or idea.	To develop high level questioning based on the characteristics of objects. Use in a branching database.	To save and organise their work appropriately.
To understand that animation is a technique that can be used to convey a message or idea. Discuss key messages/ideas, and effectiveness of approaches.	To understand that databases support storing, sorting and organising information. Use paper databases to find answers to questions.	To understand the need to seek consent before capturing and/or using sounds created by others.
To understand the importance of planning animation work. Use a storyboard to plan an animation project.	To understand that databases can improve efficiency in finding answers to questions. Turn questions into search criteria. Use search and sort tools.	To know that sound files may not be appropriate and understand what to do if such materials are accessed.
To use stop animation and/or onscreen animation software to convey a simple idea or message. Edit and improve the animation.	To understand that database structures contain different types of information. Design a class database to include different field types.	To take an active role in using electronic communication safely and responsibly.
To save and organise their work appropriately. Retrieve it to share with others.	Understand the need for accuracy and correct data entry. Research and enter data accurately and independently.	To be aware that many online games include chat facilities; use with care, protecting their identity and only talking to those they know from home or school.
To understand the school's eSafety rules and to know what to do in the event of an incident.	Interrogate a database, presenting their data appropriately including use of graphs. Analyse their findings.	To understand the school's eSafety rules and to know what to do in the event of an incident.
	To review and evaluate their work, checking for accuracy, making corrections.	
	To understand the need to keep electronic and other data secure.	

Year 5	Data matters	Sound works	Robotics and systems
Strand	Digital research; Info ... info	Create	eworlds
	To understand that a database structure determines the queries it can be used to answer. Analyse the structures of different databases considering the queries that could answered.	To develop understanding of how digital music is used in sound recording to present ideas and influence mood.	To research and identify automatic control systems in the outside world. Explain, in simple terms, how they operate, distinguishing between cause and effect.
	To understand that combined operators can be used to extract specific information from databases. Revisit sort and search tools and extend to find answers to questions using => =<	To understand that ICT can be used to create and manipulate music and sound. Produce a piece of music, review and refine.	To understand that there are many different types of command languages. Use a control programming language to create simple onscreen shapes/designs.
Shading denotes esafety points	Understand that database queries can be linked to increase precision. Search using AND OR NOT. Evaluate effectiveness.	To understand that sound editing software supports sound manipulation and musical composition. Capture sounds and musical phrases. Create a piece to convey a mood or idea.	To understand that control languages can be used to program physical devices. Use a programming language to control physical devices to meet agreed objectives.
	To understand that graphing tools can present different views of data and support the testing of hypotheses. Create graphs from database queries to test hypotheses and support their findings.	To understand that sound elements can be layered and sound levels adjusted. Use sound editing and layering tools in work that tells a story and/or communicates a message.	To understand simulations of control devices are used to explore different situations in the real world. Use an onscreen control simulation to write programs to carry out a series of tasks.
	To understand that information held on databases may contain errors, which can affect results. Identify and correct inaccurate and implausible data, using graphing where appropriate.	To understand that sound is used in different ways to provide information and influence audiences.	To understand that control systems can be used to monitor physical conditions in the environment and respond to different situations. Investigate simple sensors.
	To understand that questionnaires/surveys can be used to collect data to be held in databases. Review online surveys and consider why the data is being collected.	To understand that soundscapes or broadcasts should be planned to improve their impact. Create a script, rehearse with others; evaluate and edit to make improvements.	To know that control devices can use input sensors and output devices to respond to different situations. Build and program control devices that include input sensors and output devices.
	To understand the stages in database development. Design a database to answer queries, including setting up file structure, reviewing the design and testing data entry.	To demonstrate their understanding of the rules around copyright, ownership and plagiarism. Create and share a soundscape/broadcast having gained appropriate permissions and credited contributors.	To understand that control systems are managed through control instructions sequences. Write sequences of instructions to solve problems.

	To research and enter data in their database. Answer relevant queries, using sort, complex searches and graphs.	To consider how sound files can be organised into podcasts and shared over the internet. Look at the advantages and disadvantages of this approach, considering eSafety, copyright and ownership.	To understand that programs can be made more efficient and effective. Use “if ... then”, “repeat” and “repeat forever” commands in programs.
	To understand the need for accuracy. Check for accuracy.	To organise their work confidently in appropriate places, understanding the need to save drafts and act on critical review to evaluate and improve their work.	To understand that sequences of instructions can be refined to make them more efficient and accurate: refine and improve control program instructions.
	To organise their work confidently in appropriate places, acting on critical review to evaluate and improve their work.	To take an active role in promoting and implementing the school's eSafety protocol for safe use.	To know that it is important to read programs and predict the outcomes. Predict and test outcomes of programs written by others.
	To understand the need to keep electronic and other data secure and protect personal information when entering data online.		
Year 6	Wikis & blogs (Staying connected)	Animation (Moving image)	Excel & database (Information models)
Strand	Digital research; Digital communication	Create	Info ... info; eworlds
Shading denotes esafety points	To analyse and evaluate online digital communication and collaboration tools, understanding how they can be used creatively and responsibly to inform and persuade audiences.	To analyse and evaluate a range of films and animations, understanding how they can be used to inform, persuade and entertain targeted audiences.	To understand that spreadsheets have specific structures and can be used to enter, format, copy and paste data.
	To understand the need to organise and adjust the language and style of digital communications, according to the formality of the context, the needs of their audience and the ICT being used.	To know how digital film and animation can be stored, shared and/or published; consider file size/format and audience access	To understand that spreadsheet calculation tools allow numbers and cell references to be used within formulae. Carry out different calculations. Explore the effect when values are changed.
	To understand what a blog is. Explore different blogs, considering their effectiveness as communication and collaboration tools.	To understand some of the approaches to producing a film by exploring a range of tools and techniques.	To understand that spreadsheet functions support exploration of calculation. Create simple functions; explore the effect of changing number values to achieve specific targets.

To understand how blogs can support learning and sharing of ideas and that they can include a range of different media. Create a blog; respond to comments; post comments on blogs created by peers.	To understand the need to plan films. In groups, use storyboarding and other approaches to plan a short film for a specific purpose. Use their plan to create the film.	To understand that data from environmental monitoring and/or datalogging can be explored within spreadsheet software.
To understand that there are complex copyright rules for digital resources. Review their blogs in the light of these rules.	To understand that animation has different requirements from live filming. Adapt a film plan for an animation. Create the animation. Identify differences between the two techniques.	Identify opportunities for investigations using dataloggers to collect data. Design and carry out investigations. Use spreadsheet tools and graphs to support analysis of the results.
To understand what a wiki is. Use an existing wiki to research information; edit what they find to make it their own.	To understand that films and animations can be developed, edited and/or combined to meet the needs of target audiences. Adapt films /animations to present ideas/events/concepts to new audiences.	To understand that spreadsheets can be used to create calculation tools. Create calculations tools. Save drafts.
To know that information can vary in accuracy, bias and viewpoint, and be unhelpful, irrelevant and misleading. Research information to add to a class wiki. Try to ensure accuracy lack of bias, relevance.	To present their film/animation, explaining how their production meets specified objectives and engages and informs the audience.	To understand that using graphs within spreadsheets can support prediction and 'what if 'questions. Create graphs to explore the effect of changing numeric values and support their conclusions.
To understand that online spaces can contain large amounts of information. Use skim, scan and sifting strategies to check relevance; locate and refine information to improve class wikis.	To understand that keeping and reviewing drafts is key to building critical awareness. Revisit previous drafts, describing how their thinking has developed.	Understand that spreadsheet models support exploration of situations. Explore effect of changing variables in existing models; make and test predictions.
Understand and use security settings and features in online environments, to protect privacy and safety.	To organise their work confidently in appropriate places, understanding the need to save drafts and act on critical review to evaluate and improve their work.	Understand that spreadsheets can be used to create models to support investigations and problem solving. Build spreadsheet models and use to help develop their conclusions.
To understand that rights users of online environments should be .respected. Obtain permission before using/sharing others' material.	To demonstrate their understanding of the rules around copyright, ownership and plagiarism and to apply these across their ICT work.	To understand the need for accuracy and efficiency when working with spreadsheets; review and improve them.
To evaluate the effectiveness/risks/benefits of digital communication and collaboration tools used at home and in school.		To organise their work confidently in appropriate places, understanding the need for saving drafts of spreadsheets.