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|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Autumn 1 | Children will:**Know** how to identify tech**Know** the main parts of a computer**Know** rules for using tech responsibly.**I can** use a mouse in different ways**I can** use a keyboard to type on a computer**I can** use the keyboard to edit text | Children will: **Know** how to recognise the uses and features of information technology **Know** how information technology helps us **Know** how to use information technology safely**Know** that choices are made when using information technology**I can** identify the uses of information technology in the school **I can** identify information technology beyond school **I can** make responsible choices when using information technology | Children will: **Know** that digital devices accept inputs and produce outputs **Know** how to classify input and output devices. **Know** how digital devices can change the way we work**I can** explain how digital devices function **I can** identify input and output devices **I can** explain how a computer network can be used to share information **I can** explore how digital devices can be connected **I can** recognise the physical components of a network | Children will: **Know** how networks physically connect to other networks **Know** that networked devices make up the internet.**Know** how the content of the WWW is created by people**I can** outline how websites can be shared via the World Wide Web (WWW) **I can** describe how content can be added and accessed on the World Wide Web (WWW) **I can** evaluate the consequences of unreliable content | Children will: **Know** how to explain that computers can be connected together to form systems **Know** how to recognise the role of computer systems in our lives**Know** how search results are ranked Know why the order of results is important, and to whom**I can** experiment with search engines **I can** describe how search engines select results | Children will: **Know** the importance of internet addresses **Know** how data is transferred across the internet **Know** how sharing information online can help people to work together **Know** how we communicate using technology**I can** evaluate different ways of working together online **I can** evaluate different methods of online communication |
| Autumn 2 | Children will: **Know** how to describe objects in different way**I can** label objects I can identify that objects can be counted **I can** count objects with the same properties **I can** compare groups of objects **I can** answer questions about groups of objects | Children will:**Know** that we can count and compare objects using tally charts **Know** that objects can be represented as pictures**Know** that people can be described by attributes **Know** that we can present information using a computer**I can** create a pictogram **I can** select objects by attribute and make comparisons | Children will: **Know** how to identify the attributes needed to collect data about an object**Know** how to explain why it is helpful for a database to be well structured**I can** create questions with yes/no answers **I can** create a branching database **I can** plan the structure of a branching database **I can** independently create an identification to | Children will: **Know** that data gathered over time can be used to answer questions **Know** that a data logger collects ‘data points’ from sensors over time**Know** how a computer can help us analyse data**I can** use a digital device to collect data automatically **I can** identify the data needed to answer questions **I can** use data from sensors to answer questions | Children will: **Know** how you can answer questions by grouping and then sorting data**Know** that tools can be used to select specific data **Know** that computer programs can be used to compare data visually**I can** use a form to record information **I can** compare paper and computer-based databases **I can** use a real-world database to answer questions | Children will: **Know** that formulas can be used to produce calculated data**I can** create a data set in a spreadsheet **I can** build a data set in a spreadsheet **I can** apply formulas to data **I can** create a spreadsheet to plan an event **I can** choose suitable ways to present data |
| Spring 1 | Children will: **Know** what a given command will do**I can** act out a given word **I can** combine forwards and backwards commands to make a sequence **I can** combine four direction commands to make sequences **I can** plan a simple program **I can** find more than one solution to a problem | Children will: **Know** how to describe a series of instructions as a sequence **Know** how to explain what happens when we change the order of instruction**I can** use logical reasoning to predict the outcome of a program **I can** explain that programming projects can have code and artwork **I can** design an algorithm **I can** create and debug a program that I have written | Children will: **Know** how to identify that commands have an outcome **Know** how to explain that a program has a start **Know** how to recognise that a sequence of commands can have an order**I can** explore a new programming environment **I can** change the appearance of my project **I can** create a project from a task description | Children will: **Know** that accuracy in programming is important **Know** how to explain what ‘repeat’ means**I can** create a program in a text-based language **I can** modify a countcontrolled loop to produce a given outcome **I can** decompose a task into small steps **I can** create a program that uses count-controlled loops to produce a given outcome | Children will: **Know** how to explain that a loop can stop when a condition is met **Know** that a loop can be used to repeatedly check whether a condition has been met**I can** control a simple circuit connected to a computer **I can** write a program that includes count-controlled loops **I can** design a physical project that includes selection **I can** create a program that controls a physical computing project | Children will: **Know** how to define a ‘variable’ as something that is changeable **Know** how to explain why a variable is used in a program**I can** choose how to improve a game by using variables **I can** design a project that builds on a given example **I can** use my design to create a project **I can** evaluate my project |
| Spring 2 | Children will: **Know** that the look of text can be changed on a computer**Know** how to make careful choices when changing text **Know** why I used the tools that I chose**I can** use a computer to write **I can** add and remove text on a computer **I can** compare typing on a computer to writing on paper | Children will: **Know** that there are patterns in music**I can** say how music can make us feel **I can** experiment with sound using a computer **I can** use a computer to create a musical pattern **I can** create music for a purpose **I can** review and refine our computer work | Children will: **Know** how text and images convey information**Know** that text and layout can be edited**I can** choose appropriate page settings**I can** add content to a desktop publishing publication**I can** consider how different layouts can suit different purposes **I can** consider the benefits of desktop publishing | Children will: **Know** that the composition of digital images can be changed **Know** that colours can be changed in digital images **Know** how cloning can be used in photo editing **Know** that images can be combined**I can** combine images for a purpose **I can** evaluate how changes can improve an image | Children will: **Know** that drawing tools can be used to produce different outcomes **Know** that vector drawings consist of layer**I can** create a vector drawing by combining shapes **I can** use tools to achieve a desired effect **I can** group objects to make them easier to work with **I can** apply what I have learned about vector drawings | Children will: **Know** that you can work in three dimensions on a computer **Know** that digital 3D objects can be modified **Know** that objects can be combined in a 3D model**I can** create a 3D model for a given purpose **I can** plan my own 3D model **I can** create my own digital 3D model |
| Summer 1 | Children will: **Know** the effect of changing a value **Know** that each sprite has its own instructions**I can** choose a command for a given purpose **I can** show that a series of commands can be joined together **I can** design the parts of a project **I can** use my algorithm to create a program | Children will: **Know** that a sequence of commands has a start**Know** that a sequence of commands has an outcome**I can** create a program using a given design **I can** change a given design **I can** create a program using my own design **I can** decide how my project can be improved | Children will: **Know** how a sprite moves in an existing project**I can** create a program to move a sprite in four directions **I can** adapt a program to a new context **I can** develop my program by adding features **I can** identify and fix bugs in a program **I can** design and create a maze-based challenge | Children will: **Know** that in programming there are infinite loops and count controlled loops**I can** develop the use of count-controlled loops in a different programming environment **I can** develop a design that includes two or more loops which run at the same time **I can** modify an infinite loop in a given program **I can** design a project that includes repetition **I can** create a project that includes repetition | Children will: **Know** how selection is used in computer programs **Know** that a conditional statement connects a condition to an outcome**Know** how selection directs the flow of a program**I can** design a program which uses selection **I can** create a program which uses selection **I can** evaluate my program | Children will: **Know** that selection can control the flow of a program**I can** create a program to run on a controllable device **I can** update a variable with a user input **I can** use a conditional statement to compare a variable to a value **I can** design a project that uses inputs and outputs on a controllable device **I can** develop a program to use inputs and outputs on a controllable device |
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