Computing - Progression of Skills Overview for Year 5

Computing systems and networks Systems and searching	Creating media Video production	Programming A – Selection in physical computing	Data and information – Flatfile databases	Creating media – Introduction to vector graphics	Programming B – Selection in quizzes
• I can describe that a computer system features inputs, processes, and outputs • I can explain that computer systems communicate with other devices • I can explain that systems are built using a number of parts • I can explain the benefits of a given computer system • I can identify tasks that are managed by computer systems • I can identify the human elements of a computer system • I can compare results from different search engines • I can make use of a web search to find specific information • I can refine my web search • 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 • I can explain that a search engine follows rules to rank results	• . I can compare features in different videos • I can explain that video is a visual media format • I can identify features of videos • 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 • 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 • I can create and save video content • I can decide which filming techniques I will use • I can outline the scenes of my video • I can explain how to improve a video by	• 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 • 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 • 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 • 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 • I can create a detailed drawing of my project • I can describe what my project will do	• I can create a database using cards • I can explain how information can be recorded • I can order, sort, and group my data cards • 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 • 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 • 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 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 • 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 • 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 • 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	• I can identify conditions in a program • I can modify a condition in a program • I can recall how conditions are used in selection • 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 • 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 • 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 • I can implement my algorithm to create the

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• I can give examples of criteria used by search engines to rank results • I can order a list by rank • I can describe some of the ways that search results can be influenced • I can explain how search engines make money • I can recognise some of the limitations of search engines	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 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	• I can identify a real-world example of a condition starting an action • 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	• I can outline how 'AND' and 'OR' can be used to refine data selection • 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 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	• 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 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	first section of my program • I can share my program with others • I can test 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