# Computing Progression

| | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|
| **Creating media** | • Develop small motor skills so that they can use a range of tools competently, safely and confidently.<br>• Explore, use and refine a variety of artistic effects to express their ideas and feelings. | • Use letter, number, and space keys to enter text<br>• Use punctuation and special characters<br>• Use the backspace key to remove text<br>• Use undo<br>• Position the text cursor in a chosen location<br>• Change the appearance of text on a computer<br>• Consider the impact of choices made | • Take photos in landscape and portrait<br>• Decide which photos to keep<br>• Consider lighting before taking a photo<br>• Use zoom to change the composition of a photo<br>• Hold the camera still to take a clear photo<br>• Use filters to edit the appearance of a photograph<br>• Improve a photo by retaking it | • Recognise how text and images can be used together to convey information<br>• Define landscape and portrait<br>• Change a page orientation<br>• Organise text and image placeholders<br>• Add and remove images<br>• Edit text in a placeholder<br>• Move resize and rotate images<br>• Choose fonts and apply effects to text<br>• Review a document<br>• Use an application to change a digital image<br>• Add to the composition to an image<br>• Rotate and flip an image<br>• Adjust the colour of an image<br>• Apply effects to a digital image<br>• Clone, copy and paste an image<br>• Choose an appropriate tool for a particular purpose | • Recognise how text and images can be used together to convey information<br>• Define landscape and portrait<br>• Change a page orientation<br>• Organise text and image placeholders<br>• Add and remove images<br>• Edit text in a placeholder<br>• Move resize and rotate images<br>• Choose fonts and apply effects to text<br>• Review a document<br>• Use an application to change a digital image<br>• Add to the composition to an image<br>• Rotate and flip an image<br>• Adjust the colour of an image<br>• Apply effects to a digital image<br>• Clone, copy and paste an image<br>  • Choose an appropriate tool for a particular purpose | • Identify that a vector drawing comprises several objects<br>• Add an object to a vector drawing<br>• Select one or multiple objects<br>• Delete an object<br>• Move objects between layers<br>• Group and ungroup objects<br>• Duplicate objects<br>• Modify objects<br>• Reposition objects<br>• Create a vector drawing for a given purpose<br>• Position 3D shapes relative to one another<br>• Use digital tools to modify digital objects<br>• Combine objects to create a 3D digital artifact<br>• Use digital tools to accurately size 3D objects<br>• Construct a 3D model which reflects a real world object | • Identify that a vector drawing comprises several objects<br>• Add an object to a vector drawing<br>• Select one or multiple objects<br>• Delete an object<br>• Move objects between layers<br>• Group and ungroup objects<br>• Duplicate objects<br>• Modify objects<br>• Reposition objects<br>• Create a vector drawing for a given purpose<br>• Position 3D shapes relative to one another<br>• Use digital tools to modify digital objects<br>• Combine objects to create a 3D digital artifact<br>• Use digital tools to accurately size 3D objects<br>• Construct a 3D model which reflects a real world object |
| **Computing systems and networks** | • Explore how things work | • Choose a piece of technology to do a job<br>• Recognise that some technology can be used in different ways<br>• Identify the main parts of a computer<br>• Use a keyboard to type<br>• Use a keyboard to edit text<br>• Show how to use technology safely | • Describe some uses of computers<br>• Identify information technology in school<br>• Identify information technology beyond school<br>• Show how to use information technology safely | • Identify input and output devices<br>• Describe in input<br>• Explain that a process acts on inputs<br>• Explain that an output is produced by a process<br>• Recognise that computers can be connected to each other<br>• Identify benefits of networks<br>• Explain how a network can be used to share information<br>• Describe how networks connect to other networks<br>• Recognise the need for security on the internet<br>• Recognise the world wide web is part of the internet<br>• Describe how to access the world wide web<br>• Explain the benefits of the world wide web | • Identify input and output devices<br>• Describe in input<br>• Explain that a process acts on inputs<br>• Explain that an output is produced by a process<br>• Recognise that computers can be connected to each other<br>• Identify benefits of networks<br>• Explain how a network can be used to share information<br>• Describe how networks connect to other networks<br>• Recognise the need for security on the internet<br>• Recognise the world wide web is part of the internet<br>• Describe how to access the world wide web<br>• Explain the benefits of the world wide web | • Describe the input and output of a search engine<br>• Demonstrate that different search terms produce different results<br>• Explain that ranking orders search results to make them more useful<br>• Explain how search results are selected<br>• Evaluate the results of search terms<br>• Outline methods of communicating and collaborating using the internet<br>• choose methods of internet communication and collaboration for given purposes<br>• Evaluate different methods of online communication and collaboration<br>• Decide what you should and should not share online | • Describe the input and output of a search engine<br>• Demonstrate that different search terms produce different results<br>• Explain that ranking orders search results to make them more useful<br>• Explain how search results are selected<br>• Evaluate the results of search terms<br>• Outline methods of communicating and collaborating using the internet<br>• choose methods of internet communication and collaboration for given purposes<br>• Evaluate different methods of online communication and collaboration<br>• Decide what you should and should not share online |
| **Data and information** | | • Identify some attributes of an object<br>• Collect simple data<br>• Describe the properties of an object<br>• Choose an attribute to group objects by<br>• Group objects to answer questions<br>• Describe a group of objects | • Use a tally chart to collect data<br>• Enter data onto a computer<br>• Recognise that people, animals and objects can be described by attributes<br>• Use a computer to view data in different formats<br>• Use pictograms to answer single-attribute questions<br>• Use a computer to answer comparison questions | • Enter data into cells<br>• Create a table of data<br>• Use cell references<br>• Use tools to automatically total data<br>• Write simple formulae<br>• Format text<br>• Create automatic charts and graphs from data<br>• Use a digital device to collect data<br>• Choose how often to collect data<br>• Use data to find information<br>• Use a computer program to sort data<br>• Export information in different formats | • Enter data into cells<br>• Create a table of data<br>• Use cell references<br>• Use tools to automatically total data<br>• Write simple formulae<br>• Format text<br>• Create automatic charts and graphs from data<br>• Use a digital device to collect data<br>• Choose how often to collect data<br>• Use data to find information<br>• Use a computer program to sort data<br>• Export information in different formats | • Use cell notation<br>• Use cell formatting<br>• Create a table of multi-type data<br>• Type into the formula bar to create formulae for cells<br>• Copy formula into multiple cells<br>• Use formula and calculations to solve real life problems<br>• Use the formulae wizard to create complex formulae | • Use cell notation<br>• Use cell formatting<br>• Create a table of multi-type data<br>• Type into the formula bar to create formulae for cells<br>• Copy formula into multiple cells<br>• Use formula and calculations to solve real life problems<br>• Use the formulae wizard to create complex formulae |
| **Programming** | • Show resilience and perseverance in the face of a challenge<br>• Follow instructions<br>• Give instructions<br>• Observe inputs have an output | • Explain what a given command does<br>• Match a command to an outcome<br>• Understand that a program is a set of commands that a computer can run<br>• Predict the outcome of a command<br>• Run a command on a floor robot<br>• Build a sequence of commands in steps<br>• Run a program on a device | • Describe that a series of instructions is a sequence<br>• Explain what happens when we change the order of instructions<br>• Choose a series of instructions that can be run as a program<br>• Create a program<br>• Trace a sequence to make a prediction<br>• Test a sequence by running a prediction<br>• Create and debug a program | • Explain that objects in Scratch have attributes<br>• Identify the objects in a Scratch project<br>• Recognise that commands in Scratch are represented as blocks<br>• Create a program following a design<br>• Create a sequence of commands<br>• Start a program in different ways<br>• Combine sound commands<br>• Build a sequence of commands<br>• Make design choices<br>• Test my algorithm<br>• Use a count-controlled loop | • Explain that objects in Scratch have attributes<br>• Identify the objects in a Scratch project<br>• Recognise that commands in Scratch are represented as blocks<br>• Create a program following a design<br>• Create a sequence of commands<br>• Start a program in different ways<br>• Combine sound commands<br>• Build a sequence of commands<br>• Make design choices<br>• Test my algorithm<br>• Use a count-controlled loop | • Design sequences which use count-controlled loops<br>• Use section to direct the flow of a program<br>• Test and debug a project<br>• Recognise that variables can be changed<br>• Design a conditional loop<br>• Test and debug a program<br>• Identify that variables can hold numbers or letters<br>• Explain design choices<br>• Choose artwork for a project<br>• Evaluate games created by others<br>• Identify improvements to a game | • Design sequences which use count-controlled loops<br>• Use section to direct the flow of a program<br>• Test and debug a project<br>• Recognise that variables can be changed<br>• Design a conditional loop<br>• Test and debug a program<br>• Identify that variables can hold numbers or letters<br>• Explain design choices<br>• Choose artwork for a project<br>• Evaluate games created by others<br>• Identify improvements to a game |
| **Online Safety** | • Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'<br>• Identify some positives and some dangers of using devices | • identify what things count as personal information;<br>• identify what is appropriate and inappropriate behaviour on the internet;<br>• agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;<br>• seek help from an adult when they see something that is unexpected or worrying;<br>• demonstrate how to safely open and close applications and log on and log off from websites;<br>• use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, | • identify what things count as personal information;<br>• identify what is appropriate and inappropriate behaviour on the internet;<br>• agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;<br>• seek help from an adult when they see something that is unexpected or worrying;<br>• demonstrate how to safely open and close applications and log on and log off from websites;<br>• use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, | • reflect on their own digital footprint and behaviour online;<br>• identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying;<br>• agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;<br>• seek help from an adult when they see something that is unexpected or worrying;<br>• demonstrate understanding of age-appropriate websites and adverts;<br>• use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, | • reflect on their own digital footprint and behaviour online;<br>• identify what is appropriate and inappropriate behaviour on the internet, recognising the term cyberbullying;<br>• agree and follow sensible online safety rules, e.g. taking pictures, sharing information, storing passwords;<br>• seek help from an adult when they see something that is unexpected or worrying;<br>• demonstrate understanding of age-appropriate websites and adverts;<br>• use key vocabulary to demonstrate knowledge and understanding in this strand: safe, meet, | •protect their password and other personal information;<br>•be a good online citizen and friend;<br>•judge what sort of privacy settings might be relevant to reducing different risks;<br>•seek help from an adult when they see something that is unexpected or worrying;<br>•discuss scenarios involving online risk;<br>•use key vocabulary to demonstrate knowledge and understanding in this strand: spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, secure, safe, account, online, private, social media, adverts, cyberbullying, reporting, | •protect their password and other personal information;<br>•be a good online citizen and friend;<br>•judge what sort of privacy settings might be relevant to reducing different risks;<br>•seek help from an adult when they see something that is unexpected or worrying;<br>•discuss scenarios involving online risk;<br>•use key vocabulary to demonstrate knowledge and understanding in this strand: spam, link, privacy, virus, scam, phishing, inbox, junk, sender, subject, secure, safe, account, online, private, social media, adverts, cyberbullying, reporting, |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet. | accept, reliable, tell, online, trusted, adult, information, safety, personal, key, question, tell, safe, share, stranger, danger, internet. | accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public. | accept, reliable, tell, online, trusted, adult, information, safety, personal, internet, world wide web, communicate, message, social media, email, password, cyberbullying/bullying, plagiarism, profiles, account, private, public. | anonymous, victim, fraud/fraudulent, policy, private/personal. | anonymous, victim, fraud/fraudulent, policy, private/personal. |