YEAR 6

1. COMPUTING SYSTEMS AND NETWORKS – Communication and collaboration
2. CREATING MEDIA – Web page creation
3. PROGRAMMING A – Variables in games
4. DATA AND INFORMATION – Introduction to spreadsheets
5. CREATING MEDIA – 3d Modelling
6. PROGRAMMING B – Sensing movement

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	COMPUTING SYSTEMS AND NETWORKS COMMUNICATION AND COLLABORATION	1	Explain the importance of internet addresses SLIDES/OPEN OFFICE/WEBSITES	Describe how computers use addresses to access websites Explain that internet devices have addresses Recognise that data is transferred using agreed methods
1		2	Recognise how data is transferred across the internet SLIDES/OPEN OFFICE/WEBSITES	Explain that all data transferred over the internet is in packets Explain that data is transferred over networks in packets Identify and explain the main parts of a data packet
1		3	Explain how sharing information online can help people to work together SLIDES/OPEN OFFICE/WEBSITES	Explain that the internet allows different media to be shared Recognise how to access shared files stored online Send information over the internet in different ways
1		4	Evaluate different ways of working together online SLIDES/OPEN OFFICE/WEBSITES	Explain how the internet enables effective collaboration Identify different ways of working together online Recognise that working together on the internet can be public or private
1		5	Recognise how we communicate using technology SLIDES/OPEN OFFICE/WEBSITES	Choose methods of communication to suit particular purposes Explain the different ways in which people communicate Identify that there are various ways to communicate over the internet
1		6	Evaluate different methods of online communication SLIDES/OPEN OFFICE/WEBSITES	Compare different methods of communicating on the internet Decide when I should and should not share information online Explain that communication on the internet may not be private

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	CREATING MEDIA WEB PAGE CREATION	1	Review an existing website and consider its structure MOBIRISE/PAGES	Discuss the different types of media used on websites Explore a website Know that websites are written in HTML
1		2	Plan the features of a web page MOBIRISE/PAGES	Draw a web page layout that suits my purpose Recognise the common features of a web page Suggest media to include on my page
1		3	Consider the ownership and use of images (copyright) MOBIRISE/PAGES	Describe what is meant by the term ‘fair use’ Find copyright-free images Say why I should use copyright-free images
1		4	Recognise the need to preview pages MOBIRISE/PAGES	Add content to my own web page Evaluate what my web page looks like on different devices and suggest/make edits Preview what my web page looks like
1		5	Outline the need for a navigation path MOBIRISE/PAGES	Describe why navigation paths are useful Explain what a navigation path is Make multiple web pages and link them using hyperlinks
1		6	Recognise the implications of linking to content owned by other people MOBIRISE/PAGES	Create hyperlinks to link to other people's work Evaluate the user experience of a website Explain the implication of linking to content owned by others

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	PROGRAMMING A VARIABLES IN GAMES	1	Define a 'variable' as something that is changeable SCRATCH	Explain that the way a variable changes can be defined Identify examples of information that is variable Identify that variables can hold numbers or letters
1		2	Explain why a variable is used in a program SCRATCH	Explain that a variable has a name and a value Identify program variable as a placeholder in memory for a single value Recognise that the value of a variable can be changed
1		3	Choose how to improve a game by using variables SCRATCH	Decide where in a program to change a variable Make use of an event in a program to set a variable Recognise that the value of a variable can be used by a program
1		4	Design a project that builds on a given example SCRATCH	Choose the artwork for my project Create algorithms for my project Explain my design choices
1		5	Use my design to create a project SCRATCH	Choose a name that identifies the role of a variable Create the artwork for my project Test the code that I have written
1		6	Evaluate my project SCRATCH	Identify ways that my game could be improved Share my game with others Use variables to extend my game

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	DATA AND INFORMATION INTRODUCTION TO SPREADSHEETS	1	Create a data set in a spreadsheet NUMBERS (iPad)/OPEN OFFICE	Collect data Enter data into a spreadsheet Suggest how to structure my data
1		2	Build a data set in a spreadsheet NUMBERS (iPad)/OPEN OFFICE	Apply an appropriate format to a cell Choose an appropriate format for a cell Explain what an item of data is
1		3	Explain that formulas can be used to produce calculated data NUMBERS (iPad)/OPEN OFFICE	Construct a formula in a spreadsheet Explain which data types can be used in calculations Identify that changing inputs changes outputs
1		4	Apply formulas to data NUMBERS (iPad)/OPEN OFFICE	Apply a formula to multiple cells by duplicating it Calculate data using different operations Create a formula which includes a range of cells
1		5	Create a spreadsheet to plan an event NUMBERS (iPad)/OPEN OFFICE	Apply a formula to calculate the data I need to answer questions Explain why data should be organised Use a spreadsheet to answer questions
1		6	Choose suitable ways to present data NUMBERS (iPad)/OPEN OFFICE	Produce a chart Suggest when to use a table or chart Use a chart to show the answer to questions

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	CREATING MEDIA 3D MODELLING	1	Recognise that you can work in three dimensions on a computer TINKERCAD	Add 3D shapes to a project Move 3D shapes relative to one another View 3D shapes from different perspectives
1		2	Identify that digital 3D objects can be modified TINKERCAD	Lift/lower 3D objects Recolour a 3D object Resize an object in three dimensions
1		3	Recognise that objects can be combined in a 3D model TINKERCAD	Duplicate 3D objects Group 3D objects Rotate objects in three dimensions
1		4	Create a 3D model for a given purpose TINKERCAD	Accurately size 3D objects Combine a number of 3D objects Show that placeholders can create holes in 3D objects
1		5	Plan my own 3D model TINKERCAD	Analyse a 3D model Choose objects to use in a 3D model Combine objects in a design
1		6	Create my own digital 3D model TINKERCAD	Construct a 3D model based on a design Explain how my 3D model could be improved Modify my 3D model to improve it

YEAR	STRAND	LESSON	PURPOSE	OUTCOMES
1	PROGRAMMING B SENSING MOVEMENT	1	Create a program to run on a controllable device LEGO SPIKE	Apply my knowledge of programming to a new environment Test my program on an emulator Transfer my program to a controllable device
1		2	Explain that selection can control the flow of a program LEGO SPIKE	Determine the flow of a program using selection Identify examples of conditions in the real world Use variables in if, then, else statements to select the flow of a program
1		3	Update a variable with a user input LEGO SPIKE	Experiment with different physical inputs Explain that checking a variable doesn't change its value Use a condition to change a variable
1		4	Use a conditional statement to compare a variable to a value LEGO SPIKE	Explain the importance of the order of conditions in else, if statements Modify a program to achieve a different outcome Use an operand (e.g. <>=) in an if, then statement
1		5	Design a project that uses inputs and outputs on a controllable device LEGO SPIKE	Decide what variables to include in a project Design the algorithm for my project Design the program flow for my project
1		6	Develop a program to use inputs and outputs on a controllable device LEGO SPIKE	Create a program based on my design Test my program against my design Use a range of approaches to find and fix bugs