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| **Year 5 Overview** | | | | |
| **Unit Name** | **Lesson** | **Learning Objectives** | **Success Criteria** | **Cross Curricular Links** |
| **Autumn 1** | | | | |
| Computing systems and networks - Systems and searching | 1 | Can I explain that computers can be connected together to form systems? | -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 |  |
| Computing systems and networks - Systems and searching | 2 | Can I recognise the role of computer systems in our lives? | -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 |  |
| Computing systems and networks - Systems and searching | 3 | Can I experiment with search engines? | -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 |  |
| Computing systems and networks - Systems and searching | 4 | Can I 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 |  |
| Computing systems and networks - Systems and searching | 5 | Can I explain how search results are ranked? | -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 order a list by rank |  |
| Computing systems and networks - Systems and searching | 6 | Can I 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 explain how search engines make money - I can recognise some of the limitations of search engines |  |
| **Autumn 2** | | | | |
| Creating media - Video production | 1 | Can I 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 |  |
| Creating media - Video production | 2 | Can I 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 |  |
| Creating media - Video production | 3 | Can I 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 |  |
| Creating media - Video production | 4 | Can I 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 |  |
| Creating media - Video production | 5 | Can I identify that video can be improved through reshooting and editing? | -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 |  |
| Creating media - Video production | 6 | Can I 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 |  |
| **Spring 1 – ORDER RESOURCES (CRUMBLE)** | | | | |
| Programming A – Selection in physical computing | 1 | Can I 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 |  |
| Programming A – Selection in physical computing | 2 | Can I 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 |  |
| Programming A – Selection in physical computing | 3 | Can I 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 |  |
| Programming A – Selection in physical computing | 4 | Can I 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 |  |
| Programming A – Selection in physical computing | 5 | Can I design a physical project that includes selection? | -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 |  |
| Programming A – Selection in physical computing | 6 | Can I 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 |  |
| **Spring 2** | | | | |
| Data and information – Flat-file databases | 1 | Can I 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 |  |
| Data and information – Flat-file databases | 2 | Can I 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 |  |
| Data and information – Flat-file databases | 3 | Can I 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 |  |
| Data and information – Flat-file databases | 4 | Can I 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 |  |
| Data and information – Flat-file databases | 5 | Can I explain that computer programs can be used to compare data visually? | -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 |  |
| Data and information – Flat-file databases | 6 | Can I 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 |  |
| **Summer 1** | | | | |
| Creating media – Introduction to vector graphics | 1 | Can I 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 |  |
| Creating media – Introduction to vector graphics | 2 | Can I 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 |  |
| Creating media – Introduction to vector graphics | 3 | Can I 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 |  |
| Creating media – Introduction to vector graphics | 4 | Can I 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 |  |
| Creating media – Introduction to vector graphics | 5 | Can I group objects to make them easier to work with? | -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 |  |
| Creating media – Introduction to vector graphics | 6 | Can I 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 |  |
| **Summer 2** | | | | |
| Programming B – Selection in quizzes | 1 | Can I 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 |  |
| Programming B – Selection in quizzes | 2 | Can I 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 |  |
| Programming B – Selection in quizzes | 3 | Can I 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 |  |
| Programming B – Selection in quizzes | 4 | Can I 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 |  |
| Programming B – Selection in quizzes | 5 | Can I create a program which uses selection? | -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 |  |
| Programming B – Selection in quizzes | 6 | Can I 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 |  |