Learning objectives and skills

Advent		Lent		Pentecost	
We are software developers. **Developing a simple educational game.**	**We are toy designers.** **Prototyping an interactive toy.**	**We are musicians.** **Producing digital music.**	**We are HTML editors.** **Editing and writing HTML.**	**We are co-authors.** **Producing a wiki.**	**We are meteorologists.** **Presenting the weather.**

1. **Plan your educational game.** • Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify. 2. **Start programming your game.** • Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify. 3. **Add repetition to your game.** **Add a way of keeping score.** • Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify. 4. **Add some graphics and sound to your game.** • Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea. • Make a short film / animation from images (still and / or moving) that they have sourced, captured or created. • Create multiple track compositions that contain a variety of sounds. 5. **Add in different levels to your game.**	1. **Find out about inputs and outputs.** 2. **Plan your toy.** • Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify. 3. **Design your toy in Scratch.** • Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify. 4. **Program your toy simulation.** • Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea. • Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify. 5. **Test and improve your toy simulation.** • Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write	1. **Discuss the type of music you will create.** • Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own. 2. **Create music with Isle of Tune.** • Create multiple track compositions that contain a variety of sounds. • Begin to understand the need to abide by school e-safety rules. • Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. • Where possible seek and respond to feedback 3. **Record sound samples.** • Create multiple track compositions that contain a variety of sounds. 4. **Use your samples to create a piece of music.** • Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own. • Create multiple track compositions that contain a variety of sounds. 5. **Edit your composition.** • Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own. • Create multiple track compositions that contain a variety of sounds. 6. **Share your music with an audience.** • Begin to understand the need to abide by school e-safety rules.	1. **Learn about the web.** • Begin to understand the need to abide by school e-safety rules. • Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. • Show an awareness that not all the resources/tools they use are resident on the device they are using. • Perform a search using different search engines and check the results against each other, explaining why they might be different. • Show an awareness of the need for accuracy in spelling and syntax to search effectively. 2. **Edit HTML in web pages.** • Begin to understand the need to abide by school e-safety rules. • Share ICT work they have done electronically by email, VLE, or uploading to authorised sites . 3. **Learn how to use HTML tags.** • Begin to show an understanding of URLs. 4. **Remix HTML code.** 5. **Make your own web page.** • Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks. • Begin to show an awareness of the intended audience and seek feed-back. • Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience • Children talk about using ICT to find information / resources noting any frustrations and	1. **Plan the content for a wiki.** • Begin to understand the need to abide by school e-safety rules. • Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. 2. **Use Wikipedia to find information.** • Begin to understand the need to abide by school e-safety rules. • Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. • Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate. Children use the information or resources they have found. • Children talk about using ICT to find information / resources noting any frustrations and showing an emerging understanding of internet safety 3. **Start work on a class wiki.** • Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks. • Begin to show an awareness of the intended audience and seek feed-back. • Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience • Begin to understand the need to abide by school e-safety rules. • Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. • Make use of copy and paste, beginning to understand the purpose of copyright regulations	1. **Find out about different ways of measuring weather.** • Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate. Children use the information or resources they have found. • Children use a simple database (the structure of which has been set up for them) to enter and save and save information on a given subject. • Begin to show an awareness of specific tools used in working life. 2. **Record the weather at school.** • Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions. • Begin to use a data logger to sense physical data (sound, light, temperature). • Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings. 3. **Look at the weather data.** • Enter information and interrogate it (by searching, sorting, graphing etc). • Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom. • Make simple use of a spreadsheet to store data and produce graphs. • Set up and use a spreadsheet model to explore patterns and relationships and make predictions. • Know how to enter simple formulae to assist this process. • Interpret the results and use these in their investigations. • Realise the advantages of using ICT to collect data that might otherwise be problematic. 4. **Start to predict the weather.**

- Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea.
- Use control software to control devices (using output commands) or to simulate this on screen. Predict, test and refine their programming.

6. **Test and review each other's games.**
   - Begin to understand the need to abide by school e-safety rules.
   - Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.
   - Where possible seek and respond to feedback.

procedures etc. and to predict, test and modify.

6. **Present your toy idea.**
   - Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks.
   - Begin to show an awareness of the intended audience and seek feed-back.

- Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.
- Where possible seek and respond to feedback

6. **Make changes to your web page and share it with others.**
   - Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks.
   - Begin to show an awareness of the intended audience and seek feed-back.

showing an emerging understanding of internet safety

6. They show an understanding that not all information on the internet is accurate.
   - Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy.

4. **Edit each other's wiki pages.**
   - Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks.
   - Begin to show an awareness of the intended audience and seek feed-back.
   - Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience
   - Begin to understand the need to abide by school e-safety rules.
   - Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.
   - Where possible seek and respond to feedback

5. **Edit a Wikipedia page.**
   - Begin to understand the need to abide by school e-safety rules.
   - Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.

6. **Discuss what went well and what you could improve next time.**

and the need to repurpose information for a particular audience.

- They follow straight forward lines of enquiry to search their data for their own purposes.
- They talk about their experiences of using ICT to process data compared with other methods.
- Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.

5. **Prepare your own weather forecast.**
   - Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks.
   - Begin to show an awareness of the intended audience and seek feed-back.
   - Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience
   - Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea.
   - Make a short film / animation from images (still and / or moving) that they have sourced, captured or created.

6. **Present a TV-style weather forecast.**

#BTK and Links with other subjects

		Music track for the events of Pentecost			

Key Vocabulary

Debug	Algorithm	Audio	Code	Edit	Chart
Input	Debug			Information	Data-logging
Interface	Input	Composition	HTML	Mind map	Forecast
Output	Interactive			Reliable	Graph
Program	Output	Copyright	HTTP (hyper text transfer protocol)	Style	Measurement
Prototype	Pitch			Wiki	Prediction
Repetition	Prototype			Wikipedia's five pillars	Spreadsheet
Variable	Simulation				Temperature

Algorithm		Digital	Hyperlink		Thermometer
		Instruments	Tag		Rain gauge
		Pitch	URL		Digital weather station
		Sample	Web page		Barometer
		Sequencing			Anemometer
		Software			Digital thermometer
		Tempo			
		Beat			

	I can
Text and Multimedia	• Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks. • Begin to show an awareness of the intended audience and seek feed-back. • Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience
Digital Images (Photos, paint, animation)	• Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea. • Make a short film / animation from images (still and / or moving) that they have sourced, captured or created.
Sound and music (inc sound recorders)	• Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own. • Create multiple track compositions that contain a variety of sounds.
Electronic Communication	• Begin to understand the need to abide by school e-safety rules. • Share ICT work they have done electronically by email, VLE, or uploading to authorised sites. • Where possible seek and respond to feedback.
Research and E Safety	• Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate. Children use the information or resources they have found. • Children talk about using ICT to find information / resources noting any frustrations and showing an emerging understanding of internet safety • Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience. • They show an understanding that not all information on the internet is accurate.
Control (algorithms)	• Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen. • Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify. • Use control software to control devices (using output commands) or to simulate this on screen. Predict, test and refine their programming.
Handling information (databases and graphs)	• Children use a simple database (the structure of which has been set up for them) to enter and save and save information on a given subject. • They follow straight forward lines of enquiry to search their data for their own purposes. • They talk about their experiences of using ICT to process data compared with other methods. • Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions. • Enter information and interrogate it (by searching, sorting, graphing etc). • Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.
Modelling and simulations (spreadsheets, adventure games and simulations)	• Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom. • Make simple use of a spreadsheet to store data and produce graphs. • Set up and use a spreadsheet model to explore patterns and relationships and make predictions. • Know how to enter simple formulae to assist this process.

	I can
Data logging (science and maths)	• Interpret the results and use these in their investigations. • Realise the advantages of using ICT to collect data that might otherwise be problematic.
Understanding Technologies (individual technologies)	• Begin to show an awareness of specific tools used in working life
Understanding Technologies (the internet)	• Show an awareness that not all the resources/tools they use are resident on the device they are using. • Begin to show an understanding of URLs. • Perform a search using different search engines and check the results against each other, explaining why they might be different. • Show an awareness of the need for accuracy in spelling and syntax to search effectively.