ICT– Creating media Data and Information- data logging Class 4

Previous knowledge

Key Vocabulary

sensors	Input devices which send information to a computer e.g a microphone	**data set**	a collection of related information, usually linked to one subject or time frame.
data logger	A device with sensors which can record data and send it to a computer.	**data**	information, usually numerical, that is collected and stored in a form suitable for processing.

Key Knowledge

Data can be collected over time to give helpful information e.g batting averages, weather trends, health changes.	A data logger collects "data points" from sensors over time.	Data from the data logger must be downloaded and stored on the computer.	Readings from a data logger show what happened and when it happened.
The data collected can be viewed at different levels and in different ways.	Data can be sorted to find information.	Data is collected for a reason and used to answer questions.	Conclusions can be drawn from the data collected.

Next steps

Using input devices to record sound	Using Audacity to edit sound files	Trimming audio tracks	Creating and saving audio files	Creating audio files which can be shared

ICT– Creating media Audio production Class 4

Previous knowledge

What input means	Examples of input devices	How to collect data	How to create a data set	Questions that can be answered using a data set

Key Vocabulary

audio	To cut off the sides of an images to make it the proper size or to remove unwanted parts	**re-record**	To record again.
podcast	A recording that is made available over the internet and can be downloaded and played on a digital device.	**trim**	Editing an audio file by removing sections.
Audacity	A free program which lets you record, edit and playback sounds.	**MP3 file**	A file format used for sounds which takes up very little storage space.

Key Knowledge

Input devices record sound on digital devices.	**Output devices play back sound from digital devices.**	A good voice recording needs: a clear voice, one person speaking at a time, not too many "filler" words, no background noise, no interference noise.	**Audacity shows recorded sounds as waveforms.**
Computers allow you to edit audio by removing sections. This is called trimming.	Alignment means choosing when a track starts to play.	Layered sounds can be produced by combining different sound recordings to create one complete soundtrack.	**Audacity projects can be exported as MP3 files.**

Next steps

Creating loops	Editing code snippets	**Debugging code**	Testing and evaluating a program	Save and opening my work

ICT– Programming A Repetition in shapes Class 5

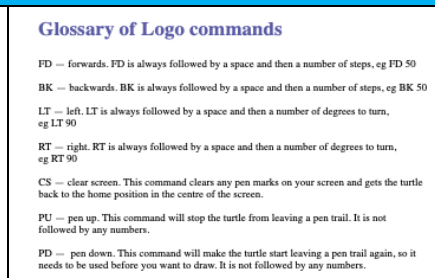
Previous knowledge

How a screen turtle is controlled	Computers need specific, correctly sequenced instructions.	How to save and open work stored in the My Drive area of the school SharePoint.	Name and recognise 2D shapes	How to use technology safely.

Key Vocabulary

turtle	An arrow or turtle image on screen that draws a line as it is programmed	**code snippet**	**A chunk of commands**
program	A set of instructions or algorithms that are given to a robot to make it complete a task.	**loop**	A loop is a software program or script that repeats the same instructions or processes the same information over and over until receiving the order to stop
debug	Finding and fixing errors in code	**sequence**	A sequence is an ordered list containing successive items, or functions for performing certain actions
algorithm	A precise sequence of instructions, or set of rules, for performing a task.	**repetition**	**Repetition is an action, event, or task that once completed, is performed again.**

Key Knowledge

Logo is a text-based programming language where pupils type commands that are then drawn on screen.	 **Glossary of Logo commands** FD — forwards. FD is always followed by a space and then a number of steps, eg FD 50 BK — backwards. BK is always followed by a space and then a number of steps, eg BK 50 LT — left. LT is always followed by a space and then a number of degrees to turn, eg LT 90 RT — right. RT is always followed by a space and then a number of degrees to turn, eg RT 90 CS — clear screen. This command clears any pen marks on your screen and gets the turtle back to the home position in the centre of the screen. PU — pen up. This command will stop the turtle from leaving a pen trail. It is not followed by any numbers. PD — pen down. This command will make the turtle start leaving a pen trail again, so it needs to be used before you want to draw. It is not followed by any numbers.	**A precise sequence of instructions- algorithms -can be created in Logo commands (code) to draw shapes.**	Repetition is present in all aspects of life. **A count-controlled loop is repeated a specific number of times.** **Indefinite loops mean a procedure is carried out endlessly**.
Procedures in logo can be created, named and called. Using loop commands increases the efficiency of the programming.	**Debugging is the process of finding and fixing errors in code.**	A program that includes count-controlled loops will produce a given outcome.	Two or more sequences can be run simultaneously.

Next steps

To edit digital images by cropping and recolouring.	What sepia is.	Ctrl+ C- copy Ctrl +v -paste Ctrl + x - cut	How to cite an image correctly in my work.	How images can be faked.

ICT– Creating media Photo editing — Class 4

Previous knowledge				
Creating algorithms	Debugging programs	Using loops	Opening and saving work	Using technology safely

Key Vocabulary			
crop	To cut off the sides of an images to make it the proper size or to remove unwanted parts	**sepia**	A reddish-brown colour used in monochrome photographs and used to make images look much older.
lasso	An image editing tool that enables you to select an irregular object by dragging the mouse around it.	**hue**	A colour or shade. White, black, and grey are never referred to as hues. Hue refers to the origin of the colour we see.
composition	The way that something is put together or arranged.	**retouch**	**To improve or repair an image by making alteration or additions.**
copyright	**Ownership of an image, work or creation.**	**fake**	**Not genuine; a forgery or counterfeit.**

Key Knowledge				
Digital images can be edited in various ways including cropping and recolouring.	Images can be altered to fit a scenario. Effects, altered colouring, different hues and saturations, sepia and vignette can all alter images.	The choices I have made to edit an image can be justified.	Retouching an image can have positive and negative effects. Colour adjustments can be used to make images look more appealing	**A clone stamp copies pixels from one part of an image to another.** Recolouring replaces colours. A magic wand allows areas of a similar colour to be selected.
Images can be combined using the edit menu- cut and paste. Ctrl+ C- copy Ctrl +v -paste Ctrl + x - cut Right clicking will also activate these options.	Many images seen online have been altered, edited or faked. Filters apply effects automatically.	**Many images online are subject to copyright. When you use an image, you must have permission or cite its owner in your work.**	I use text, shapes and borders to edit a publication.	Publications can be improved by using images which have been digitally altered in various ways.

Next steps				
Building Scratch programs	Using show and reveal blocks	Creating infinite loops	Describing a variable	Evaluating a project

ICT– Programming B Repetition in games Class 4

Previous knowledge

What repetition means in programming	How to create an algorithm	How to create a count-controlled loop	The difference between an indefinite and definite loop	How to debug code

Key Vocabulary

event block	One of the ten categories of blocks. They are yellow and are used to sense events which trigger scripts to run.	**motion block**	A block which controls a sprite's movement.
infinite	**Has no limit or end**	**Scratch**	A drag and drop programming environment.
sprite	A 2D bitmap which is integrated into a larger scene and can be programmed to move.	**costume**	The appearance of a sprite.
stage	The background of a project.	**scripts**	A collection of stacks or blocks that are interlocked with each other.

Key Knowledge

Instructions must be correctly sequenced. Repetition can be used to make instructions more efficient.	Scratch is a drag and drop programming environment. **Scratch blocks can be built to replicate logo code snippets and give commands for movement.**	**A script is a collection of blocks which determine how sprites interact with each other and with the backdrop**.	Projects can be saved in Scratch and shared to the studio for others to see.
In an infinite loop, commands are repeated over and over again, without an end point. In Scratch, this is called the repeat forever block.	Code can be reused from one sprite to another. **Show and hide blocks are used to reveal and conceal sprites.**	To create a game, I choose a design and algorithm for the sprites.	Algorithms must be tested and debugged. It is possible to predict the outcomes from code blocks.

Next steps

What a variable is.	How to use events in a program to set variables.	To use change blocks in a program.	To identify the outcome of a code block.	To create a game using different variables.

ICT– Computing Systems and networks — Class 4

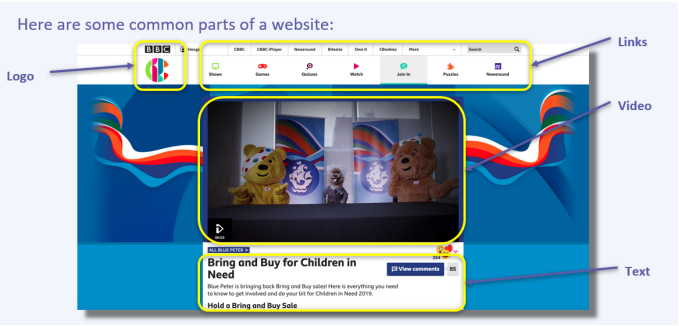
Previous knowledge

How to use technology safely	How to save and open work	How to search the internet	How to stay safe online	How to use repetition

Key Vocabulary

internet	**A network of networks**	**packet**	Small parts of the messages that the digital devices are sharing. data can be text, pictures, sound.	**connection**	A link between digital devices.
routers	enable messages to be passed between networks via switches	**World Wide Web**	the part of the internet that contains websites and web pages.	**system**	A set of things working together as part of an interconnecting network.

Key Knowledge

Keeping a network safe is the same as making sure you lock your front door. Networks have security features to block or allow messages or requests.	**Routers enable us to connect a network to the Internet. The Internet Is connected by lots of routers.**	The world wide web is only one part of the internet. Files can be shared on the internet. The internet can be used to send emails.	**The end of a website's name tells us about it.** • **.gov = government** • **.com = company** • **.sch = school**	Most websites are hosted in large data centres around the world. Data centres are large buildings full of powerful computers.	Web browsers allow us to look at (browse) information on the Internet. Information is transferred over the internet as data. Pictures, video, music, text and audio can all be shared on the internet.
. 		Websites and their contents are made up of files. You can add your own content to the World Wide Web. The content of the WWW is created by people. There are rules to protect their content	**Not everything on the internet is true. Some information is misleading.**	**People post false information so that they canbe popular, gin** • **make money** • **be popular** • **gain power** • **By mistake**	**I can say what information I should share and what information should not be shared.**

Next steps

Identifying different search engines.	To search effectively use specific key words and “ “ or -	Understanding the index.	Knowing how search engines make money.	Using the index to find the result we want quickly.