



YEAR 4

1. COMPUTING SYSTEMS AND NETWORKS –The internet
2. CREATING MEDIA – Audio production
3. PROGRAMMING A – Repetition in shapes
4. DATA AND INFORMATION – Data logging
5. CREATING MEDIA – Photo editing
6. PROGRAMMING B - Repetition in games

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	COMPUTING SYSTEMS AND NETWORKS THE INTERNET	1	Describe how networks physically connect to other networks VARIOUS WEBSITES	Demonstrate how information is shared across the internet Describe the internet as a network of networks Discuss why a network needs protecting
1		2	Recognise how networked devices make up the internet VARIOUS WEBSITES	Describe networked devices and how they connect Explain that the internet is used to provide many services Recognise that the World Wide Web contains websites and web pages
1		3	Outline how websites can be shared via the World Wide Web (WWW) VARIOUS WEBSITES	Describe how to access websites on the WWW Describe where websites are stored when uploaded to the WWW Explain the types of media that can be shared on the WWW
1		4	Describe how content can be added and accessed on the World Wide Web (WWW) VARIOUS WEBSITES	Explain that internet services can be used to create content online Explain what media can be found on websites Recognise that I can add content to the WWW
1		5	Recognise how the content of the WWW is created by people VARIOUS WEBSITES	Explain that there are rules to protect content Explain that websites and their content are created by people Suggest who owns the content on websites
1		6	Evaluate the consequences of unreliable content VARIOUS WEBSITES	Explain that not everything on the World Wide Web is true Explain why I need to think carefully before I share or reshare content Explain why online information may not be honest, accurate, or legal

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	CREATING MEDIA AUDIO PRODUCTION	1	Identify that sound can be recorded AUDACITY/ WAVEPAD (iPad)	Explain that the person who records a sound can say who can use it Identify the input and output devices used to record and play sound Use a computer to record audio
1		2	Explain that audio recordings can be edited AUDACITY/ WAVEPAD (iPad)	Discuss what sounds can be added to a podcast Inspect the soundwave view to know where to trim my recording Re-record my voice to improve my recording
1		3	Recognise the different parts of creating a podcast project AUDACITY/ WAVEPAD (iPad)	Explain how sounds can be combined to make a podcast engaging Plan appropriate content for a podcast Save my project so the different parts remain editable
1		4	Apply audio editing skills independently AUDACITY/ WAVEPAD (iPad)	Improve my voice recordings Record content following my plan Review the quality of my recordings
1		5	Combine audio to enhance my podcast project AUDACITY/ WAVEPAD (iPad)	Arrange multiple sounds to create the effect I want Explain differences between saving projects and exporting audio files Open my project to continue working on it
1		6	Evaluate the effective use of audio AUDACITY/ WAVEPAD (iPad)	Choose appropriate edits to improve my podcast Listen to an audio recording to identify its strengths Suggest improvements to an audio recording

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	PROGRAMMING A REPETITION IN SHAPES	1	Identify that accuracy in programming is important FMSLOGO/ TURTLES (iPad)	Create a code snippet for a given purpose Explain the effect of changing a value of a command Program a computer by typing commands
1		2	Create a program in a text-based language FMSLOGO/ TURTLES (iPad)	Test my algorithm in a text-based language Use a template to create a design for my program Write an algorithm to produce a given outcome
1		3	Explain what 'repeat' means FMSLOGO/ TURTLES (iPad)	Identify everyday tasks that include repetition as part of a sequence Identify patterns in a sequence Use a count-controlled loop to produce a given outcome
1		4	Modify a count-controlled loop to produce a given outcome FMSLOGO/ TURTLES (iPad)	Choose which values to change in a loop Identify the effect of changing the number of times a task is repeated Predict the outcome of a program containing a count-controlled loop
1		5	Decompose a task into small steps FMSLOGO/ TURTLES (iPad)	Explain that a computer can repeatedly call a procedure Identify 'chunks' of actions in the real world Use a procedure in a program
1		6	Create a program that uses count-controlled loops to produce a given outcome FMSLOGO/ TURTLES (iPad)	Design a program that includes count-controlled loops Develop my program by debugging it Make use of my design to write a program

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	DATA AND INFORMATION DATA LOGGING	1	Explain that data gathered over time can be used to answer questions ARDUINO SCIENCE JOURNAL (iPad)	Choose a data set to answer a given question Identify data that can be gathered over time Suggest questions that can be answered using a given data set
1		2	Use a digital device to collect data automatically ARDUINO SCIENCE JOURNAL (iPad)	Explain what data can be collected using sensors Identify that data from sensors can be recorded Use data from a sensor to answer a given question
1		3	Explain that a data logger collects 'data points' from sensors over time ARDUINO SCIENCE JOURNAL (iPad)	Identify the intervals used to collect data Recognise that a data logger collects data at given points Talk about the data that I have captured
1		4	Recognise how a computer can help us analyse data ARDUINO SCIENCE JOURNAL (iPad)	Explain that there are different ways to view data Sort data to find information View data at different levels of detail
1		5	Identify the data needed to answer questions ARDUINO SCIENCE JOURNAL (iPad)	Plan how to collect data using a data logger Propose a question that can be answered using logged data Use a data logger to collect data
1		6	Use data from sensors to answer questions ARDUINO SCIENCE JOURNAL (iPad)	Draw conclusions from the data that I have collected Explain the benefits of using a data logger Interpret data that has been collected using a data logger

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	<p>CREATING MEDIA</p> <p>PHOTO EDITING</p>	1	<p>Explain that the composition of digital images can be changed</p> <p>PAINT.NET/SNAPSEED (iPad) /PHOTOGRID (iPad)</p>	<p>Explain why I might crop an image</p> <p>Improve an image by rotating it</p> <p>Use photo editing software to crop an image</p>
1		2	<p>Explain that colours can be changed in digital images</p> <p>PAINT.NET/SNAPSEED (iPad) /PHOTOGRID (iPad)</p>	<p>Experiment with different colour effects</p> <p>Explain that different colour effects make you think/feel different things</p> <p>Explain why I chose certain colour effects</p>
1		3	<p>Explain how cloning can be used in photo editing</p> <p>PAINT.NET/SNAPSEED (iPad) /PHOTOGRID (iPad)</p>	<p>Add to the composition of an image by cloning</p> <p>Identify how a photo edit can be improved</p> <p>Remove parts of an image using cloning</p>
1		4	<p>Explain that images can be combined</p> <p>PAINT.NET/SNAPSEED (iPad) /PHOTOGRID (iPad)</p>	<p>Experiment with tools to select and copy part of an image</p> <p>Explain why photos might be edited</p> <p>Use a range of tools to copy between images</p>
1		5	<p>Combine images for a purpose</p> <p>PAINT.NET/SNAPSEED (iPad) /PHOTOGRID (iPad)</p>	<p>Choose suitable images for my project</p> <p>Create a project that is a combination of other images</p> <p>Describe the image I want to create</p>
1		6	<p>Evaluate how changes can improve an image</p> <p>PAINT.NET/SNAPSEED (iPad) /PHOTOGRID (iPad)</p>	<p>Combine text and my image to complete the project</p> <p>Review images against a given criteria</p> <p>Use feedback to guide making changes</p>

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	<p>PROGRAMMING B</p> <p>REPETITION IN GAMES</p>	1	<p>Develop the use of count-controlled loops in a different programming environment</p> <p>SCRATCH</p>	<p>List an everyday task as a set of instructions including repetition</p> <p>Modify a snippet of code to create a given outcome</p> <p>Predict the outcome of a snippet of code</p>
1		2	<p>Explain that in programming there are infinite loops and count controlled loops</p> <p>SCRATCH</p>	<p>Choose when to use a count-controlled and an infinite loop</p> <p>Modify loops to produce a given outcome</p> <p>Recognise that programming can run multiple process at once</p>
1		3	<p>Develop a design that includes two or more loops which run at the same time</p> <p>SCRATCH</p>	<p>Choose which action will be repeated for each object</p> <p>Evaluate the effectiveness of repeated sequences used in my program</p> <p>Explain what the outcome of the repeated action should be</p>
1		4	<p>Modify an infinite loop in a given program</p> <p>SCRATCH</p>	<p>Explain the effect of my changes</p> <p>Identify which parts of a loop can be changed</p> <p>Re-use existing code snippets on new sprites</p>
1		5	<p>Design a project that includes repetition</p> <p>SCRATCH</p>	<p>Develop my own design explaining what my project will do</p> <p>Evaluate the use of repetition in a project</p> <p>Select key parts of a given project to use in my own design</p>
1		6	<p>Create a project that includes repetition</p> <p>SCRATCH</p>	<p>Build a program that follows my design</p> <p>Evaluate the steps I followed when building my project</p> <p>Refine the algorithm in my design</p>