



Progression in Computing at Riddlesden St. Mary's

Curriculum breadth and depth in knowledge and skills in Computing at Riddlesden St Mary's C of E Primary School –

Teach computing

→ Year One	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Immersive theme of learning including key texts	I wonder if humans are similar to the very hungry badger... The disgusting sandwich (Science) Technology around us	I wonder what toys our grandparents played with... NoBot (History) Digital painting	I wonder how we can get you home... Lost and Found (Geography) Grouping data	I wonder if I can survive here... Meerkat mail (Geography) Digital writing	I wonder where my nearest castle is... Hector and the Big Bad Knight (History) Moving a robot	I wonder what is growing in our garden... Jim and the beanstalk (Science) Programming animations
Experiences	Paintz website	Trip to the Science and Media museum Paintz website	A visit to the class tree throughout the year. What do you notice? Google slides	Trip to tropical world Google docs	Trip to Cliffe castle and Skipton castle Bee-bots	Growing plants and activities with Joel Scratchjr
Character education (linked to the character education framework)	Children to approach opportunities with curiosity, energy and enthusiasm. Through playing and exploring, active learning and creative/critical thinking.					
Knowledge taken from the NC (including progression linked to CDs and keeping everything spinning opps)	- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content - Recognise common uses of information technology beyond school - use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content - use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content - use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs - Recognise common uses of information technology beyond school	- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs
Knowledge bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I know how to identify technology, I know how to identify a computer and its main parts. I know how to use a mouse in different ways.	I know how to describe what freehand tools do. I know how to use shape tool and line tools	I know how to label objects. I know how to identify that objects can be counter I know how to describe objects in different ways.	I know how to use a computer to write. I know how to add and remove text on a computer.	I know how to explain what a command will do. I know how to act out a given word. I know how to combine forwards and backwards	I know how to use a command for a purpose. I know how to show that a series of commands can be put together.

	I know how to use a keyboard to type on a computer. I know how to use the keyboard to edit text I know how to create rules for using technology responsibly.	I know how to make careful decisions when digital painting I know how to explain why I chose certain tools I know how to use a computer to paint a picture. I know how to compare painting a picture with computers and on paper.	I know how to count objects with the same properties. I know how to compare groups of objects I know how to answer questions about groups of objects.	I know how to explain that the look of text can be changed on a computer. I know how to make careful choices when changing text. I know how to explain why I chose the tools I chose. I know how to compare typing on a computer with writing on paper.	commands to make a sequence. I know how to combine four direction commands to make sequences I know how to plan a simple program I know how to find more than one solution to a problem	I know how to identify the effect of changing the value I know how to explain that each sprite has its own instructions. I know how to design the parts of a project. I know how to use my algorithm to create a program.
Skills taken from the NC (including progression linked to CDs and keeping everything spinning opportunities)	I can understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions I can create and debug simple programs I can use logical reasoning to predict the behaviour of simple programs I can use technology purposefully to create, organise, store, manipulate and retrieve digital content I can recognise common uses of information technology beyond school I can use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies					
Skills bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I can explain technology as something that helps us. I can locate examples of technology in the classroom. I can explain how these technology examples help us. I can name the main parts of a computer. I can switch on and log into a computer. I can use a mouse to click and drag. I can use a mouse to open a program. I can click and drag to make objects on a screen. I can use a mouse to create a picture. I can say what a keyboard is for. I can type my name on a computer. I can save my work to a file. I can open my work from a file. I can use the arrow keys to move the cursor. I can delete letters. I can identify rules to keep us safe and healthy when we are using technology in and beyond the home. I can give examples of some of	I can make marks on a screen and explain which tools I used. I can draw lines on a screen and explain which tools I used. I can use the paint tools to draw a picture. I can make marks with the square and line tools. I can use the shape and line tools effectively. I can use the shape and line tools to recreate the work of an artist. I can choose appropriate shapes. I can make appropriate colour choices. I can create a picture in the style of an artist. I can explain that different paint tools do different jobs. I can choose appropriate paint tools and colours to recreate the work of an artist. I can say which tools were helpful and why. I can make dots of colour on the page. I can change the colour and brush sizes. I can use dots of colour to create	I can describe objects using labels. I can match objects to groups. I can identify the label for a group of objects. I can count objects. I can group objects. I can count a group of objects. I can describe an object. I can describe a property of an object. I can find objects with similar properties. I can group similar objects. I can group objects in more than one way. I can count how many objects share a property. I can choose how to group objects. I can describe groups of objects. I can record how many objects are in a group. I can decide how to group objects to answer a question. I can compare groups of objects. I can record and share what I have found.	I can open a word processor. I can recognise keys on a keyboard. I can identify and find keys on a keyboard. I can enter text into a computer. I can use letter, number, and Space keys. I can use Backspace to remove text. I can type capital letters. I can explain what the keys that I have already learnt about do. I can identify the toolbar and use bold, italic, and underline. I can select a word by double-clicking. I can select all of the text by clicking and dragging. I can change the font. I can say what tool I used to change the text. I can decide if my changes have improved my writing. I can use 'Undo' to remove changes. I can make changes to text on a computer. I can explain the differences between	I can predict the outcome of a command on a device. I can match a command to an outcome. I can run a command on a device. I can follow an instruction. I can recall words that can be acted out. I can give directions. I can compare forward and backward movements. I can start a sequence from the same place. I can predict the outcome of a sequence involving 'forwards' and 'backwards' commands. I can compare left and right turns. I can experiment with 'turn' and 'move' commands to move a robot. I can predict the outcome of a sequence involving up to four commands. I can explain what my program should do. I can choose the order of commands in a sequence. I can debug my program. I can identify several possible solutions. I can plan	I can find the commands to move a sprite. I can use commands to move a sprite. I can compare different programming tools. I can use more than one block by joining them together. I can use a Start block in a program. I can run my program. I can find blocks that have numbers. I can change the value. I can say what happens when I change a value. I can show that a project can include more than one sprite. I can delete a sprite I can add blocks to each of my sprites. I can choose appropriate artwork for my project. I can decide how each sprite will move. I can create an algorithm for each sprite. I can use sprites that match my design. I can add programming blocks based on my algorithm. I can test

	these rules. I can discuss how we benefit from these rules.	a picture in the style of an artist on my own. I can explain that pictures can be made in lots of different ways. I can spot the differences between painting on a computer and on paper. I can say whether I prefer painting using a computer or using paper.		typing and writing. I can say why I prefer typing or writing.	two programs. I can use two different programs to get to the same place.	the programs I have created.
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→ Year 2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Immersive theme of learning including key texts	I wonder what makes a home... The Owl who was afraid of the dark (Science/Geography) Information technology around us	I wonder who the lady with the lamp was... Florence Nightingale (History) Digital photography	I wonder where Leaf came from... Leaf (Science/Geography) Pictograms	I wonder if Keighley has ever had a great fire... The Baker's boy and the Great fire of London (History) Making music	I wonder what I could live without... The Ferocious chocolate wolf (Science) Robot algorithms	I wonder why we love to be beside the seaside... The secrete of black rock (Geography) Programming quizzes
Experiences	Visiting barn owls in school grounds Birds of prey visit Google slides	Florence Nightingale day Ipads	Woodland walk Skipton Woods visit J2E program	Visit a bakery Fire service visit Chrome music lab	Visit a chocolate factory Bee-bot	Visit beach Sea life centre RNLI visit ScratchJr
Character education (linked to the character education framework)	Children to approach opportunities with curiosity, energy and enthusiasm. Through playing and exploring, active learning and creative/critical thinking.					
Knowledge taken from National Curriculum (including progression linked to CDs and keeping everything spinning opps)	- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content - Recognise common uses of information technology beyond school - use technology safely and respectfully, keeping personal information private; identify where to go for	- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content - Recognise common uses of information technology beyond school - use technology safely and respectfully, keeping personal information private; identify where to go for	- Use technology purposefully to create, organise, store, manipulate, and retrieve digital content - use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content	- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs	- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions. - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs

	help and support when they have concerns about content or contact on the internet or other online technologies.	help and support when they have concerns about content or contact on the internet or other online technologies.	or other online technologies.		use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content
Knowledge bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I know how to recognise the uses and feature of IT. I know how to identify the uses of IT in school I know how to identify IT beyond school I know how to explain how IT helps us I know how to explain how to use IT safely I know how to recognise that choices are made when using IT.	I know how to use a digital device to take a photograph. I know how to make choices when taking photographs. I know how to describe what makes a good photograph. I know how to decide how photos can be improved. I know how to use tools to change an image. I know how to recognise that photos can be changed.	I know how to recognise that we can count and compare object using tally charts. I know how to recognise that objects can be represented as pictures. I know how to create a pictogram. I know how to select objects by attributes and make comparisons. I know how to recognise that people can be described by attributes. I know how to explain tat we can present information using a pictogram.	I know how to explain how music makes us feel. I know how to identify that there are patterns in music. I know how to experiment with sound using a computer. I know how to use a computer to create a musical pattern. I know how to create music for a purpose. I know how to review and refine my computer work.	I know how to describe a series of instructions as a sequence. I know how to explain what happens when we change the order of instructions. I know how to use logical reasoning to predict the outcome of a program. I know how to explain that programming projects can have code and artwork. I know how to design an algorithm. I know how to create a debug a program that I have written.	I know how to explain that a sequence of commands has a start. I know how to explain that a sequence of commands has an outcome. I know how to create a program using a given design. I know how to change a given design. I know how to create a program using my own design. I know how to decide how my project can be improved.
Skills taken from National Curriculum (including progression linked to CDs and keeping everything spinning opportunities)	I can understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions I can create and debug simple programs I can use logical reasoning to predict the behaviour of simple programs I can use technology purposefully to create, organise, store, manipulate and retrieve digital content I can recognise common uses of information technology beyond school I can use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies					
Skills bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I can identify examples of computers. I can describe some uses of computers. I can identify that a computer is a part of IT. I can identify examples of IT. I can sort school IT by what it's used for. I can identify that some IT can be used in more than one way.	I can recognise which devices can be used to take photos. I can talk about how to take a photo. I can explain what I did to capture the digital photo. I can explain the process of taking a good photo. I can take photos in landscape and portrait. I can explain	I can record data as a tally chart. I can represent the count as the total. I can compare totals. I can enter data into a computer. I can use a computer to view data in different formats. I can use pictograms to answer simple questions.	I can identify different in pieces of music. I can describe music using adjectives. I can say what I like/dislike about a piece of music. I can create a rhythm pattern. I can plan an instrument following a rhythm. I can explain that	I can follow instructions given by someone else. I can choose a series of words that can be acted out as a sequence. I can give clear instructions I can use the same instructions to create different algorithms. I can use an algorithm to program a sequence on a floor robot.	I can identify the start of a sequence. I can identify that a program needs to be started. I can show how to run my program. I can predict the outcome of a sequence of commands. I can match two sequences with the same outcome. I can change the outcome of a sequence of commands.

	I can find examples of information technology. I can sort IT by where it is found. I can talk about uses of information technology. I can recognise common types of technology. I can demonstrate how IT devices work together. I can say why we use IT. I can list different uses of information technology. I can talk about different rules for using IT. I can say how rules can help keep me safe. I can identify the choices that I make when using IT. I can use IT for different types of activities. I can explain the need to use IT in different ways.	why a photo looks better in landscape or portrait. I can identify what is wrong with a photo. I can discuss how to take good photos. I can improve a photo by retaking it. I can explore the effect light has on a photo. I can experiment with different light sources. I can explain why a picture may be unclear. I can recognise that images can be changed. I can use a tool to achieve a desired effect. I can explain my choices. I can apply a range of skills to a photo. I can recognise when photos have been changed. I can identify which are real and what have been edited.	I can organise data in a tally chart. I can use a tally chart to create a pictogram. I can explain what the pictogram shows. I can tally objects using a common attribute. I can create a pictogram to arrange objects. I can answer more/less than and most/least questions, I can choose a suitable attribute to compare people. I can collect data. I can create a pictogram and draw conclusions. I can use a computer program to present information. I can share the information I have found on the computer. I can give simple examples of when information should not be shared.	music is created and played by humans. I can connect images and sound. I can use a computer to experiment with pitch. I can relate an idea to a piece of music. I can identify that music is a sequence of notes. I can explain how my music can be played in different ways. I can refine my musical pattern on a computer. I can create a rhythm which represents an animal. I can create a rhythm using a computer. I can add a sequence of notes to my rhythm. I can review my own work. I can explain how I have changed my work. I can listen to music and describe how it makes me feel.	I can show the difference in outcomes between two sequences that consist of the same instructions. I can follow a sequence. I can predict the outcome of a sequence. I can compare my prediction to the program outcome. I can explain the choices that I made for my mat design. I can identify different routes around my mat. I can test my mat to make sure that it is usable. I can explain what my algorithm should achieve. I can create an algorithm to meet my goal. I can use my algorithm to create a program. I can test and debug each part of the program. I can plan algorithms for different parts of a task. I can put together the different parts of my program.	I can work out the actions of a sprite in an algorithm. I can decide which blocks to use to meet the design. I can build the sequences of blocks I need. I can choose backgrounds for the design. I can choose characters for the design. I can create a program based on the new design. I can choose the images for my own design. I can create an algorithm. I can build sequences of blocks to match my design. I can compare my project to my design. I can improve my project by adding features. I can debug my program.
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→ Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Immersive theme of learning including key texts	I wonder who came before me... Stone age boy (History) <u>Connecting computers</u>	I wonder how the British monarchy has changed... The adventures of king Arthur (History) <u>Stop frame animation</u>	I wonder what makes volcanoes vicious The street beneath my feet (Science) <u>Branching databases</u>	I wonder what our local story is... Malala's magic pencil (Geography) <u>Desktop publishing</u>	I wonder what happens in our allotment at night... .. The night gardener (Science) <u>Sequencing sounds</u>	I wonder who the Romans were and how they impacted Britain ... Escape from Pompeii (History) <u>Events and actions in programmes</u>
Experiences	<u>Paintz website</u>	Royal armouries <u>iMotion</u>	Cliffe castle rocks and soils workshop <u>J2 data branch</u>	<u>Canva – you'll need to sign up for a educators account.</u>	<u>Scratch</u>	Creating a roman inspired mosaics <u>Scratch</u>

Character education (linked to the character education framework)	Children to approach opportunities with curiosity, energy and enthusiasm. Through playing and exploring, active learning and creative/critical thinking.					
Knowledge taken from National Curriculum (including progression linked to CDs and keeping everything spinning opps)	♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output. ♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Knowledge bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I know how to explain how digital devices function. I know how to identify input and output devices. I know how to recognise how digital devices can change the way that we work. I know how to explain how a computer network can be used to share information.	I know how to explain that animation is a sequence of drawings or photographs I know how to relate animated movement with a sequence of images. I know how to plan an animation. I know how to identify the need to work consistently and carefully.	I know how to create questions with yes/no answers. I know how to identify the attributes needed to collect data about an object. I know how to create a branching database. I know how to explain why it is helpful for a database to be well structured.	I know how to recognise how text and images convey information. I know how to recognise that text and layout can be edited. I know how to choose appropriate page settings. I know how to add content to a desktop publishing publication.	I know how to explore a new programming environment. I know how to identify that commands have an outcome. I know how to explain that a program has a start. I know how to recognise than a sequence of commands can have an order.	I know how to explain how a sprite moves in an existing project. I know how to create a program to move a sprite in four directions. I know how to adapt a program to a new context. I know how to develop my program by adding features. I know how to identify and fix bugs in a program.

	I know how to explore how digital devices can be connected. I know how to recognise the physical components of a network.	I know how to review and improve an animation. I know how to evaluate the impact of adding other media to an animation.	I know how to plan the structure of a branching database. I know how to independently create an identification tool.	I know how to consider how different layouts can suit different purposes. I know how to consider the benefits of desktop publishing.	I know how to change the appearance of my projects. I know how to create a project from a task description.	I know how to design and create a maze-based challenge.
Skills taken from National Curriculum (including progression linked to CDs and keeping everything spinning opportunities)	- I can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - I can use sequence, selection, and repetition in programs; work with variables and various forms of input and output - I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs - I can understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration - I can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content - I can select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information - I can use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
Skills bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I can explain that digital devices accept inputs. I can explain that digital devices produce outputs. I can follow a process. I can explain what makes a secure password. I can classify input and output devices. I can describe a simple process. I can design a digital device. I can explain how I use digital devices for different activities. I can recognise similarities between using digital devices and using non-digital tools. I can suggest differences between using digital devices and using non-digital tools. I can recognise different connections. I can explain how messages are passed through multiple connections. I can discuss why we need a network switch. I can recognise that a computer network is made	I can draw a sequence of pictures. I can create an effective flip book—style animation. I can explain how an animation/flip book works. I can predict what an animation will look like. I can explain why little changes are needed for each frame. I can create an effective stop-frame animation. I can break down a story into settings, characters and events. I can describe an animation that is achievable on screen. I can create a storyboard. I can use onion skinning to help me make small changes between frames. I can review a sequence of frames to check my work. I can evaluate the quality of my animation. I can explain ways to make my animation better. I can evaluate another learner's animation. I can improve my	I can investigate questions with yes/no answers. I can make up a yes/no question about a collection of objects. I can create two groups of objects separated by one attribute. I can select an attribute to separate objects into groups. I can create a group of objects within an existing group. I can arrange objects into a tree structure. I can select objects to arrange in a branching database. I can group objects using my own yes/no questions. I can test my branching database to see if it works. I can create yes/no questions using given attributes. I can compare two branching database structures. I can explain that questions need to be ordered carefully to split objects into similarly sized groups.	I can explain the difference between text and images. I can recognise that text and images can communicate messages clearly. I can identify the advantages and disadvantages of using text and images. I understand how to use emojis respectfully online. I can change font style, size, and colours for a given purpose. I can edit text. I can explain that text can be changed to communicate more clearly. I can explain what 'page orientation' means. I can recognise placeholders and say why they are important. I can create a template for a particular purpose. I can choose the best locations for my content. I can paste text and images to create a magazine cover. I can make changes to content after I've added it.	I can identify the objects in a Scratch project (sprites, backdrops). I can explain that objects in Scratch have attributes (linked to). I can recognise that commands in Scratch are represented as blocks. I can create a program following a design and understand that each sprite is controlled by the commands I choose. I can predict the coding blocks used to move a sprite. I can match coding blocks to their actions. I can start a program in different ways. I can create a sequence of connected commands. I can explain that the objects in my project will respond exactly to the code. I can explain what a sequence is. I can combine sound commands. I can order notes into a sequence.	I can explain the relationship between an event and an action. I can choose which keys to use for actions and explain my choices. I can identify a way to improve a program. I can choose a character for my project. I can choose a suitable size for a character in a maze. I can program movement. I can use a programming extension. I can consider the real world when making design choices. I can choose blocks to set up my program. I can identify additional features (from a given set of blocks). I can choose suitable keys to turn on additional features. I can build more sequences of commands to make my design work. I can test a program against a given design. I can match a piece of code to an outcome. I can modify a program using a design.

	up of a number of devices. I can demonstrate how information can be passed between devices. I can explain the role of a switch, server, and wireless access point in a network. I can identify how devices in a network are connected together. I can identify networked devices around me. I can identify the benefits of computer networks.	animation based on feedback. I can add other media to my animation. I can explain why I added other media to my animation. I can evaluate my final film.	I can independently create questions to use in a branching database. I can create questions that will enable objects to be uniquely identified. I can create a physical version of a branching database. I can create a branching database that reflects my plan. I can work with a partner to test my identification tool. I can suggest real-world uses for branching databases.	I can identify different layouts. I can match a layout to a purpose. I can choose a suitable layout for a given purpose. I can identify the uses of desktop publishing in the real world. I can say why desktop publishing might be helpful. I can compare work made on desktop publishing to work created by hand.	I can build a sequence of commands. I can decide the actions for each sprite in a program. I can make design choices for my artwork. I can identify and name the objects I will need for a project. I can relate a task description to a design. I can implement my algorithm as code.	I can make design choices and justify them. I can implement my design. I can evaluate my project.
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→ Year 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Immersive theme of learning including key texts	I wonder who the ancient Egyptians were... Egyptian Cinderella (History) <u>The internet</u>	I wonder what happens to the food I eat... Charlie and the chocolate factory (Science) <u>Audio production</u>	I wonder where the water in the River Aire comes from... The rhythm of the rain (Geography) <u>Data logging</u>	I wonder what it's like to live on a mountain... Everest (Geography) <u>Photo editing</u>	I wonder who the Anglo-Saxons were and how they have shaped the United Kingdom... Beowulf (Science) <u>Summer 1 – repetition in shapes</u> <u>Summer 2 – repetition in games</u>	
Experiences	Egyptians hook Various websites Chrome music lab	 Audacity	Trip to Malham? Data logger – needs to be ordered from BGS	Mountain hook day Paint.net	Tri to Jorvik? Summer 1 – FMSLogo Summer 2 - Scratch	
Character education (linked to the character education framework)	Children to approach opportunities with curiosity, energy and enthusiasm. Through playing and exploring, active learning and creative/critical thinking.					
Knowledge taken from NC (including progression linked to CDs and keeping everything spinning opps)	♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration	♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices	♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ select, use and combine a variety of software (including internet services) on a range of digital devices	♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs;	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs;

	♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Knowledge bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I know how to describe how networks physically connect to other networks. I know how to recognise how networked devices make up the internet. I know how to outline how websites can be shared via the World Wide Web (WWW). I know how to describe how content can be added and accessed on the World Wide Web (WWW). I know how to recognise how the content of the WWW is created by people. I know how to evaluate the consequences of unreliable content.	I know how to identify that sound can be recorded. I know how to explain that audio recordings can be edited. I know how to recognise the different parts of creating a podcast project. I know how to apply audio editing skills independently. I know how to combine audio to enhance my podcast project. I know how to evaluate the effective use of audio.	I know how to explain that data gathered over time can be used to answer questions. I know how to use a digital device to collect data automatically. I know how to explain that a data logger collects 'data points' from sensors over time. I know how to recognise how a computer can help us analyse data. I know how to identify the data needed to answer questions. I know how to use data from sensors to answer questions.	I know how to explain that the composition of digital images can be changed. I know how to explain that colours can be changed in digital images. I know how to explain how cloning can be used in photo editing. I know how to explain that images can be combined. I know how to combine images for a purpose. I know how to evaluate how changes can improve an image.	I know how to identify that accuracy in programming is important. I know how to create a program in a text-based language. I know how to explain what 'repeat' means. I know how to modify a count-controlled loop to produce a given outcome. I know how to decompose a task into small steps. I know how to create a program that uses count-controlled loops to produce a given outcome.	I know how to develop the use of count-controlled loops in a different programming environment. I know how to explain that in programming there are infinite loops and count-controlled loops. I know how to develop a design that includes two or more loops which run at the same time. I know how to modify an infinite loop in a given program. I know how to design a project that includes repetition. I know how to create a project that includes repetition.
	- I can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - I can use sequence, selection, and repetition in programs; work with variables and various forms of input and output					

Skills taken from NC (including progression linked to CDs and keeping everything spinning opportunities)	• I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • I can understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration • I can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • I can select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • I can use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
Skills bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I can describe the internet as a network of networks. I can demonstrate how information is shared across the internet. I can discuss why a network needs protecting. I can describe networked devices and how they connect. I can explain that the internet is used to provide many services. I can recognise that the World Wide Web contains websites and web pages. I can explain the types of media that can be shared on the WWW. I can describe where websites are stored when uploaded to the WWW. I can describe how to access websites on the WWW. I can explain what media can be found on websites. I can recognise that I can add content to the WWW. I can explain that internet services can be used to create content online. I can explain that websites and their content are created by people. I can suggest who owns the content on websites. I can explain that there are rules to protect content. I can explain that not everything on the World Wide Web is true. I can	I can identify the input and output devices used to record and play sound. I can use a computer to record audio. I can explain that the person who records the sound can say who is allowed to use it. I can re-record my voice to improve my recording. I can inspect the soundwave view to know where to trim my recording. I can discuss what sounds can be added to a podcast. I can explain how sounds can be combined to make a podcast more engaging. I can save my project so the different parts remain editable. I can plan appropriate content for a podcast. I can record content following my plan. I can review the quality of my recordings. I can improve my voice recordings. I can open my project to continue working on it. I can arrange multiple sounds to create the effect I want. I can explain the difference between saving a project and exporting an audio file. I can listen to an audio recording to identify its strengths. I can suggest improvements to an audio recording. I can choose	I can choose a data set to answer a given question. I can suggest questions that can be answered using a given data set. I can identify data that can be gathered over time. I can explain what data can be collected using sensors. I can use data from a sensor to answer a given question. I can identify that data from sensors can be recorded. I can recognise that a data logger collects data at given points. I can identify the intervals used to collect data. I can talk about the data that I have captured. I can view data at different levels of detail. I can sort data to find information. I can explain that there are different ways to view data. I can propose a question that can be answered using logged data. I can plan how to collect data using a data logger. I can use a data logger to collect data. I can interpret data that has been collected using a data logger. I can draw conclusions from the data that I have collected. I can explain the benefits of using a data logger.	I can improve an image by rotating it. I can explain why I might crop an image. I can use photo editing software to crop an image. I understand that editing images can be unethical. I can explain that different colour effects make you think and feel different things. I can experiment with different colour effects. I can explain why I chose certain colour effects. I can add to the composition of an image by cloning. I can identify how a photo edit can be improved. I can remove parts of an image using cloning. I can experiment with tools to select and copy part of an image. I can use a range of tools to copy between images. I can explain why photos might be edited. I can describe the image I want to create. I can choose suitable images for my project. I can create a project that is a combination of other images. I can review images against a given criteria. I can use feedback to guide making changes. I can combine text and my image to complete the project.	I can program a computer by typing commands. I can explain the effect of changing a value of a command. I can create a code snippet for a given purpose. I can use a template to draw what I want my program to do. I can write an algorithm to produce a given outcome. I can test my algorithm in a text-based language. I can identify repetition in everyday tasks. I can identify patterns in a sequence. I can use a count-controlled loop to produce a given outcome. I can identify the effect of changing the number of times a task is repeated. I can predict the outcome of a program containing a count-controlled loop. I can choose which values to change in a loop. I can identify 'chunks' of actions in the real world. I can use a procedure in a program. I can explain that a computer can repeatedly call a procedure. I can design a program that includes count-controlled loops. I can make use of my design to write a program. I can develop my program by debugging it.	I can list an everyday task as a set of instructions including repetition. I can predict the outcome of a snippet of code. I can modify a snippet of code to create a given outcome. I can modify loops to produce a given outcome. I can choose when to use a count-controlled and an infinite loop. I can recognise that some programming languages enable more than one process to be run at once. I can choose which action will be repeated for each object. I can explain what the outcome of the repeated action should be. I can evaluate the effectiveness of the repeated sequences used in my program. I can identify which parts of a loop can be changed. I can explain the effect of my changes. I can re-use existing code snippets on new sprites. I can evaluate the use of repetition in a project. I can select key parts of a given project to use in my own design. I can develop my own design explaining what my project will do. I can refine the algorithm in my design. I can build a program that follows my

	explain why some information I find online may not be honest, accurate, or legal. I can explain why I need to think carefully before I share or reshare content.	appropriate edits to improve my podcast.				design. I can evaluate the steps I followed when building my project.
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→ Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Immersive theme of learning including key texts	I wonder if you can feel forces ... The man who walked between the towers (Science / Geography) System and searching	I wonder who the Bradford Pals were... War Horse (History) Video production	I wonder who the Victorians were and how they shaped Bradford... Oliver Twist (History) Flat-file databases	I wonder if punishment for crime really needs to be cruel and painful... The Highwayman (History) Introduction to vector graphics	I wonder if I will every g to the moon... ... Curiosity (Science) Selection in physical computing	I wonder why rainforests and rivers are so important ... The Explorer (Geography) Selection in quizzes
Experiences	Google slides	iMovie	Trio to Bradford industrial museum J2data	Google drawings	Space dome Crumble – from BGS	Tropical world visit? Scratch
Character education (linked to the character education framework)	Children to approach opportunities with curiosity, energy and enthusiasm. Through playing and exploring, active learning and creative/critical thinking.					
Knowledge taken from the NC (including progression linked to CDs and keeping everything spinning opps)	♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly;	♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

	♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration	recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact			♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Knowledge bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I know how to explain that computers can be connected together to form systems. I know how to recognise the role of computer systems in our lives. I know how to identify how to use a search engine. I know how to describe how search engines select results. I know how to explain how search results are ranked. I know how to recognise why the order of results is important, and to whom.	I know how to explain what makes a video effective. I know how to use a digital device to record video. I know how to capture video using a range of techniques. I know how to create a storyboard. I know how to identify that video can be improved through reshooting and editing. I know how to consider the impact of the choices made when making and sharing a video.	I know how to use a form to record information. I know how to compare paper and computer-based databases. I know how to outline how you can answer questions by grouping and then sorting data. I know how to explain that tools can be used to select specific data. I know how to explain that computer programs can be used to compare data visually. I know how to use a real-world database to answer questions.	I know how to identify that drawing tools can be used to produce different outcomes. I know how to create a vector drawing by combining shapes. I know how to use tools to achieve a desired effect. I know how to recognise that vector drawings consist of layers. I know how to group objects to make them easier to work with. I know how to apply what I have learned about vector drawings.	I know how to control a simple circuit connected to a computer. I know how to write a program that includes count-controlled loops. I know how to explain that a loop can stop when a condition is met. I know how to explain that a loop can be used to repeatedly check whether a condition has been met. I know how to design a physical project that includes selection. I know how to create a program that controls a physical computing project.	I know how to explain how selection is used in computer programs. I know how to relate that a conditional statement connects a condition to an outcome. I know how to explain how selection directs the flow of a program. I know how to design a program that uses selection. I know how to create a program that uses selection. I know how to evaluate my program.
Skills taken from the NC (including progression linked to CDs and keeping everything spinning opportunities)	- I can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts - I can use sequence, selection, and repetition in programs; work with variables and various forms of input and output - I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs - I can understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration - I can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content - I can select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information - I can use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
Skills bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I can explain that systems are built using a number of parts. I can describe the input, process, and output of a digital system. I can explain that computer systems communicate with other devices.	I can explain that video is a visual media format. I can identify features of videos I can compare features in different videos. I know what to do if I see any content online that makes me feel uncomfortable.	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 explain what a field and a record is in a database. I can navigate a	I can recognise that vector drawings are made using shapes. I can experiment with the shape and line tools. I can discuss how vector drawings are different from paper-based drawings.	I can create a simple circuit and connect it to a microcontroller. I can program a microcontroller to make an LED switch on. I can explain what an infinite loop does.	I can recall how conditions are used in selection. I can identify conditions in a program. I can modify a condition in a program. I can use selection in an infinite loop to check a condition. I can identify the

	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. I can explain how to keep my personal information safe online. 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. I can recognise trustworthy websites. 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 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 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.	I can identify and find features on a digital video recording device. I can experiment with different camera angles. I can make use of a microphone. I can suggest filming techniques for a given purpose. I can capture video using a range of filming techniques. I can review how effective my video is. I can outline the scenes of my video. I can decide which filming techniques I will use. I can create and save video content. I can store, retrieve, and export my recording to a computer. 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 make edits to my video and improve the final outcome. I can recognise that my choices when making a video will impact the quality of the final outcome. I can evaluate my video and share my opinions.	flat-file database to compare different views of information. I can choose which field to sort data by to answer a given question. I can explain that data can be grouped using chosen values. I can group information using a database. I can combine grouping and sorting to answer specific questions. 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. I can choose multiple criteria to answer a given question. I can select an appropriate chart to visually compare data. I can refine a chart by selecting a particular filter. I can explain the benefits of using a computer to create charts. I can ask questions that will need more than one field to answer. I can refine a search in a real-world context. I can present my findings to a group.	I can identify the shapes used to make a vector drawing. I can explain that each element added to a vector drawing is an object. I can move, resize, and rotate objects I have duplicated. I can use the zoom tool to help me add detail to my drawings. 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 identify that each added object creates a new layer in the drawing. I can change the order of layers in a vector drawing. I can use layering to create an image. 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 create a vector drawing for a specific purpose. I can reflect on the skills I have used and why I have used them. I can compare vector drawings to freehand paint drawings.	I can connect more than one output component to a microcontroller. I can use a count-controlled loop to control outputs. I can design sequences that use count-controlled loops. I can explain that a condition is either true or false. I can design a conditional loop. 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 identify a real-world example of a condition starting an action. I can describe what my project will do. I can create a detailed drawing of my project. I can write an algorithm that describes what my model will do. I can use selection to produce an intended outcome. I can test and debug my project.	condition and outcomes in an 'if... then... else...' statement. I can create a program that uses selection to produce different outcomes. I can explain that program flow can branch according to a condition. I can design the flow of a program that contains 'if... then... else...'. I can show that a condition can direct program flow in one of two ways. I can outline a given task. I can use a design format to outline my project. I can identify the outcome of user input in an algorithm. I can implement my algorithm to create the first section of my program. I can test my program. I can share my program with others. I can identify ways the program could be improved. I can identify the setup code I need in my program. I can extend my program further.
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→ Year 6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Immersive theme of learning including key texts	I wonder how World War 2 shaped Britain and our local area... Rose Blanche	I wonder why my heart keeps beating... Pig heart boy (Science)	I wonder if the Ancient Greeks have impacted my life... Who let the gods out?	I wonder how plants and animals have changed over time... Wonder	I wonder why Bradford is a city of sanctuary... Boy 87 (RSE/Geography/transition)	

	(History) Communication and collaboration	Webpage design	(History) Introduction to spreadsheets	(Science) 3D modelling	Summer 1 – Variables in games Summer 2 – sensing movement	
Experiences	1940's day Google slides	Google sites	Pottery making Royal armouries trip Google sheets	Hook lesson TinkerCAD	Summer 1 – Scratch Summer 2 – Micro:bit	
Character education (linked to the character education framework)	Children to approach opportunities with curiosity, energy and enthusiasm. Through playing and exploring, active learning and creative/critical thinking.					
to Knowledge taken from National Curriculum (including progression linked to CDs and keeping everything spinning opps)	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information ♣ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	♣ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts ♣ use sequence, selection, and repetition in programs; work with variables and various forms of input and output ♣ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs ♣ select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

					of ways to report concerns about content and contact	
Knowledge bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I know how to explain the importance of internet addresses. I know how to recognise how data is transferred across the internet. I know how to explain how sharing information online can help people to work together. I know how to evaluate different ways of working together online. I know how to recognise how we communicate using technology. I know how to evaluate different methods of online communication.	I know how to review an existing website and consider its structure. I know how to plan the features of a web page. I know how to consider the ownership and use of images (copyright). I know how to recognise the need to preview pages. I know how to outline the need for a navigation path. I know how to recognise the implications of linking to content owned by other people.	I know how to create a data set in a spreadsheet. I know how to build a data set in a spreadsheet. I know how to explain that formulas can be used to produce calculated data I know how to apply formulas to data. I know how to create a spreadsheet to plan an event. I know how to choose suitable ways to present data.	I know how to recognise that you can work in three dimensions on a computer. I know how to identify that digital 3D objects can be modified. I know how to recognise that objects can be combined in a 3D model. I know how to create a 3D model for a given purpose. I know how to plan my own 3D model. I know how to create my own digital 3D model.	I know how to define a 'variable' as something that is changeable. I know how to explain why a variable is used in a program. I know how to choose how to improve a game by using variables. I know how to design a project that builds on a given example. I know how to use my design to create a project. I know how to evaluate my project.	I know how to create a program to run on a controllable device. I know how to explain that selection can control the flow of a program. I know how to update a variable with a user input. I know how to use an conditional statement to compare a variable to a value. I know how to design a project that uses inputs and outputs on a controllable device. I know how to develop a program to use inputs and outputs on a controllable device.
Skills taken from National Curriculum (including progression linked to CDs and keeping everything spinning opportunities)	• I can design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • I can use sequence, selection, and repetition in programs; work with variables and various forms of input and output • I can use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • I can understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration • I can use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content • I can select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • I can use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.					
Skills bespoke for RSM pupils (including progression linked to CDs and keeping everything spinning opportunities)	I can recognise that data is transferred using agreed methods. I can explain that internet devices have addresses. I can describe how computers use addresses to access websites. I can identify and explain the main parts of a data packet. I can explain that data is transferred over	I can explore a website. I can discuss the different types of media used on websites. I know that websites are written in HTML. I can recognise the common features of a web page. I can suggest media to include on my page. I can draw a web page layout that suits my purpose.	I can collect data. I can suggest how to structure my data. I can enter data into a spreadsheet. I can explain what an item of data is. I can choose an appropriate format for a cell. I can apply an appropriate format to a cell. I can explain which data types can be used in calculations. I can construct	I can add 3D shapes to a project. I can view 3D shapes from different perspectives. I can move 3D shapes relative to one another. I can resize an object in three dimensions. I can lift/lower 3D objects. I can recolour a 3D object. I can rotate objects in three dimensions. I can duplicate	I can identify examples of information that is variable. I can explain that the way a variable changes can be defined. I can identify that variables can hold numbers or letters. I can identify a program variable as a placeholder in memory for a single value. I can explain that a variable has a name and a value. I	I can apply my knowledge of programming to a new environment. I can test my program on an emulator. I can transfer my program to a controllable device. I can identify examples of conditions in the real world. I can use a variable in an if, then, else statement to select the flow of a program. I can determine

	networks in packets. I can explain that all data transferred over the internet is in packets. I can recognise how to access shared files stored online. I can send information over the internet in different ways. I can explain that the internet allows different media to be shared. I can identify different ways of working together online. I can recognise that working together on the internet can be public or private. I can explain how the internet enables effective collaboration. I can explain the different ways in which people communicate. I can identify that there are a variety of ways to communicate over the internet. I can choose methods of communication to suit particular purposes. I can compare different methods of communicating on the internet. I can decide when I should and should not share information online. I can explain that communication on the internet may not be private. I can explain how to report inappropriate content online.	I can say why I should use copyright-free images. I can find copyright-free images. I can describe what is meant by the term 'fair use'. I know how to use technology respectfully and responsibly when online. I can add content to my own web page. I can preview what my web page looks like. I can evaluate what my web page looks like on different devices and suggest/make edits. I can explain what a navigation path is. I can describe why navigation paths are useful. I can make multiple web pages and link them using hyperlinks. I can explain the implication of linking to content owned by others. I can create hyperlinks to link to other people's work. I can evaluate the user experience of a website.	a formula in a spreadsheet. I can identify that changing inputs changes outputs. I can calculate data using different operations. I can create a formula which includes a range of cells. I can apply a formula to multiple cells by duplicating it. I can use a spreadsheet to answer questions. I can explain why data should be organised. I can apply a formula to calculate the data I need to answer questions. I can produce a chart. I can use a chart to show the answer to a question. I can suggest when to use a table or chart.	3D objects. I can group 3D objects. I can accurately size 3D objects. I can show that placeholders can create holes in 3D objects. I can combine a number of 3D objects. I can analyse a 3D model. I can choose objects to use in a 3D model. I can combine objects in a design. I can construct a 3D model based on a design. I can explain how my 3D model could be improved. I can modify my 3D model to improve it.	can recognise that the value of a variable can be changed. I can decide where in a program to change a variable. I can make use of an event in a program to set a variable. I can recognise that the value of a variable can be used by a program. I can choose the artwork for my project. I can create algorithms for my project. I can explain my design choices. I can create the artwork for my project. I can choose a name that identifies the role of a variable. I can test the code that I have written. I can identify ways that my game could be improved. I can use variables to extend my game. I can share my game with others.	the flow of a program using selection. I can use a condition to change a variable. I can experiment with different physical inputs. I can explain that checking a variable doesn't change its value. I can use an operand (e.g. <>=) in an if, then statement. I can explain the importance of the order of conditions in else, if statements. I can modify a program to achieve a different outcome. I can decide what variables to include in a project. I can design the algorithm for my project. I can design the program flow for my project. I can create a program based on my design. I can test my program against my design. I can use a range of approaches to find and fix bugs.
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