Computing Skills and Knowledge Progression

National Curriculum subject content	Year 3	Year 4	Year 5	Year 6
E-Safety • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	**YEAR B - Autumn** • 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.	**YEAR B - Autumn** • 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. • Comment positively and respectfully online.	**YEAR B - Spring** • 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 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.	**YEAR B - Spring** • I 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.
Programming • Design, write and debug programs that accomplish specific goals, including controlling or simulating	**YEAR B – Summer** • 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	**YEAR B – Summer** • 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	**YEAR A - Spring** • 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	**YEAR A - Spring** • 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.

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.	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 an error.	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.	repeat commands to improve a program. • I can use a variable to increase 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.	• 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.
Handling Data • Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. • 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.	**YEAR A - Autumn** • I can talk about the different ways data can be organised. • I can search a ready-made database to answer questions. **YEAR A - Autumn** • I can collect data to help me answer a question. • I can add to a database. • I can make a branching database.	**YEAR A - Summer** • I can organise data in different ways. • I can collect data and identify where it could be inaccurate. **YEAR A - Summer** • I can plan, create and search a database to answer questions. • I can choose the best way to present data to my friends.	**YEAR B - Spring** • I can use a spreadsheet and database to collect and record data. • I can choose an 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.	**YEAR B - Spring** • 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.
Multimedia	**YEAR B - Spring** • I can create different effects with	**YEAR B - Spring** • I can use photos, video and	**YEAR A - Summer** • I can use text, photo, sound and	**YEAR A - Summer** • I can talk about audience,

• Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. • 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.	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.	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.	video editing tools to refine my work. • I can use the skills I have already developed to create content using unfamiliar technology. • I 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.	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.
Technology in our lives • 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.	**YEAR A - Autumn** • 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 A - Spring** • 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 B - Summer** • 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 B - Summer** • 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.