SUBJECT: Computing

Starting each year with E-safety will refresh and build on children's knowledge and understanding of how to use technology safely. This knowledge can then be referred to throughout the year so they can confidently explain at any point, how to stay safe online/when using technology.

Every year group will cover the same topic in each half term so progression can clearly be seen across the school. These topics have been underlined in each term. Skills are written as 'I can' statements so they are easily relatable to the children. Looking at the expected skills in the year group either side of the one being taught will give a good understanding of what the children should be able to do and where they need to progress to.

This document can be used alongside 'Curriculum progression in computing' and 'Coding vocabulary for each year group' (both in computing folder).

	Autumn 1 *E-safety*	**Autumn 2** *Multimedia*	**Spring 1** **Spring 2** *Programming*	**Summer 1** *Handling data*	**Summer 2** Technology in our lives
Year R	Children talk about ways to keep healthy and safe. Children talk about how they and others show feelings, talk about their own and others' behaviour, and its consequences, and know that some behaviour is unacceptable. I know I need to be supervised by an adult when accessing online content. I know I must talk to a trusted adult if I see something unexpected online.	Children show good control and co-ordination small movements. They handle equipment and tools effectively. Children use their phonic knowledge to write words in ways which match their spoken sounds. I can use a mousepad to move a mouse. I can press the keys I intended to on a keyboard. I can type single words on a keyboard. I can use drawing programmes on a laptop.	Children follow instructions involving several ideas or actions. I can respond to instructions. I know that instructions tell someone or something to do a certain task or action. I know that pressing a button or clicking the mouse is giving an instruction to the computer.	They select and use technology for particular purposes. I can role play using technology. I can talk about the purpose of this technology e.g. mobiles used for making calls/sending messages/accessing apps/internet. I can choose an appropriate app or programme to use on the laptop or IWB for a particular task or purpose.	Children recognise that a range of technology is used in places such as homes and schools. I can talk about technology I see at home and at school. I can explain when this technology is used. I can think about the technology used outside of school and home.
Year 1	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. E-safety I can keep my password private. I can tell you what personal information is. I can tell an adult when I see something unexpected or worrying online. I can talk about why it's important to be kind and polite. I can recognise an age	Pupils should be taught to use technology purposefully to create digital content. Multimedia I can be creative with different technology tools. I can use technology to create and present my ideas. I can use the keyboard or a word bank on my device to enter text. I can save information in a special place and retrieve it again.	Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. Programming I can give instructions to my friend and follow their instructions to move around. I can describe what happens when I press buttons on a robot. I can press the buttons in the correct order to make my robot do what I want. I can describe what actions I will need to do to make something happen and begin to use the word 'algorithm'. I can begin to predict what will happen for a short sequence of instructions. I can begin to use software/apps to create movement and patterns on a screen. I can use the word 'debug' when I correct mistakes when I Program.	Pupils should be taught to use technology purposefully to organise and manipulate digital content. Handling data I can talk about the different ways in which information can be shown. I can use technology to collect information, including photos, video and sound. I can sort different kinds of information and present it to others. I can add information to a pictograph and talk to you about what I have found out.	Pupils should be taught to use technology purposefully to store and retrieve digital content and to recognise common uses of information technology beyond school. Technology in our lives I can recognise the way we use technology in our classroom. I can recognise ways that technology is used in my home and community. I can use links to websites to find information. I can begin to identify some of the benefits of using technology.

	appropriate website. I can agree and follow sensible e-safety rules.				
Year 2	**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.** E-safety I can explain why I need to keep my password and personal information private. I can describe the things that happen online that I must tell an adult about. I can talk about why I should go online for a short amount of time. I can talk about why it is important to be kind and polite online and in real life. I know that not everyone is who they say they are on the internet.	**Pupils should be taught to use technology purposefully to create digital content.** Multimedia I can use technology to organise and present my ideas in different ways. I can use the keyboard on my device to add, delete and space text for others to read. I can tell you about an online tool that will help me to share my ideas with other people. I can save and open files on the device I use.	**Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.** Programming I can give instructions to my friend (using forward, backward and turn) and physically follow their instructions. I can tell you the order I need to do things to make something happen and talk about this as an algorithm. I can program a robot or software to do a particular task. I can look at my friend's program and tell you what will happen. I can use programming software to make objects move. I can watch a program execute and spot where it goes wrong so that I can debug it.	**Pupils should be taught to use technology purposefully to organise and manipulate digital content.** Handling data I can talk about the different ways I use technology to collect information, including a camera, microscope or sound recorder. I can make and save a chart or graph using the data I collect. I can talk about the data that is shown in my chart or graph. I am starting to understand a branching database. I can tell you what kind of information I could use to help me investigate a question.	**Pupils should be taught to use technology purposefully to store and retrieve digital content and to recognise common uses of information technology beyond school.** Technology in our lives I can tell you why I use technology in the classroom. I can tell you why I use technology in my home and community. I am starting to understand that other people have created the information I use. I can identify benefits of using technology including finding information, creating and communicating. I can talk about the differences between the internet and things in the physical world.
Year 3	**Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.** E-safety I can talk about what makes a secure password and why they are important. I can protect my personal information when I do different things online. I can use the safety features of websites as well as reporting concerns to an adult. I can recognise websites and games appropriate for my age. I can make good choices about how long I spend online. I ask an adult before downloading files and games from the internet. I can post positive comments online.	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Multimedia I can create different effects with different technology tools. I can combine a mixture of text, graphics and sound to share my ideas and learning. I can use appropriate keyboard commands to amend text on my device, including making use of a spellchecker. I can evaluate my work and improve its effectiveness. I can use an appropriate tool to share my work online.	**Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Programming I can break an open-ended problem up into smaller parts. I can put programming commands into a sequence to achieve a specific outcome. I keep testing my program and can recognise when I need to debug it. I can use repeat commands. I can describe the algorithm I will need for a simple task. I can detect a problem in an algorithm which could result in.	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.** Handling data I can talk about the different ways data can be organised. I can search a ready-made database to answer questions. I can collect data to help me answer a question. I can add to a database. I can make a branching database. I can use a data logger to monitor changes and can talk about the information collected.	**Pupils should be taught to understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.** Technology in our lives I can save and retrieve work on the internet, the school network or my own device. I can talk about the parts of a computer. I can tell you ways to communicate with others online. I can describe the World Wide Web as the part of the internet that contains websites. I can use search tools to find and use an appropriate website. I can

					think about whether I can use images that I find online in my own work.
Year 4	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. E-safety I can choose a secure password when I am using a website. I can talk about the ways I can protect myself and my friends from harm online. I can use the safety features of websites as well as reporting concerns to an adult. I know that anything I post online can be seen by others. I choose websites and games that are appropriate for my age. I can help my friends make good choices about the time they spend online. I can talk about why I need to ask a trusted adult before downloading files and games from the internet. I comment positively and respectfully online.	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Multimedia I can use photos, video and sound to create an atmosphere when presenting to different audiences. I am confident to explore new media to extend what I can achieve. I can change the appearance of text to increase its effectiveness. I can create, modify and present documents for a particular purpose. I can use a keyboard confidently and make use of a spellchecker to write and review my work. I can use an appropriate tool to share my work and collaborate online. I can give constructive feedback to my friends to help them improve their work and refine my own work.	**Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Programming I can use logical thinking to solve an open-ended problem by breaking it up into smaller parts. I can use an efficient procedure to simplify a program. I can use a sensor to detect a change which can select an action within my program. I know that I need to keep testing my program while I am putting it together. I can use a variety of tools to create a program. I can recognise an error in a program and debug it. I can recognise that an algorithm will help me sequence more complex programs. I recognise that using algorithms will also help solve problems in other learning such as maths, science and design technology.	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.** Handling data I can organise data in different ways. I can collect data and identify where it could be inaccurate. I can plan, create and search a database to answer questions. I can choose the best way to present data to my friends. I can use a data logger to record and share my readings with my friends.	**Pupils should be taught to understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.** Technology in our lives I can tell you whether a resource I am using is on the internet, the school network or my own device. I can identify key words to use when searching safely on the World Wide Web. I think about the reliability of information I read on the World Wide Web. I can tell you how to check who owns photos, text and clipart. I can create a hyperlink to are source on the World Wide Web.
Year 5	Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. E-safety I protect my password and other personal information. I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult. I know that anything I post online can be seen, used	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Multimedia I can use text, photo, sound and video editing tools to refine my work. I can use the skills I have already developed to create content using unfamiliar technology. I	**Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Programming I can decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program. I can refine a procedure using repeat commands to improve a program. I can use a variable to increase	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.** Handling data I can use a spreadsheet and database to collect and record data. I can choose an	**Pupils should be taught to understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.** Technology in our lives

	and may affect others. I can talk about the dangers of spending too long online or playing a game. I can explain the importance of communicating kindly and respectfully. I can discuss the importance of choosing an age- appropriate website or game .I can explain why I need to protect my computer or device from harm. I know which resources on the internet I can download and use.	can select, use and combine the appropriate technology tools to create effects that will have an impact on others. I can select an appropriate online or offline tool to create and share ideas. I can review and improve my work and support others to improve their work.	programming possibilities. I can change an input to a program to achieve a different output. I can use 'if' and 'then' commands to select an action. I can talk about how a computer model can provide information about a physical system. I can use logical reasoning to detect and debug mistakes in a program. I use logical thinking, imagination and creativity to extend a program.	appropriate tool to help me collect data. I can present data in an appropriate way. I can search a database using different operators to refine my search. I can talk about mistakes in data and suggest how it could be checked.	I can describe different parts of the internet. I can use different online communication tools for different purposes. I can use a search engine to find appropriate information and check its reliability. I can recognise and evaluate different types of information I find on the World Wide Web. I can describe the different parts of a webpage. I can find out who the information on a webpage belongs to.
Year 6	**Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.** E-safety I can protect my password and other personal information. I can explain the consequences of sharing too much information about myself online. I support my friends to protect themselves and make good choices online, including reporting concerns to an adult. I can explain the consequences of spending too much time online or on a game. I can explain the consequences to myself and others of not communicating kindly and respectfully. I protect my computer or device from harm on the internet.	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Multimedia I can talk about audience, atmosphere and structure when planning a particular outcome. I can confidently identify the potential of unfamiliar technology to increase my creativity. I can combine a range of media, recognising the contribution of each to achieve a particular outcome. I can tell you why I select a particular online tool for a specific purpose. I can be digitally discerning when evaluating the effectiveness of my work and the work of others.	**Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals.** Programming I can deconstruct a problem into smaller steps, recognising similarities to solutions used before. I can explain and program each of the steps in my algorithm. I can evaluate the effectiveness and efficiency of my algorithm while I continually test the programming of that algorithm. I can recognise when I need to use a variable to achieve a required output. I can use a variable and operators to stop a program. I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen. I can use logical reasoning to detect and correct errors in algorithms and programs.	**Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.** Handling data I can plan the process needed to investigate the world around me. I can select the most effective tool to collect data for my investigation. I can check the data I collect for accuracy and plausibility. I can interpret the data I collect. I can present the data I collect in an appropriate way. I use the skills I have developed to interrogate a database.	**Pupils should be taught to understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.** Technology in our lives I can tell you the internet services I need to use for different purposes. I describe how information is transported on the internet. I can select an appropriate tool to communicate and collaborate online. I can talk about the way search results are selected and ranked. I can check the reliability of a website. I can tell you about copyright and acknowledge the sources of information that I find online.