12R Computing Knowledge and Skills Progression

National Curriculum Coverage of skills		
	Cycle 1	Cycle 2
Autumn 1	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. 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.
Autumn 2	Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.	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.
Spring 1	Understand what algorithms are, how they are implemented as programs on digital devices, and that the 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 the 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.	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.
Spring 2	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.
Summer 1	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.
Summer 2	Understand what algorithms are, how they are implemented as programs on digital devices, and that the 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 the programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Use technology purposefully to create, organise, store, manipulate, and retrieve digital content.

12R Computing Knowledge and Skills Progression

Knowledge and skills Progression		
	Cycle 1	Cycle 2
Autumn 1	To identify technology • 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 To identify a computer and its main parts • 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 To use a mouse in different ways • 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 To use a keyboard to type on a computer • I can say what a keyboard is for • I can type my name on a computer • I can save my work to a file To use the keyboard to edit text • I can open my work from a file • I can use the arrow keys to move the cursor • I can delete letters To create rules for using technology responsibly • 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 these rules • I can discuss how we benefit from these rules	To recognise the uses and features of information technology • I can identify examples of computers • I can describe some uses of computers • I can identify that a computer is a part of IT To identify the uses of information technology in the school • 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 To identify information technology beyond school • I can find examples of information technology • I can sort IT by where it is found • I can talk about uses of information technology To explain how information technology helps us • I can recognise common types of technology • I can demonstrate how IT devices work together • I can say why we use IT To explain how to use information technology safely • 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 To recognise that choices are made when using information technology • 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
Autumn 2	To describe what different freehand tools do • 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	**To use a digital device to take a photograph** • **I can recognise what devices can be used to take photographs** • **I can talk about how to take a photograph** • **I can explain what I did to capture a digital photo** **To make choices when taking a photograph** • **I can explain the process of taking a good photograph**

12R Computing Knowledge and Skills Progression

	• To use the shape tool and the line tools • 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 To make careful choices when painting a digital picture • I can choose appropriate shapes • I can make appropriate colour choices • I can create a picture in the style of an artist To explain why I chose the tools I used • 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 To use a computer on my own to paint a picture • 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 a picture in the style of an artist on my own To compare painting a picture on a computer and on paper • 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	• **I can take photos in both landscape and portrait format** • **I can explain why a photo looks better in portrait or landscape format** **To describe what makes a good photograph** • **I can identify what is wrong with a photograph** • **I can discuss how to take a good photograph** • **I can improve a photograph by retaking it** **To decide how photographs can be improved** • **I can explore the effect that light has on a photo** • **I can experiment with different light sources** • **I can explain why a picture may be unclear** **To use tools to change an image** • **I can recognise that images can be changed** • **I can use a tool to achieve a desired effect** • **I can explain my choices** • **To recognise that photos can be changed** • **I can apply a range of photography skills to capture a photo** • **I can recognise which photos have been changed** • **I can identify which photos are real and which have been changed**
Spring 1	To use a computer to write • I can open a word processor • I can recognise keys on a keyboard • I can identify and find keys on a keyboard To add and remove text on a computer • I can enter text into a computer • I can use letter, number, and Space keys	To say how music can make us feel • I can identify simple differences in pieces of music • I can describe music using adjectives • I can say what I do and don't like about a piece of music To identify that there are patterns in music • I can create a rhythm pattern • I can play an instrument following a rhythm pattern • I can explain that music is created and played by humans To experiment with sound using a computer • I can connect images with sounds

12R Computing Knowledge and Skills Progression

	• I can use Backspace to remove text To identify that the look of text can be changed on a computer • 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 To make careful choices when changing text • I can select a word by double-clicking • I can select all of the text by clicking and dragging • I can change the font To explain why I used the tools that I chose • 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 To compare typing on a computer to writing on paper • I can make changes to text on a computer • I can explain the differences between typing and writing • I can say why I prefer typing or writing	• I can use a computer to experiment with pitch • I can relate an idea to a piece of music To use a computer to create a musical pattern • 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 To create music for a purpose • I can create a rhythm which represents an animal I've chosen • I can create my animal's rhythm on a computer • I can add a sequence of notes to my rhythm To review and refine our computer work • I can review my work • I can explain how I changed my work • I can listen to music and describe how it makes me feel
Spring 2	To label objects • I can describe objects using labels • I can match objects to groups • I can identify the label for a group of objects To identify that objects can be counted • I can count objects • I can group objects • I can count a group of objects To describe objects in different ways • I can describe an object • I can describe a property of an object • I can find objects with similar properties To count objects with the same properties • I can group similar objects • I can group objects in more than one way	To recognise that we can count and compare objects using tally charts • I can record data in a tally chart • I can represent a tally count as a total • I can compare totals in a tally chart To recognise that objects can be represented as pictures • I can enter data onto a computer • I can use a computer to view data in a different format • I can use pictograms to answer simple questions about objects To create a pictogram • 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 To select objects by attribute and make comparisons • I can tally objects using a common attribute • I can create a pictogram to arrange objects by an attribute • I can answer 'more than'/'less than' and 'most/least' questions about an attribute To recognise that people can be described by attributes

12R Computing Knowledge and Skills Progression

	• I can count how many objects share a property To compare groups of objects • I can choose how to group objects • I can describe groups of objects • I can record how many objects are in a group To answer questions about groups of objects • 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 choose a suitable attribute to compare people • I can collect the data I need • I can create a pictogram and draw conclusions from it To explain that we can present information using a computer • I can use a computer program to present information in different ways • I can share what I have found out using a computer • I can give simple examples of why information should not be shared
Summer 1	To explain what a given command will do • 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 To act out a given word • I can follow an instruction • I can recall words that can be acted out • I can give directions To combine 'forwards' and 'backwards' commands to make a sequence • 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 To combine four direction commands to make sequences • 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 To plan a simple program • I can explain what my program should do • I can choose the order of commands in a sequence • I can debug my program	To describe a series of instructions as a sequence • 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 To explain what happens when we change the order of 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 show the difference in outcomes between two sequences that consist of the same instructions To use logical reasoning to predict the outcome of a program • I can follow a sequence • I can predict the outcome of a sequence • I can compare my prediction to the program outcome To explain that programming projects can have code and artwork • 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 To design an algorithm • 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 To create and debug a program that I have written • 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

12R Computing Knowledge and Skills Progression

	To find more than one solution to a problem ● I can identify several possible solutions ● I can plan two programs ● I can use two different programs to get to the same place	
Summer 2	To choose a command for a given purpose ● I can find the commands to move a sprite ● I can use commands to move a sprite ● I can compare different programming tools To show that a series of commands can be joined together ● 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 To identify the effect of changing a value ● I can find blocks that have numbers ● I can change the value ● I can say what happens when I change a value To explain that each sprite has its own instructions ● 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 To design the parts of a project ● I can choose appropriate artwork for my project ● I can decide how each sprite will move ● I can create an algorithm for each sprite To use my algorithm to create a program ● I can use sprites that match my design ● I can add programming blocks based on my algorithm ● I can test the programs I have created	To explain that a sequence of commands has a start ● 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 To explain that a sequence of commands has an outcome ● 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 To create a program using a given design ● 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 To change a given design ● I can choose backgrounds for the design ● I can choose characters for the design ● I can create a program based on the new design To create a program using my own 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 To decide how my project can be improved ● I can compare my project to my design ● I can improve my project by adding features ● I can debug my program

12R Computing Knowledge and Skills Progression