Year 5 Computing Curriculum Map

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Computing Systems and Networks – System and Searching	**Creating Media – Video Production**	**Programming A – Selection in Physical Computing**	**Data information – Flat-file Data Bases**	**Creating Media – Introduction to Vector Graphics**	**Programming B – Selection in Quizzes**
Lesson 1: To explain that computers can be connected together to form systems. • I can explain that systems are built using a number of parts • I can describe that a computer system features inputs, processes, and outputs • I can explain that computer systems communicate with other devices	**Lesson 1: To explain what makes a video effective** • I can compare features in different videos • I can explain that video is a visual media format • I can identify features of videos	**Lesson 1: To control a simple circuit connected to a computer** • I can create a simple circuit and connect it to a microcontroller • I can explain what an infinite loop does • I can program a microcontroller to make an LED switch on	**Lesson 1: To use a form to record information** • I can create a database using cards • I can explain how information can be recorded • I can order, sort, and group my data cards	**Lesson 1: To identify that drawing tools can be used to produce different outcomes** • I can discuss how vector drawings are different from paper-based drawings • I can experiment with the shape and line tools • I can recognise that vector drawings are made using shapes	**Lesson 1: To explain how selection is used in computer programs** • I can identify conditions in a program • I can modify a condition in a program • I can recall how conditions are used in selection
Lesson 2: To recognise the role of computer systems in our lives. • I can identify tasks that are managed by computer systems • I can identify the human elements of a computer system • I can explain the benefits of a given computer system	**Lesson 2: To identify digital devices that can record video** • I can experiment with different camera angles • I can identify and find features on a digital video recording device • I can make use of a microphone	**Lesson 2: To write a program that includes count-controlled loops** • I can connect more than one output component to a microcontroller • I can design sequences that use count-controlled loops • I can use a count-controlled loop to control outputs	**Lesson 2: To compare paper and computer-based databases** • I can choose which field to sort data by to answer a given question • I can explain what a field and a record is in a database • I can navigate a flat-file database to compare different views of information	**Lesson 2: To create a vector drawing by combining shapes** • I can explain that each element added to a vector drawing is an object • I can identify the shapes used to make a vector drawing • I can move, resize, and rotate objects I have duplicated	**Lesson 2: To relate that a conditional statement connects a condition to an outcome** • I can create a program with different outcomes using selection • I can identify the condition and outcomes in an 'if... then… else...' statement

					• I can use selection in an infinite loop to check a condition
Lesson 3: To experiment with search engines. • I can make use of a web search to find specific information • I can refine my web search • I can compare results from different search engines	**Lesson 3: To capture video using a range of techniques** • I can capture video using a range of filming techniques • I can review how effective my video is • I can suggest filming techniques for a given purpose	**Lesson 3: To explain that a loop can stop when a condition is met** • I can design a conditional loop • I can explain that a condition is either true or false • I can program a microcontroller to respond to an input	**Lesson 3: To outline how you can answer questions by grouping and then sorting data** • I can combine grouping and sorting to answer specific questions • I can explain that data can be grouped using chosen values • I can group information using a database	**Lesson 3: To use tools to achieve a desired effect** • I can explain how alignment grids and resize handles can be used to improve consistency • I can modify objects to create a new image • I can use the zoom tool to help me add detail to my drawings	**Lesson 3: To explain how selection directs the flow of a program** • I can design the flow of a program which contains 'if… then… else…' • I can explain that program flow can branch according to a condition • I can show that a condition can direct program flow in one of two ways
Lesson 4: To describe how search engines select results • I can explain why we need tools to find things online • I can recognise the role of web crawlers in creating an index • I can relate a search term to the search engine's index	**Lesson 4: To create a storyboard** • I can create and save video content • I can decide which filming techniques I will use • I can outline the scenes of my video	**Lesson 4: To explain that a loop can be used to repeatedly check whether a condition has been met** • I can explain that a condition being met can start an action • I can identify a condition and an action in my project • I can use selection (an 'if…then…' statement) to direct the flow of a program	**Lesson 4: To explain that tools can be used to select specific data** • I can choose multiple criteria to answer a given question • I can choose which field and value are required to answer a given question • I can outline how 'AND' and 'OR' can be used to refine data selection	**Lesson 4: To recognise that vector drawings consist of layers** • I can change the order of layers in a vector drawing • I can identify that each added object creates a new layer in the drawing • I can use layering to create an image	**Lesson 4: To design a program which uses selection** • I can identify the outcome of user input in an algorithm • I can outline a given task • I can use a design format to outline my project
Lesson 5: To explain how search results are ranked.	**Lesson 5: To identify that video can be improved through reshooting and editing**	**Lesson 5: To design a physical project that includes selection**	**Lesson 5: To explain that computer programs can be used to compare data visually**	**Lesson 5: To group objects to make them easier to work with**	**Lesson 5: To create a program which uses selection**

• I can order a list by rank • I can explain that a search engine follows rules to rank results • I can give examples of criteria used by search engines to rank results	• I can explain how to improve a video by reshooting and editing • I can select the correct tools to make edits to my video • I can store, retrieve, and export my recording to a computer	• I can create a detailed drawing of my project • I can describe what my project will do • I can identify a real-world example of a condition starting an action	• I can explain the benefits of using a computer to create charts • I can refine a chart by selecting a particular filter • I can select an appropriate chart to visually compare data	• I can copy part of a drawing by duplicating several objects • I can recognise when I need to group and ungroup objects • I can reuse a group of objects to further develop my vector drawing	• I can implement my algorithm to create the first section of my program • I can share my program with others • I can test my program
Lesson 6: To recognise why the order of results is important, and to whom. • I can describe some of the ways that search results can be influenced • I can recognise some of the limitations of search engines • I can explain how search engines make money	**Lesson 6: To consider the impact of the choices made when making and sharing a video** • I can evaluate my video and share my opinions • I can make edits to my video and improve the final outcome • I can recognise that my choices when making a video will impact on the quality of the final outcome	**Lesson 6: To create a program that controls a physical computing project** • I can test and debug my project • I can use selection to produce an intended outcome • I can write an algorithm that describes what my model will do	**Lesson 6: To use a real-world database to answer questions** • I can ask questions that will need more than one field to answer • I can present my findings to a group • I can refine a search in a real-world context	**Lesson 6: To apply what I have learned about vector drawings** • I can compare vector drawings to freehand paint drawings • I can create a vector drawing for a specific purpose • I can reflect on the skills I have used and why I have used them	**Lesson 6: To evaluate my program** • I can extend my program further • I can identify the setup code I need in my program • I can identify ways the program could be improved