



Computing- progression of skills-

| Curriculum area | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
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| Computing systems | <p>Explain how technology helps us. Name the main parts of a computer and explain what they are for e.g. what is a keyboard used for? Switch on and log into a computer. Use a mouse to click and drag, create a picture and open a program. Save and open my work. Use the keyboard to delete letters, type name and move the cursor using the arrow keys.</p> | <p>Describe some uses of computers. Identify examples of IT. Sort IT by where it is found. Demonstrate how it devices work together. Explain why we use IT.</p> | <p>Explain that digital devices accept inputs and produce outputs. Describe and follow a process. Classify input and output devices. Explain how digital devices can be used for different activities. Recognise similarities and differences between digital and non-digital devices. Discuss why we need a network switch. Demonstrate how devices in a network can be passed between devices. Explain the role of a switch, server and wireless access points. Identify networked devices around me.</p> | <p>Demonstrate how data is shared across the internet. Explain that the internet is used to provide many services. Explore the world wide web. Explain what media can be found on websites. Suggest who owns the content on websites. Check the reliability of online sources.</p> | <p>Describe that computer system features inputs, processes and outputs. Explain that systems are made using a number of parts. Explain the benefits of given computer systems. Use web searches to find specific information and make comparisons between search engines. Explain how search engines rank results. Recognise limitations of search engines.</p> | <p>Explain that computer devices have addresses and how they are used to access websites. Explain that data is transferred in packets. Access shared files online. Send information over the internet in different ways. Explain how the internet enables effective collaboration. Choose methods of communication to suit particular purposes. Compare different ways of communicating on the internet.</p> |

Programming

Compare different programming tools.
Use commands to move the sprite.
Run my program.
Change the value of commands and explain what happens.
Add and delete sprites.
Test the programs I have created.

Follow and give clear instructions.
Use an algorithm to program a sequence on a floor robot.
Predict the outcome of a sequence.
Create a mat for the floor robot.
Create an algorithm to meet the goals.
Test and debug each part of the program.

Explain the relationship between an event and action.
Identify ways to improve a program.
Program movement.
Choose blocks to set up a program.
Use a programming extension.
Match a piece of code to an outcome.
Evaluate a project.

Create a code snippet for a given purpose.
Explain the effect of changing the value of a command.
Text an algorithm in a text-based language.
Write an algorithm to produce a given outcome.
Identify patterns in a sequence.
Use a count-controlled loop to produce a given outcome.
Predict the outcome of a program containing a count-controlled loop.
Use a procedure in a program.
Develop a program by debugging it.

Create a simple circuit and connect it to a microcontroller.
Program a microcontroller.
Connect output components to a microcontroller.
Design a conditional loop.
Test and debug a project.
Write an algorithm that describes a model.

Identify examples of information that is variable.
Explain that a variable has a name and value which can be changed.
Decide where in a program to change a variable.
Create an algorithm.
Test codes that have been written.
Identify ways that my game could be changed.
Use variables to extent a game.

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| <p>Creating media 1</p> | <p>Draw lines on a screen and explain which tools were used. Use the shape and line tools to create art. Use colours and shapes to recreate art. Express which tools were helpful and why. Change brush size.</p> | <p>Describe music explaining what you like or dislike about it. Create a rhythm pattern. Use a computer to experiment with pitch. Explain how your music can be played in different ways. Create a rhythm to represent the animal I have chosen. Listen to your music and review it.</p> | <p>Create an effective flip book style animation. Explain how animation works. Create an effective stop frame animation. Predict what an animation will look like. Create a storyboard. Evaluate animations. Use onion skinning to make a stop frame animation.</p> | <p>Use photo editing software to crop and rotate an image and explain why. Experiment with different colour effects. Add to the composition of an image by cloning. Use a range of tools to select and copy part of an image. Create a project. Combine text and image to complete a project.</p> | <p>Identify and compare features of videos. Experiment with different camera angles. Use a microphone. Capture video using a range of filming techniques. Create and save video content. Improve a video by reshooting and editing, Select the correct tools to edit the video. Evaluate created videos.</p> | <p>Explore websites and know they are written in HTML. Draw a webpage layout that suits a purpose. Recognise common features of a webpage. Find copyright free images and explain why they should be used. Add content to a webpage. Evaluate what a webpage looks like on different devices and suggest/make edits. Explain what a navigational path is and why they are useful. Create hyperlinks to other peoples work. Evaluate the user experience of a website.</p> |
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| <p>Creating media 2</p> | <p>Find keys on a keyboard. Open word processor. Enter text into the computer. Use the backspace to remove text. Use bold, italic and underline features. Change font. Use clicking and dragging to select text. Use the undo feature. Express opinions on word processing.</p> | <p>Recognise devices that can be used to take photos. Explain how you capture a photograph. Take photos in landscape and portrait modes and discuss them. Improve photographs by retaking them. Experiment with different light sources and discuss their effects.</p> | <p>Identify advantages and disadvantages of using text and images. Change font style, size and colour for a given purpose. Edit text. Define the term page orientation. Enter content into a document and choose best locations. Choose a suitable layout for a given purpose. Identify uses of a desktop publishing in the real world.</p> | <p>Identify the input and output device used to record and play sound. Use and inspect the soundwave view to trim a recording. Plan appropriate content for a podcast. Record content and review the quality of recordings. Save and export a project and explain the process. Edit recordings and suggest improvements.</p> | <p>Experiment with shape and line tools. Move, resize and rotate objects that have been duplicated. Use alignment grids and resize handles to improve vector designs. Use the zoom tool to add detail to drawings. Use layering to create an image. Regroup and ungroup objects. Create vector drawings for a specific purpose. Reflect on skills that have been used and why.</p> | <p>Add 3D shapes to a project. Move 3D shapes relative to one another. Lift/lower, recolour and resize 3D objects. Duplicate, group and rotate objects. Accurately size 3D objects. Combine a number of 3D objects. Analyse a 3D model. Construct a 3D model based on a design. Modify a 3D model to improve it.</p> |
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| <p>Databases</p> | <p>Identify labels for a group of objects. Count and group objects. Describe the properties of an object. Compare groups of objects. Record and share what I have found.</p> | <p>Record data in a tally chart and compare totals. Enter data onto a computer and use the computer to view data in different formats. Use a tally to create a pictogram and explain what the pictogram shows. Use pictograms to answer questions. Collect and present information.</p> | <p>Create groups of objects and answer questions about the groups. Arrange objects into a tree structure. Test a branching database to check it works. Compare two branching databases. Create questions to be used in a branching database. Suggest real world uses for a branching database.</p> | <p>Identify datasets. Explain what data can be collected using sensors and answer questions. Use a data logger to collect data. Sort data. Draw conclusions from data collected. Interpret data.</p> | <p>Create a database using cards. Order, sort and group data cards. Explain what a field and record is in a database. Navigate a flat file database to complete different views of information. Group information using a database. Explain the benefits of using a computer to create charts. Select appropriate charts to visually compare data. Present findings to a group.</p> | <p>Collect data and enter it into a spreadsheet. Format excel cells. Construct formulars in a spreadsheet. Create a formular which includes a range of cells. Use a spreadsheet to answer questions. Produce a chart. Use a chart to show the answer to questions.</p> |
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| E-safety | | | | | | |
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