**Computing Progression Grid Year 1 2024-2025**

| Term | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
|---|---|---|---|---|---|---|
| Unit | iAlgorithm | iSafe | iProgram | Digital Writing | Digital Painting | Data and Information Grouping data |

**Unit iAlgorithms- computing unplugged**

| **Knowledge** | **Skills** | **National Curriculum** |
|---|---|---|
| *I can tell you about something I do every day that needs to be done in order<br>*I can follow instructions<br>*I can make a set of instructions for others to follow<br>*I can change instructions if they are wrong *I can follow instructions to do something depending if something is true or false *I can read instructions and usually can tell you what I think will happen *I can tell you what an algorithm is | *Read a set of instructions and sometimes predict the correct outcome.<br>*Produce instructions but sequence them incorrectly or make assumptions.<br>*Understand that humans and computers follow instructions<br><br>*Read a set of instructions and usually predict the correct outcome.<br>*Produce a set of instructions that others can usually follow.<br>*Understand that computers follow instructions given in a precise way.<br><br>*Read a set of instructions and predict the correct outcome.<br>*Produce an accurate set of instructions using agreed language that others can follow.<br>*Understand that computers have no intelligence | *Understand what algorithms are; how they are how<br>*Implemented as programs on digital devices<br>*Understand that programs execute by following precise and unambiguous instructions<br>*Use logical reasoning to predict the behaviour of simple programs<br>*Create and debug simple programs |
| **Vocab**<br><br>Algorithm,<br>Instruction,<br>Sequence, forward, back, turn, up, down program, debug, repeat, predict, pattern, if, true, false | **Key Questions**<br><br>What is an algorithm? A set of instructions that are followed to achieve a task<br>How do we give computers instruction? In 'code' instructions given in a language computers can understand<br>What does debug mean? Fixing problems in computer programs | |

| **Cross Curricular Links:**<br><br>English, PE, Mathematics, Design Technology, Music |
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## Unit: iSafe e- safety

| **Knowledge** | **Skills** | **National Curriculum** |
|---|---|---|
| *I can tell you about the information that only belongs to me<br>*I can talk about who I can and should not share personal information with<br>*I can talk about people I can and can't trust<br>*I can identify someone I can trust (E.g. police officer or teacher)<br>*I can tell you about a risky situation when I might need the help of a trusted adult *I can talk about how emotions and sensations can make me feel safe or unsafe *I can talk about which information is personal to me and whom they should/should not give it to | *Know that some information is personal ( e.g name + address)<br>*Identify some characteristics of trustworthy/untrustworthy people but given appropriate justification (e.g trust worthy because they are being nice).<br>*Understand that personal information should only be given to trustworthy people but the trust can be misplaced.<br><br>*Understand that various information is personal (e.g hobbies)<br>*Usually identify characteristics of trustworthy people.<br>*Know that personal information should only be given to trusted people.<br><br>*Understand that a wider range of information is personal ( e.g regular attendance at a s specific place)<br>*Identify a variety of characteristics of trustworthy people and justifies opinions appropriately know that personal information should only be given to trusted people | Use technology safely and respectfully, keeping personal information private;<br><br>identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies |
| **Vocab**<br><br>Personal information, trusted adult, permission, cyber bullying | **Key Questions**<br><br>What is personal information?<br>*Name, address, phone number, photographs, hobbies, username, password etc*<br>Which adult do you trust?<br><br>When would it be okay to share a picture of someone?<br>*With permission* | |

| **Cross Curricular Links** |
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# iProgram: Algorithms. Programming physical and virtual toys

| **Knowledge** | **Skills** | National Curriculum |
|---|---|---|
| *I can show you something that does something when you give it an instruction<br>*I can make a programmable toy go where I want it to go<br>*I can draw instructions that would move a toy<br>*I can tell you what I think a toy will do if it followed a set of instructions | *Read a set of instructions and sometimes predict the correct outcome.<br>*Produce instructions but sequence them incorrectly or make assumptions.<br>*Understand that humans and computers follow instructions<br><br>*Read a set of instructions and usually predict the correct outcome.<br>*Produce a set of instructions that others can usually follow.<br>*Understand that computers follow instructions given in a precise way.<br><br>*Read a set of instructions and predict the correct outcome.<br>*Produce an accurate set of instructions using agreed language that others can follow.<br>*Understand that computers have no intelligence | Understand that programs execute by following precise and unambiguous instructions<br>Use logical reasoning to predict the behaviour of simple programs<br>Create and debug simple programs Use technology purposefully to create, organise, store, manipulate and retrieve digital content |

| **Vocab** | **Key Questions** |
|---|---|
| Algorithm, instruction, sequence, program, debug, repeat, output, device, signal, instruction, response, forward, back, left, right, step, program, input, output, forward, debugging, command, | What is an algorithm?<br>*A set of instructions that are followed to achieve a task*.<br>How do we give computers instructions?<br>*In 'code' instructions given in a language computers can understand.*<br>What does debug mean?<br>*Finding and fixing problems in algorithms and computer programs.* |

| **Cross Curriculum Links**<br><br>Mathematics, English, Geography |
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## Digital Writing (teach computing)

| **Knowledge** | **Skills** | **National Curriculum** |
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| I can identify and find keys on a keyboard.<br>I can open a word processor.<br>I can recognise keys on a keyboard.<br>I can enter text into a computer.<br>I can use backspace to remove text.<br>I can use letter, number, and space keys.<br>I can explain what the keys that I have learnt about already do.<br>I can identify the toolbar and use bold, italic, and underline.<br>I can type capital letters.<br>I can change the font.<br>I can select all of the text by clicking and dragging.<br>I can select a word by double-clicking.<br>I can decide if my changes have improved my writing.<br>I can say what tool I used to change the text.<br>I can use 'undo' to remove changes.<br>I can explain the differences between typing and writing.<br>I can make changes to text on a computer.<br>I can say why I prefer typing or writing. | To use a computer to write.<br>To add and remove text on a computer.<br>To identify that the look of text can be changed on a computer.<br>To make careful choices when changing text.<br>To explain why I used the tools that I chose.<br>To compare typing on a computer to writing on paper. | To use technology purposefully to create, organise, store, manipulate and retrieve digital content.<br><br>To 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. |

| **Vocab** | **Key Questions** |
| --- | --- |
| word processor, keyboard, keys, letters, type, numbers, space, backspace, text cursor, capital letters, toolbar, bold, italic, underline, mouse, select, font, undo, redo, format, compare, typing, writing | How can you correct mistakes using a word processor? *Backspace, delete or cut.*<br>What are benefits of using a word processor? *You can quickly make changes to text*<br>How can you get to your work later? *Saving or printing* |

**Progression**: This unit progresses the learners' knowledge and understanding of using computers to create and manipulate digital content, focussing on using a word processor. The learners will develop their ability to find and use the keys on a keyboard in order to create digital content. The learners are then introduced to manipulating the resulting text, making cosmetic changes, and justifying their reason for making these changes. Following this unit, learners will further develop their digital writing skills in the Year 3 – 'Desktop publishing' unit and the Year 6 – 'Web page development' unit.

**Cross Curricular Links**

**Computing**

- 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.

**English – writing (Y1)**

Write sentences by:

- saying out loud what they are going to write about
- composing a sentence orally before writing it
- sequencing sentences to form short narratives
- e-reading what they have written to check that it makes sense

# Digital Painting (teach computing)

| Knowledge | Skills | National Curriculum |
|---|---|---|
| Know that a picture can be created on a digital device.<br>Explain what different freehand tools do.<br>Recognise that computers can be used to create a range of art.<br>Recognise a tool can be adjusted.<br>Explain how different freehand tools are combined to get the outcome desired.<br>Recognise a tool can be adjusted to suit a specific need or style.<br><br>**To describe what different freehand tools do.**<br>I can make marks on a screen and explain which tools I used.<br>I can draw lines on a screen and explain which tools I used.<br>I can use the paint tools to draw a picture.<br>To use the shape tool and the line tools.<br>I can make marks with the square and line tools.<br>I can use the shape and line tools effectively.<br>I can use the shape and line tools to recreate the work of an artist.<br>**To make careful choices when painting a digital picture.**<br>I can choose appropriate shapes.<br>I can make appropriate colour choices.<br>I can create a picture in the style of an artist.<br>**To explain why I chose the tools I used.**<br>I can explain that different paint tools do different jobs.<br>I can choose appropriate paint tools and colours to recreate the work of an artist.<br>I can say which tools were helpful and why.<br>**To use a computer on my own to paint a picture.**<br>I can make dots of colour on the page.<br>I can change the colour and brush sizes.<br>I can use dots of colour to create a picture in the style of an artist on my own.<br>**To compare painting a picture on a computer and on paper.**<br>I can explain that pictures can be made in lots of different ways.<br>I can spot the differences between painting on a computer and on paper.<br>I can say whether I prefer painting using a computer or using paper. | To explain what different freehand tools do.<br>To create a picture using freehand tools<br>To recognise computers can be used to create art.<br>To use shape and line tools when precision is needed.<br>To use a range of paint colours.<br>To use the fill tool to colour an enclosed area.<br>To use the undo button to correct a mistake.<br>To recognise a tool can be adjusted to suit my need.<br>To combine a range of tools to create a piece of artwork.<br>To describe when its appropriate to use each tool.<br>To consider impact of choices made.<br>To compare painting using a computer with painting using brushes. | Use technology purposefully to create, organise, store, manipulate, and retrieve digital content. |

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| **Vocab**<br>paint program, tool, paintbrush, erase, fill, undo, shape tools, line tool, fill tool, undo tool, colour, brush style, brush size, pictures, painting, computers | **Key Questions**<br>*How can you change the size of the paint brush?*<br>*How can you change colour?*<br>*Which tools have you found useful?* | |
| **Progression**<br>Learners should be familiar with:<br>• How to switch their device on<br>• Usernames<br>• Passwords<br><br>For an introduction to keyboard and mouse skills, learners may benefit from completing the Year 1 Computing Systems & Networks unit prior to this unit**.** | **Cross Curricular Links**<br><br>**Computing**<br>●Use technology purposefully to create, organise, store, manipulate, and retrieve digital content<br><br>**Art and Design**<br>●To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form, and space<br>●About the work of a range of artists, craft makers, and designers, describing the differences and similarities between different practices and disciplines and making links to their own work | |

## Data and Information- Grouping data (Teach computing)

| Knowledge | Skills | National Curriculum |
|---|---|---|
| **To label objects**<br>I can describe objects using labels.<br>I can match objects to groups.<br>I can identify the label for a group of objects.<br>**To identify that objects can be counted.**<br>I can count objects. | To identify some attributes of an object.<br>To collect simple data.<br>To identify that objects can be counted.<br>To show that collected data can be counted.<br>To describe the properties of an object.<br>To choose an attribute to group objects by. | Use technology purposefully to create, organise, store, manipulate and retrieve digital content. |

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| I can group objects.<br>I can count a group of objects.<br>**To describe objects in different ways**<br>I can describe an object.<br>I can describe a property of an object.<br>I can find objects with similar properties.<br>**To count objects with the same properties**<br>I can group similar objects.<br>I can group objects in more than one way.<br>I can count how many objects share a property.<br>**To compare groups of objects**<br>I can choose how to group objects.<br>I can describe groups of objects.<br>I can record how many objects are in a group.<br>**To answer questions about groups of objects**<br>I can decide how to group objects to answer a question.<br>I can compare groups of objects.<br>I can record and share what I have found. | To group objects to answer questions.<br>To explain that objects can be grouped by similarities (attribute).<br>To recognise that information can be presented.<br>To describe a group of objects (based on commonality).<br>To recognise that information can be presented in different ways. | 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. |
| **Vocab:** Object, label, group, search, image, property, colour, size, shape, data set, value, more, less, most, fewest,<br>the same. | **Key Questions**<br>What is an object?<br>How have you grouped the objects?<br>*Can you explain your groups?* | |
| **Progression**<br><br>This unit will introduce learners to data and information. It will introduce learners to the concept of labelling and grouping objects based on their properties. Learners will develop their understanding that objects can be given labels, which is fundamental to their future learning concerning databases and spreadsheets. In addition, learners will begin to improve their ability to use dragging and dropping skills on a device. Following this unit, in year 2, learners will present data graphically in pictograms. | **Curriculum links**<br>**Computing**<br>●Use technology purposefully to create, organise, store, manipulate, and retrieve digital content<br>●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. | |