

# Computing Progression of Knowledge and Skills

## Year 1

Computing systems and networks – Technology around us Autumn 1	Creating media – Digital painting Autumn 2	Programming A – Moving a robot Spring 1
<p><b>To identify technology</b></p> <ul style="list-style-type: none"> <li>-I can explain how these technology examples help us</li> <li>- I can explain technology as something that helps us</li> <li>- I can locate examples of technology in the classroom</li> </ul> <p><b>To identify a computer and its main parts</b></p> <ul style="list-style-type: none"> <li>-I can name the main parts of a computer</li> <li>- I can switch on and log into a computer</li> <li>- I can use a mouse to click and drag</li> </ul> <p><b>To use a mouse in different ways</b></p> <ul style="list-style-type: none"> <li>-I can click and drag to make objects on a screen</li> <li>- I can use a mouse to create a picture</li> <li>- I can use a mouse to open a program</li> </ul> <p><b>To use a keyboard to type on a computer</b></p> <ul style="list-style-type: none"> <li>-I can save my work to a file</li> <li>- I can say what a keyboard is for</li> <li>- I can type my name on a computer</li> </ul> <p><b>To use the keyboard to edit text</b></p> <ul style="list-style-type: none"> <li>-I can delete letters</li> <li>- I can open my work from a file</li> <li>- I can use the arrow keys to move the cursor</li> </ul> <p><b>To create rules for using technology responsibly</b></p> <ul style="list-style-type: none"> <li>-I can discuss how we benefit from these rules</li> <li>- I can give examples of some of these rules</li> <li>- I can identify rules to keep us safe and healthy when we are using technology in and beyond the home</li> </ul>	<p><b>To describe what different freehand tools do</b></p> <ul style="list-style-type: none"> <li>-I can draw lines on a screen and explain which tools I used</li> <li>- I can make marks on a screen and explain which tools I used</li> <li>- I can use the paint tools to draw a picture</li> </ul> <p><b>To use the shape tool and the line tools</b></p> <ul style="list-style-type: none"> <li>-I can make marks with the square and line tools</li> <li>- I can use the shape and line tools effectively</li> <li>- I can use the shape and line tools to recreate the work of an artist</li> </ul> <p><b>To make careful choices when painting a digital picture</b></p> <ul style="list-style-type: none"> <li>-I can choose appropriate shapes</li> <li>- I can create a picture in the style of an artist</li> <li>- I can make appropriate colour choices</li> </ul> <p><b>To explain why I chose the tools I used</b></p> <ul style="list-style-type: none"> <li>-I can choose appropriate paint tools and colours to recreate the work of an artist</li> <li>- I can say which tools were helpful and why</li> <li>- I know that different paint tools do different jobs</li> </ul> <p><b>To use a computer on my own to paint a picture</b></p> <ul style="list-style-type: none"> <li>-I can change the colour and brush sizes</li> <li>- I can make dots of colour on the page</li> <li>- I can use dots of colour to create a picture in the style of an artist on my own</li> </ul> <p><b>To compare painting a picture on a computer and on paper</b></p> <ul style="list-style-type: none"> <li>-I can explain that pictures can be made in lots of different ways</li> <li>- I can say whether I prefer painting using a computer or using paper</li> <li>- I can spot the differences between painting on a computer and on paper</li> </ul>	<p><b>To explain what a given command will do</b></p> <ul style="list-style-type: none"> <li>-I can match a command to an outcome</li> <li>- I can predict the outcome of a command on a device</li> <li>- I can run a command on a device</li> </ul> <p><b>To act out a given word</b></p> <ul style="list-style-type: none"> <li>-I can follow an instruction</li> <li>- I can give directions</li> <li>- I can recall words that can be acted out</li> </ul> <p><b>To combine forwards and backwards commands to make a sequence</b></p> <ul style="list-style-type: none"> <li>-I can compare forwards and backwards movements</li> <li>- I can predict the outcome of a sequence involving forwards and backwards commands</li> <li>- I can start a sequence from the same place</li> </ul> <p><b>To combine four direction commands to make sequences</b></p> <ul style="list-style-type: none"> <li>-I can compare left and right turns</li> <li>- I can experiment with turn and move commands to move a robot</li> <li>- I can predict the outcome of a sequence involving up to four commands</li> </ul> <p><b>To plan a simple program</b></p> <ul style="list-style-type: none"> <li>-I can choose the order of commands in a sequence</li> <li>- I can debug my program</li> <li>- I can explain what my program should do</li> </ul> <p><b>To find more than one solution to a problem</b></p> <ul style="list-style-type: none"> <li>-I can identify several possible solutions</li> <li>- I can plan two programs</li> <li>- I can use two different programs to get to the same place</li> </ul>

<b>Data and information – Grouping data</b> <b>Spring 2</b>	<b>Creating media – Digital writing</b> <b>Summer 1</b>	<b>Programming B - Programming animations</b> <b>Summer 2</b>
<p><b>To label objects</b></p> <ul style="list-style-type: none"> <li>- I can describe objects using labels</li> <li>- I can identify the label for a group of objects</li> <li>- I can match objects to groups</li> </ul> <p><b>To identify that objects can be counted</b></p> <ul style="list-style-type: none"> <li>- I can count a group of objects</li> <li>- I can count objects</li> <li>- I can group objects</li> </ul> <p><b>To describe objects in different ways</b></p> <ul style="list-style-type: none"> <li>- I can describe an object</li> <li>- I can describe a property of an object</li> <li>- I can find objects with similar properties</li> </ul> <p><b>To count objects with the same properties</b></p> <ul style="list-style-type: none"> <li>- I can count how many objects share a property</li> <li>- I can group objects in more than one way</li> <li>- I can group similar objects</li> </ul> <p><b>To compare groups of objects</b></p> <ul style="list-style-type: none"> <li>- I can choose how to group objects</li> <li>- I can describe groups of objects</li> <li>- I can record how many objects are in a group</li> </ul> <p><b>To answer questions about groups of objects</b></p> <ul style="list-style-type: none"> <li>- I can compare groups of objects</li> <li>- I can decide how to group objects to answer a question</li> <li>- I can record and share what I have found</li> </ul>	<p><b>To use a computer to write</b></p> <ul style="list-style-type: none"> <li>- I can identify and find keys on a keyboard</li> <li>- I can open a word processor</li> <li>- I can recognise keys on a keyboard</li> </ul> <p><b>To add and remove text on a computer</b></p> <ul style="list-style-type: none"> <li>- I can enter text into a computer</li> <li>- I can use backspace to remove text</li> <li>- I can use letter, number, and space keys</li> </ul> <p><b>To identify that the look of text can be changed on a computer</b></p> <ul style="list-style-type: none"> <li>- I can explain what the keys that I have learnt about already do</li> <li>- I can identify the toolbar and use bold, italic, and underline</li> <li>- I can type capital letters</li> </ul> <p><b>To make careful choices when changing text</b></p> <ul style="list-style-type: none"> <li>- I can change the font</li> <li>- I can select all of the text by clicking and dragging</li> <li>- I can select a word by double-clicking</li> </ul> <p><b>To explain why I used the tools that I chose</b></p> <ul style="list-style-type: none"> <li>- I can decide if my changes have improved my writing</li> <li>- I can say what tool I used to change the text</li> <li>- I can use 'undo' to remove changes</li> </ul> <p><b>To compare typing on a computer to writing on paper</b></p> <ul style="list-style-type: none"> <li>- I can explain the differences between typing and writing</li> <li>- I can make changes to text on a computer</li> <li>- I can say why I prefer typing or writing</li> </ul>	<p><b>To choose a command for a given purpose</b></p> <ul style="list-style-type: none"> <li>- I can compare different programming tools</li> <li>- I can find which commands to move a sprite</li> <li>- I can use commands to move a sprite</li> </ul> <p><b>To show that a series of commands can be joined together</b></p> <ul style="list-style-type: none"> <li>- I can run my program</li> <li>- I can use a Start block in a program</li> <li>- I can use more than one block by joining them together</li> </ul> <p><b>To identify the effect of changing a value</b></p> <ul style="list-style-type: none"> <li>- I can change the value</li> <li>- I can find blocks that have numbers</li> <li>- I can say what happens when I change a value</li> </ul> <p><b>To explain that each sprite has its own instructions</b></p> <ul style="list-style-type: none"> <li>- I can add blocks to each of my sprites</li> <li>- I can delete a sprite</li> <li>- I can show that a project can include more than one sprite</li> </ul> <p><b>To design the parts of a project</b></p> <ul style="list-style-type: none"> <li>- I can choose appropriate artwork for my project</li> <li>- I can create an algorithm for each sprite</li> <li>- I can decide how each sprite will move</li> </ul> <p><b>To use my algorithm to create a program</b></p> <ul style="list-style-type: none"> <li>- I can add programming blocks based on my algorithm</li> <li>- I can test the programs I have created</li> <li>- I can use sprites that match my design</li> </ul>

# Year 2

<b>Computing systems and networks – IT around us</b> <b>Autumn 1</b>	<b>Creating media – Digital photography</b> <b>Autumn 2</b>	<b>Programming A – Robot algorithms</b> <b>Spring 2</b>
<p><b>To recognise the uses and features of information technology</b></p> <ul style="list-style-type: none"> <li>- I can describe some uses of computers</li> <li>- I can identify examples of computers</li> <li>- I can identify that a computer is a part of IT</li> </ul> <p><b>To identify the uses of information technology in the school</b></p> <ul style="list-style-type: none"> <li>- I can identify examples of IT</li> <li>- I can identify that some IT can be used in more than one way</li> <li>- I can sort school IT by what it's used for</li> </ul> <p><b>To identify information technology beyond school</b></p> <ul style="list-style-type: none"> <li>- I can find examples of information technology</li> <li>- I can sort IT by where it is found</li> <li>- I can talk about uses of information technology</li> </ul> <p><b>To explain how information technology helps us</b></p> <ul style="list-style-type: none"> <li>- I can demonstrate how IT devices work together</li> <li>- I can recognise common types of technology</li> <li>- I can say why we use IT</li> </ul> <p><b>To explain how to use information technology safely</b></p> <ul style="list-style-type: none"> <li>- I can list different uses of information technology</li> <li>- I can say how rules can help keep me safe</li> <li>- I can talk about different rules for using IT</li> </ul> <p><b>To recognise that choices are made when using information technology</b></p> <ul style="list-style-type: none"> <li>- I can explain the need to use IT in different ways</li> <li>- I can identify the choices that I make when using IT</li> <li>- I can use IT for different types of activities</li> </ul>	<p><b>To use a digital device to take a photograph</b></p> <ul style="list-style-type: none"> <li>- I can explain what I did to capture a digital photo</li> <li>- I can recognise what devices can be used to take photographs</li> <li>- I can talk about how to take a photograph</li> </ul> <p><b>To make choices when taking a photograph</b></p> <ul style="list-style-type: none"> <li>- I can explain the process of taking a good photograph</li> <li>- I can explain why a photo looks better in portrait or landscape format</li> <li>- I can take photos in both landscape and portrait format</li> </ul> <p><b>To describe what makes a good photograph</b></p> <ul style="list-style-type: none"> <li>- I can discuss how to take a good photograph</li> <li>- I can identify what is wrong with a photograph</li> <li>- I can improve a photograph by retaking it</li> </ul> <p><b>To decide how photographs can be improved</b></p> <ul style="list-style-type: none"> <li>- I can experiment with different light sources</li> <li>- I can explain why a picture may be unclear</li> <li>- I can explore the effect that light has on a photo</li> </ul> <p><b>To use tools to change an image</b></p> <ul style="list-style-type: none"> <li>- I can explain my choices</li> <li>- I can recognise that images can be changed</li> <li>- I can use a tool to achieve a desired effect</li> </ul> <p><b>To recognise that photos can be changed</b></p> <ul style="list-style-type: none"> <li>- I can apply a range of photography skills to capture a photo</li> <li>- I can identify which photos are real and which have been changed</li> <li>- I can recognise which photos have been changed</li> </ul>	<p><b>To describe a series of instructions as a sequence</b></p> <ul style="list-style-type: none"> <li>- I can choose a series of words that can be enacted as a sequence</li> <li>- I can follow instructions given by someone else</li> <li>- I can give clear instructions</li> </ul> <p><b>To explain what happens when we change the order of instructions</b></p> <ul style="list-style-type: none"> <li>- I can show the difference in outcomes between two sequences that consist of the same commands</li> <li>- I can use an algorithm to program a sequence on a floor robot</li> <li>- I can use the same instructions to create different algorithms</li> </ul> <p><b>To use logical reasoning to predict the outcome of a program</b></p> <ul style="list-style-type: none"> <li>- I can compare my prediction to the program outcome</li> <li>- I can follow a sequence</li> <li>- I can predict the outcome of a sequence</li> </ul> <p><b>To explain that programming projects can have code and artwork</b></p> <ul style="list-style-type: none"> <li>- I can explain the choices I made for my mat design</li> <li>- I can identify different routes around my mat</li> <li>- I can test my mat to make sure that it is usable</li> </ul> <p><b>To design an algorithm</b></p> <ul style="list-style-type: none"> <li>- I can create an algorithm to meet my goal</li> <li>- I can explain what my algorithm should achieve</li> <li>- I can use my algorithm to create a program</li> </ul> <p><b>To create and debug a program that I have written</b></p> <ul style="list-style-type: none"> <li>- I can plan algorithms for different parts of a task</li> <li>- I can put together the different parts of my program</li> <li>- I can test and debug each part of the program</li> </ul>

<b>Data and information – Pictograms</b> <b>Spring 2</b>	<b>Creating media - Digital music</b> <b>Summer 1</b>	<b>Programming B - Programming quizzes</b> <b>Summer 2</b>
<p><b>To recognise that we can count and compare objects using tally charts</b></p> <ul style="list-style-type: none"> <li>- I can compare totals in a tally chart</li> <li>- I can record data in a tally chart</li> <li>- I can represent a tally count as a total</li> </ul> <p><b>To recognise that objects can be represented as pictures</b></p> <ul style="list-style-type: none"> <li>- I can enter data onto a computer</li> <li>- I can use a computer to view data in a different format</li> <li>- I can use pictograms to answer simple questions about objects</li> </ul> <p><b>To create a pictogram</b></p> <ul style="list-style-type: none"> <li>- I can explain what the pictogram shows</li> <li>- I can organise data in a tally chart</li> <li>- I can use a tally chart to create a pictogram</li> </ul> <p><b>To select objects by attribute and make comparisons</b></p> <ul style="list-style-type: none"> <li>- I can answer 'more than'/'less than' and 'most/least' questions about an attribute</li> <li>- I can create a pictogram to arrange objects by an attribute</li> <li>- I can tally objects using a common attribute</li> </ul> <p><b>To recognise that people can be described by attributes</b></p> <ul style="list-style-type: none"> <li>- I can choose a suitable attribute to compare people</li> <li>- I can collect the data I need</li> <li>- I can create a pictogram and draw conclusions from it</li> </ul> <p><b>To explain that we can present information using a computer</b></p> <ul style="list-style-type: none"> <li>- I can give simple examples of why information should not be shared</li> <li>- I can share what I have found out using a computer</li> <li>- I can use a computer program to present information in different ways</li> </ul>	<p><b>To say how music can make us feel</b></p> <ul style="list-style-type: none"> <li>- I can describe music using adjectives</li> <li>- I can identify simple differences in pieces of music</li> <li>- I can say what I do and don't like about a piece of music</li> </ul> <p><b>To identify that there are patterns in music</b></p> <ul style="list-style-type: none"> <li>- I can create a rhythm pattern</li> <li>- I can explain that music is created and played by humans</li> <li>- I can play an instrument following a rhythm pattern</li> </ul> <p><b>To experiment with sound using a computer</b></p> <ul style="list-style-type: none"> <li>- I can connect images with sounds</li> <li>- I can relate an idea to a piece of music</li> <li>- I can use a computer to experiment with pitch</li> </ul> <p><b>To use a computer to create a musical pattern</b></p> <ul style="list-style-type: none"> <li>- I can explain how my music can be played in different ways</li> <li>- I can identify that music is a sequence of notes</li> <li>- I can refine my musical pattern on a computer</li> </ul> <p><b>To create music for a purpose</b></p> <ul style="list-style-type: none"> <li>- I can add a sequence of notes to my rhythm</li> <li>- I can create a rhythm which represents an animal I've chosen</li> <li>- I can create my animal's rhythm on a computer</li> </ul> <p><b>To review and refine our computer work</b></p> <ul style="list-style-type: none"> <li>- I can explain how I changed my work</li> <li>- I can listen to music and describe how it makes me feel</li> <li>- I can review my work</li> </ul>	<p><b>To explain that a sequence of commands has a start</b></p> <ul style="list-style-type: none"> <li>- I can identify that a program needs to be started</li> <li>- I can identify the start of a sequence</li> <li>- I can show how to run my program</li> </ul> <p><b>To explain that a sequence of commands has an outcome</b></p> <ul style="list-style-type: none"> <li>- I can change the outcome of a sequence of commands</li> <li>- I can match two sequences with the same outcome</li> <li>- I can predict the outcome of a sequence of commands</li> </ul> <p><b>To create a program using a given design</b></p> <ul style="list-style-type: none"> <li>- I can build the sequences of blocks I need</li> <li>- I can decide which blocks to use to meet the design</li> <li>- I can work out the actions of a sprite in an algorithm</li> </ul> <p><b>To change a given design</b></p> <ul style="list-style-type: none"> <li>- I can choose backgrounds for the design</li> <li>- I can choose characters for the design</li> <li>- I can create a program based on the new design</li> </ul> <p><b>To create a program using my own design</b></p> <ul style="list-style-type: none"> <li>- I can build sequences of blocks to match my design</li> <li>- I can choose the images for my own design</li> <li>- I can create an algorithm</li> </ul> <p><b>To decide how my project can be improved</b></p> <ul style="list-style-type: none"> <li>- I can compare my project to my design</li> <li>- I can debug my program</li> <li>- I can improve my project by adding features</li> </ul>