Computing

Vision – 'all things are possible'

At Benedict Biscop we want our children to learn that all things are possible. We want our children to aspire and to achieve highly. We want our children to develop as IT professionals or Computer Scientists, developing knowledge and skills through the core element of computing which are computer science, information technology and digital literacy.

Characteristics:

- **A love of technology** and **understand a variety of technology** that can be used for a range of different purposes.
- To be **patience** and be able to **problem solve** to ensure that the **technology is working correctly and effectively.**
- To be **resilient** and continue to correct and develop the way technology is used.
- To be able to **problem solve** and find a solution to problems when using technology.
- To **think logically** and **work methodically** to solving problems with technology.
- To work **collaboratively** with other people, **in person and online**, to ensure that problems are solved.
- To be **creative** and use a range of different software and programs to enhance and develop their work.
- To **use and apply computational thinking** to the core elements of computing

At Benedict Biscop, we actively encourage cross-curricular learning, to give pupils maximum opportunity to transfer skills and knowledge. Within Computing, we want children to understand elements of computer science, information technology and digital literacy which are taught both explicitly as a 'stand-alone' sequence of lessons or through transferable skills taught and then applied in cross-curricular lessons. The Computing curriculum is separated into four strands: understanding and creating algorithms; digital content and the internet; understanding the application of IT; and online safety and appropriate use. Each area of Computing focus on one or more of the core elements of computing. As technology is continuing to become a huge part in everyday life, we want to ensure children have the appropriate and suitable skills and knowledge for the future workplace, and grow and develop into active participants in the digital world. We want our children to use computational thinking and creativity to understand and change the world through collaboration, as well as making links to industry.

National Curriculum Aims:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data

representation

- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems

- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems

- Are responsible, competent, confident and creative users of information and communication technology.

Key Stage 1 Computing looks at:
- 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
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Recognise common uses of information technology beyond school
- 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

Key Stage 2 Computing looks at:

- 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
- 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
- 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
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

PROGRESSION

To meet our curriculum aims, we have identified core strands of learning [generic learning units] which run throughout our curriculum. We have identified what this should look like at the end of key phases within the school [key skills demonstrated].

The curriculum is taught in a spiral design where learning is revisited and embedded – deepening learning and developing Mastery.

Key generic learning objectives	KS1 working at the EXPECTED STANDARD	KS1 working ABOVE the expected standard	Lower KS2 working at the EXPECTED STANDARD	Lower KS2 working ABOVE the expected standard	Upper KS2 working at the EXPECTED STANDARD	Lower KS2 working ABOVE the expected standard
Understanding and Creating Algorithms	**Bee Bot** **Daisy the Dinosaur**	**Daisy the Dinosaur** **Scratch Jr**	**Scratch Jr**	**Scratch Jr**	**Hopscotch**	**Hopscotch** **Swift**
	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) To explain the order of a set of instructions as an algorithm To read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm To use programming software to create simple programs To use logical reasoning to predict the behaviour of simple programs To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) **consistently** To explain the order of a set of instructions as an algorithm **and begin to break instructions down into smaller parts** To **confidently** read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm **consistently and explain their thinking** To **consistently use a range of** programming software to create simple programs To **confidently** use logical reasoning to predict the	To use logical reasoning to decompose an open-ended problem into smaller parts To use algorithms to solve complex problems To use logical reasoning to simplify a program To explain the input and output to program a robot/software To use a sensor within an algorithm To use a variety of commands to create a precise program To detect errors in an algorithm and debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable	To **effectively** use logical reasoning to decompose an open-ended problem into smaller parts **and begin to identify patterns** To use **precise, accurate and logical** algorithms to solve complex problems To use logical reasoning to simplify a program **consistently and effectively** To explain the input and output to program a robot/software **and explain how the input affects the output** To **confidently** use a sensor within an algorithm To use a variety of commands to create a precise program **with greater accuracy and consistency** To **accurately** detect errors in an algorithm and **precisely** debug an algorithm using abstraction	To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem To design, write and debug programs that achieve a specific goal To evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To use logical reasoning to detect correct errors in algorithms and programs To recognise the use of a variable to achieve a specific outcome To use a variable and operators to stop a program	To **effectively** decompose an open-ended problem into smaller parts and **consistently** recognise patterns between programs to solve a problem To **confidently and consistently** design, write and debug programs that achieve a specific goal To **critically** evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To **effectively** use logical reasoning to **confidently** detect correct errors in algorithms and programs To **confidently** recognise the use of a variable to achieve a specific outcome To **effectively** use a variable and operators to stop a program

		behaviour of simple programs To watch an algorithm and, **consistently and confidently** debug to make an algorithm precise		To evaluate the effectiveness of a program and why a program is suitable **and unsuitable to achieve a specific outcome**		
Digital Content and the Internet	To use technology to collect information (text, photos, videos and sounds) To use technology to create, organise and present my work To use information that I have found on the internet	To **effectively** use technology to collect information (text, photos, videos and sounds) To **effectively** use technology to **confidently** create, organise and present my work To **confidently and consistently** use information that I have found on the internet	To create work using a range of text, pictorial and audio for a specific purpose and audience To modify a template and use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work To begin to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability	To **effectively** create work using a range of text, pictorial and audio for a specific purpose and audience To **effectively** modify a template and **confidently** use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work **and why my work is good and how I could improve it** To to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability **with increasing confidence**	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose To effectively plan the process of using, finding, creating and modifying digital content To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose To be digitally critical when evaluating effectiveness of content To be digitally critical when searching for information online by checking its reliability and plausibility	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose **consistently and with confidence** To effectively **and critically** plan the process of using, finding, creating and modifying digital content To **confidently** use logically reasoning to choose an appropriate template to modify to effectively meet a purpose **and articulate their how it meets the purpose** To be digitally critical when evaluating effectiveness of content **by explain and reasoning their understanding of content** To be digitally critical when searching for information online by checking its reliability and plausibility **consistently**
	To be creative using different technology (shapes) To use a keyboard to add, delete and space text	To be **consistently** creative using different technology (shapes) To use a keyboard to add, delete and space text **with increasing confidence**	To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) To use a keyboard confidently and use spellchecker to review my work To change the appearance of text to increase its effectiveness for a specific purpose	To **effectively** use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) **with confidence** To use a keyboard confidently and **effectively** use spellchecker to review my work To **effectively and consistently** change the appearance of text to increase its effectiveness for a specific purpose	To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively To use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose	To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively **consistently to meet a purpose** To **confidently** use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose **and explain why they have edited in a specific way**

	To save and retrieve digital content on an online platform	To **consistently** save and retrieve digital content on an online platform **without any adult support**	To save, store and retrieve work on an online platform or school network	To **confidently and consistently** save, store and retrieve work on an online platform or school network **without adult support**	To save, store and retrieve work on an appropriate online platform or school network	To **confidently and consistently** save, store and retrieve work on an appropriate online platform or school network **and explain why they have saved their work on the appropriate platform**
	To make and save spreadsheets created on a digital device To begin to use charts and graphs to represent data To begin to use branching database	To **confidently** make and save spreadsheets created on a digital device To use charts and graphs to represent data **without adult support** To use branching database **without adult support**	To describe and explain different ways data can be organised digitally for different purposes (charts/graphs) To plan, create and search a database to answer questions I can collect data and identify when data could be inaccurate To collect data for a specific purpose and present data using an appropriate way	To **confidently** describe and explain different ways data can be organised digitally for different purposes (charts/graphs) **and why data is presented in a specific way** To **logically and effectively** plan, create and search a database to answer questions To **confidently** collect data and **consistently** identify when data could be inaccurate To **confidently** collect data for a specific purpose and present data **effectively** using an appropriate way	To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs To input a range of formulas to create data (adding, averages) To appropriately edit the format of a cell on a database for different purposes To check the plausibility and accuracy of data collected and how it can be interpreted in different ways	To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs **consistently and explain why they have presented data in specific way** To input a range of formulas to create data (adding, averages) **with confidence** To appropriately edit the format of a cell on a database for different purposes **with confidence** To **critically** check the plausibility and accuracy of data collected and how it can be interpreted in different ways
Understanding the Application of IT	To identify and explain the benefits of using technology To explain how the real world is different to the online world To explain how I can share my work online with others To explain what inputs and outputs are	To **confidently** identify and explain the benefits of using technology **and explain why the technology is beneficial** To explain how the real world is different to the online world **and reason the understanding** To **confidently** explain how I can share my work online with others To explain what inputs and outputs are **in detail**	To describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose To explain the design of a web-page and the external links To choose an appropriate online platform to collaborate with others To create a hyperlink to a website on the World Wide Web	To **confidently** describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose **and explain my choice** To explain the design of a web-page and the external links **by making links with others** To **critically** choose an appropriate online platform to collaborate with others **and explain my choice** To **confidently and consistently** create a hyperlink to a website on the World Wide Web	To explain the internet services for different purposes To understand 'copyright' and describe what it means To describe how to acknowledge sources from the internet To describe how information is transported on the internet To understand different types of tools used online and on technologies that can be used for collaboration and communication	To **effectively** explain the internet services for different purposes **and why the services are important** To **confidently** understand 'copyright', describe what it means **and why it is important** To **confidently** describe how to acknowledge sources from the internet To describe how information is transported on the internet **in great detail** To understand different types of tools used online and on technologies that can be used for collaboration and communication **and compare how we use them**

	To explain why you use technology in the classroom To explain why technology is used in the local area To recognise common uses of information technology outside of school	To explain **and compare** why you use technology in the classroom To explain **and compare** why technology is used in the local area To recognise **and compare** common uses of information technology outside of school				
	To make simple internet searches to find information To retrieve information from the internet to investigate questions	To **accurately** make simple internet searches to find information **using specific keywords** To **accurately** retrieve information from the internet to investigate questions **and check its relevance**	To use search engines to find appropriate websites using specific keywords To understand and check who owns images and text on the internet To identify key words to use when searching the World Wide Web safely	To use search engines **effectively and accurately** to find appropriate websites using specific keywords To understand and check who owns images and text on the internet **and explain how you know** To **effectively and accurately** identify key words to use when searching the World Wide Web safely	To use keywords to make effective internet searches and evaluate rankings of websites and digital content To evaluate the reliability of websites To explain how website are ranked and selected based on how they are searched	To **consistently and accurately** use keywords to make effective internet searches and **critically** evaluate rankings of websites and digital content To **critically** evaluate the reliability of websites To **confidently** explain how website are ranked and selected based on how they are searched **by making comparison**
Online Safety and Appropriate Use	To use technology safely and respectfully	To use technology safely and respectfully **with confidence**	To use technology safely, responsibly and respectfully To recognise and describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise and **confidently** describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns **in detail**	To use technology safely, responsibly and respectfully To recognise, describe and explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise, describe **in detail** and **effectively** explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting **and reason their actions**
	To explain why it is important to keep personal information safe	To explain why it is important to keep personal information safe **and what could happen if your**	To describe how online message can be hurtful To explore online plagiarism	To describe how **and why** online message can be hurtful To explore online plagiarism **and why it is important**	To compare online bullying to other types of bullying To identify similarities and differences between strategies for	To **critically** compare online bullying to other types of bullying **focusing on similarities and differences**

To understand who I should go to for support when online and why I should do this To understand what content and contact is unsafe when online and how you should act upon concerns To explain how people can find out personal information about you by what you put online To use the internet safely by using keywords to search for information To explain how we act if we are being bullied online	**personal information is not kept safely** To understand who I should go to for support when online and why I should do this **using experiences in their own lives** To **critically** understand what content and contact is unsafe when online and how you should act upon concerns **by explaining their reasoning** To **confidently** explain how people can find out personal information about you by what you put online To **accurately and effectively** use the internet safely by using keywords to search for information To explain how we act if we are being bullied online **and why we acted that way**	To explore online games and whether they are age appropriate To create a safe online profile To describe how to be a good digital citizen online and in real life	To **critically** explore online games and whether they are age appropriate **and explain why** To **effectively** create a safe **and secure** online profile To describe how to be a good digital citizen online and in real life **by making comparisons between reality and virtual**	online bullying and other types of bullying To recognise secure and insecure websites To understand safe and unsafe information to share with other online To evaluate media aimed at boys and girls	To identify similarities and differences between strategies for online bullying and other types of bullying **and which strategies are effective for different situations** To **accurately** recognise secure and insecure websites **and explain how secure they are** To understand safe and unsafe information to share with other online **by critically evaluating the information** To **critically** evaluate media aimed at boys and girls **and why they may be similar or different**

YEAR 1

AUTUMN UNIT	Key generic learning objectives	Unit specific learning objectives	KS1 working at the EXPECTED STANDARD	KS1 working ABOVE the expected standard
Me, My family, My World	Understanding and Creating Algorithms	• To give instructions to a friend and follow their instructions to move around • To describe what actions, I will need to do to make something happen.	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) To explain the order of a set of instructions as an algorithm To read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm To use programming software to create simple programs To use logical reasoning to predict the behaviour of simple programs To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) consistently To explain the order of a set of instructions as an algorithm and begin to break instructions down into smaller parts To confidently read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm consistently and explain their thinking To consistently use a range of programming software to create simple programs To confidently use logical reasoning to predict the behaviour of simple programs To watch an algorithm and, consistently and confidently debug to make an algorithm precise
	Digital Content and the Internet	• To use technology to collect information (text, photos) • To begin to use technology to create, organise and present my work • To understand how to use information from the internet in my work • To use a keyboard on a digital device to type text • To begin to be creative using different technology tools • To begin to save and retrieve digital content on an online platform	To use technology to collect information (text, photos, videos and sounds) To use technology to create, organise and present my work To use information that I have found on the internet To be creative using different technology (shapes) To use a keyboard to add, delete and space text To save and retrieve digital content on an online platform To make and save spreadsheets created on a digital device To begin to use charts and graphs to represent data To begin to use branching database	To effectively use technology to collect information (text, photos, videos and sounds) To effectively use technology to confidently create, organise and present my work To confidently and consistently use information that I have found on the internet To be consistently creative using different technology (shapes) To use a keyboard to add, delete and space text with increasing confidence To consistently save and retrieve digital content on an online platform without any adult support To confidently make and save spreadsheets created on a digital device To use charts and graphs to represent data without adult support To use branching database without adult support

	Understanding the Application of IT	• To understand the uses of everyday technology • To use website links to find information • To begin to understand the benefits of using technology • To understand how to make an internet search	To identify and explain the benefits of using technology To explain how the real world is different to the online world To explain how I can share my work online with others To explain what inputs and outputs are To explain why you use technology in the classroom To explain why technology is used in the local area To recognise common uses of information technology outside of school To make simple internet searches to find information To retrieve information from the internet to investigate questions	To **confidently** identify and explain the benefits of using technology **and explain why the technology is beneficial** To explain how the real world is different to the online world **and reason the understanding** To **confidently** explain how I can share my work online with others To explain what inputs and outputs are **in detail** To explain **and compare** why you use technology in the classroom To explain **and compare** why technology is used in the local area To recognise **and compare** common uses of information technology outside of school To **accurately** make simple internet searches to find information **using specific keywords** To **accurately** retrieve information from the internet to investigate questions **and check its relevance**
	Online Safety and Appropriate Use	• To use technology safely and respectfully • To name and date a document on a secure online platform • To use the internet safely to find appropriate images	To use technology safely and respectfully To explain why it is important to keep personal information safe To understand who I should go to for support when online and why I should do this To understand what content and contact is unsafe when online and how you should act upon concerns To explain how people can find out personal information about you by what you put online To use the internet safely by using keywords to search for information To explain how we act if we are being bullied online	To use technology safely and respectfully **with confidence** To explain why it is important to keep personal information safe **and what could happen if your personal information is not kept safely** To understand who I should go to for support when online and why I should do this **using experiences in their own lives** To **critically** understand what content and contact is unsafe when online and how you should act upon concerns **by explaining their reasoning** To **confidently** explain how people can find out personal information about you by what you put online To **accurately and effectively** use the internet safely by using keywords to search for information

			To explain how we act if we are being bullied online **and why we acted that way**

SPRING UNIT	**Key generic learning objectives**	Unit specific learning objectives	KS1 working at the **EXPECTED STANDARD**	KS1 working **ABOVE** the expected standard
Light and Dark: Living in Victorian Sunderland	Understanding and Creating Algorithms	• To begin to understand and demonstrate what algorithms are • To press buttons to create an algorithm for a robot or program • To begin to use software/apps to create precise programs • To begin to predict what will happen in a short sequence of instructions using logical reasoning • To begin to understand and demonstrate what debug is	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) To explain the order of a set of instructions as an algorithm To read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm To use programming software to create simple programs To use logical reasoning to predict the behaviour of simple programs To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) **consistently** To explain the order of a set of instructions as an algorithm **and begin to break instructions down into smaller parts** To **confidently** read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm **consistently and explain their thinking** To **consistently use a range of** programming software to create simple programs To **confidently** use logical reasoning to predict the behaviour of simple programs To watch an algorithm and, **consistently and confidently** debug to make an algorithm precise
	Digital Content and the Internet	• To use technology to collect information (text, photos) • To begin to use technology to create, organise and present my work • To understand how to use information from the internet in my work • To use a keyboard on a digital device to type text • To begin to be creative using different technology tools • To begin to save and retrieve digital content on an online platform	To use technology to collect information (text, photos, videos and sounds) To use technology to create, organise and present my work To use information that I have found on the internet To be creative using different technology (shapes) To use a keyboard to add, delete and space text To save and retrieve digital content on an online platform To make and save spreadsheets created on a digital device	To **effectively** use technology to collect information (text, photos, videos and sounds) To **effectively** use technology to **confidently** create, organise and present my work To **confidently and consistently** use information that I have found on the internet To be **consistently** creative using different technology (shapes) To use a keyboard to add, delete and space text **with increasing confidence**

			To begin to use charts and graphs to represent data To begin to use branching database	To **consistently** save and retrieve digital content on an online platform **without any adult support** To **confidently** make and save spreadsheets created on a digital device To use charts and graphs to represent data **without adult support** To use branching database **without adult support**
	Understanding the Application of IT	• To use website links to find information • To begin to understand the benefits of using technology • To recognise ways that technology is used at home • To understand how to make an internet search	To identify and explain the benefits of using technology To explain how the real world is different to the online world To explain how I can share my work online with others To explain what inputs and outputs are To explain why you use technology in the classroom To explain why technology is used in the local area To recognise common uses of information technology outside of school To make simple internet searches to find information To retrieve information from the internet to investigate questions	To **confidently** identify and explain the benefits of using technology **and explain why the technology is beneficial** To explain how the real world is different to the online world **and reason the understanding** To **confidently** explain how I can share my work online with others To explain what inputs and outputs are **in detail** To explain **and compare** why you use technology in the classroom To explain **and compare** why technology is used in the local area To recognise **and compare** common uses of information technology outside of school To **accurately** make simple internet searches to find information **using specific keywords** To **accurately** retrieve information from the internet to investigate questions **and check its relevance**
	Online Safety and Appropriate Use	• To use technology safely and respectfully • To know what personal information is and how to keep it safe • To understand who I should go to if I need help online	To use technology safely and respectfully To explain why it is important to keep personal information safe To understand who I should go to for support when online and why I should do this To understand what content and contact is unsafe when online and how you should act upon concerns To explain how people can find out personal information about you by what you put online To use the internet safely by using keywords to search for information To explain how we act if we are being bullied online	To use technology safely and respectfully **with confidence** To explain why it is important to keep personal information safe **and what could happen if your personal information is not kept safely** To understand who I should go to for support when online and why I should do this **using experiences in their own lives** To **critically** understand what content and contact is unsafe when online and how you should act upon concerns **by explaining their reasoning** To **confidently** explain how people can find out personal information about you by what you put online

				To **accurately and effectively** use the internet safely by using keywords to search for information To explain how we act if we are being bullied online **and why we acted that way**

SUMMER UNIT	**Key generic learning objectives**	Unit specific learning objectives	KS1 working at the **EXPECTED STANDARD**	KS1 working **ABOVE** the expected standard
The Seaside: Sunderland's History	Understanding and Creating Algorithms	• To begin to understand and demonstrate what algorithms are • To press buttons to create an algorithm for a robot or program • To begin to use software/apps to create precise programs • To begin to predict what will happen in a short sequence of instructions using logical reasoning • To begin to understand and demonstrate what debug is	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) To explain the order of a set of instructions as an algorithm To read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm To use programming software to create simple programs To use logical reasoning to predict the behaviour of simple programs To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) **consistently** To explain the order of a set of instructions as an algorithm **and begin to break instructions down into smaller parts** To **confidently** read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm **consistently and explain their thinking** To **consistently use a range of** programming software to create simple programs To **confidently** use logical reasoning to predict the behaviour of simple programs To watch an algorithm and, **consistently and confidently** debug to make an algorithm precise
	Digital Content and the Internet	• To begin to use technology to create, organise and present my work • To understand how to use information from the internet in my work • To use a keyboard on a digital device to type text • To begin to be creative using different technology tools • To begin to save and retrieve digital content on an online platform	To use technology to collect information (text, photos, videos and sounds) To use technology to create, organise and present my work To use information that I have found on the internet To be creative using different technology (shapes) To use a keyboard to add, delete and space text To save and retrieve digital content on an online platform To make and save spreadsheets created on a digital device	To **effectively** use technology to collect information (text, photos, videos and sounds) To **effectively** use technology to **confidently** create, organise and present my work To **confidently and consistently** use information that I have found on the internet To be **consistently** creative using different technology (shapes) To use a keyboard to add, delete and space text **with increasing confidence**

		• To use a spreadsheet to represent data	To begin to use charts and graphs to represent data To begin to use branching database	To **consistently** save and retrieve digital content on an online platform **without any adult support** To **confidently** make and save spreadsheets created on a digital device To use charts and graphs to represent data **without adult support** To use branching database **without adult support**
	Understanding the Application of IT	• To use website links to find information • To begin to understand the benefits of using technology • To recognise ways that technology is used within the local community • To understand how to make an internet search	To identify and explain the benefits of using technology To explain how the real world is different to the online world To explain how I can share my work online with others To explain what inputs and outputs are To explain why you use technology in the classroom To explain why technology is used in the local area To recognise common uses of information technology outside of school To make simple internet searches to find information To retrieve information from the internet to investigate questions	To **confidently** identify and explain the benefits of using technology **and explain why the technology is beneficial** To explain how the real world is different to the online world **and reason the understanding** To **confidently** explain how I can share my work online with others To explain what inputs and outputs are **in detail** To explain **and compare** why you use technology in the classroom To explain **and compare** why technology is used in the local area To recognise **and compare** common uses of information technology outside of school To **accurately** make simple internet searches to find information **using specific keywords** To **accurately** retrieve information from the internet to investigate questions **and check its relevance**
	Online Safety and Appropriate Use	• To use technology safely and respectfully • To understand who I should go to if I need help online • To identify what is online bullying	To use technology safely and respectfully To explain why it is important to keep personal information safe To understand who I should go to for support when online and why I should do this To understand what content and contact is unsafe when online and how you should act upon concerns To explain how people can find out personal information about you by what you put online To use the internet safely by using keywords to search for information To explain how we act if we are being bullied online	To use technology safely and respectfully **with confidence** To explain why it is important to keep personal information safe **and what could happen if your personal information is not kept safely** To understand who I should go to for support when online and why I should do this **using experiences in their own lives** To **critically** understand what content and contact is unsafe when online and how you should act upon concerns **by explaining their reasoning** To **confidently** explain how people can find out personal information about you by what you put online

			To **accurately and effectively** use the internet safely by using keywords to search for information
			To explain how we act if we are being bullied online **and why we acted that way**

YEAR 2

AUTUMN UNIT	**Key generic learning objectives**	Unit specific learning objectives	KS1 working at the **EXPECTED STANDARD**	KS1 working **ABOVE** the expected standard
Homes in Tudor times and the Great Fire of London	Understanding and Creating Algorithms	• To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) • To explain the order of a set of instructions as an algorithm • To read an algorithm and demonstrate what will happen	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) To explain the order of a set of instructions as an algorithm To read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm To use programming software to create simple programs To use logical reasoning to predict the behaviour of simple programs To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) **consistently** To explain the order of a set of instructions as an algorithm **and begin to break instructions down into smaller parts** To **confidently** read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm **consistently and explain their thinking** To **consistently use a range of** programming software to create simple programs To **confidently** use logical reasoning to predict the behaviour of simple programs To watch an algorithm and, **consistently and confidently** debug to make an algorithm precise
	Digital Content and the Internet	• To use technology to collect information (text, photos, videos and sounds) • To use technology to create, organise and present my work • To use information that I have found on the internet • To be creative using different technology (shapes) • To use a keyboard to add, delete and space text • To save and retrieve digital content on an online platform	To use technology to collect information (text, photos, videos and sounds) To use technology to create, organise and present my work To use information that I have found on the internet To be creative using different technology (shapes) To use a keyboard to add, delete and space text To save and retrieve digital content on an online platform	To **effectively** use technology to collect information (text, photos, videos and sounds) To **effectively** use technology to **confidently** create, organise and present my work To **confidently and consistently** use information that I have found on the internet To be **consistently** creative using different technology (shapes) To use a keyboard to add, delete and space text **with increasing confidence**

				To make and save spreadsheets created on a digital device To begin to use charts and graphs to represent data To begin to use branching database	To **consistently** save and retrieve digital content on an online platform **without any adult support** To **confidently** make and save spreadsheets created on a digital device To use charts and graphs to represent data **without adult support** To use branching database **without adult support**
	Understanding the Application of IT		• To identify and explain the benefits of using technology • To explain why you use technology in the classroom • To make simple internet searches to find information • To retrieve information from the internet to investigate questions	To identify and explain the benefits of using technology To explain how the real world is different to the online world To explain how I can share my work online with others To explain what inputs and outputs are To explain why you use technology in the classroom To explain why technology is used in the local area To recognise common uses of information technology outside of school To make simple internet searches to find information To retrieve information from the internet to investigate questions	To **confidently** identify and explain the benefits of using technology **and explain why the technology is beneficial** To explain how the real world is different to the online world **and reason the understanding** To **confidently** explain how I can share my work online with others To explain what inputs and outputs are **in detail** To explain **and compare** why you use technology in the classroom To explain **and compare** why technology is used in the local area To recognise **and compare** common uses of information technology outside of school To **accurately** make simple internet searches to find information **using specific keywords** To **accurately** retrieve information from the internet to investigate questions **and check its relevance**
	Online Safety and Appropriate Use		• To use technology safely and respectfully • To explain why it is important to keep personal information safe • To explain how people can find out personal information about you by what you put online • To use the internet safely by using keywords to search for information	To use technology safely and respectfully To explain why it is important to keep personal information safe To understand who I should go to for support when online and why I should do this To understand what content and contact is unsafe when online and how you should act upon concerns To explain how people can find out personal information about you by what you put online To use the internet safely by using keywords to search for information To explain how we act if we are being bullied online	To use technology safely and respectfully **with confidence** To explain why it is important to keep personal information safe **and what could happen if your personal information is not kept safely** To understand who I should go to for support when online and why I should do this **using experiences in their own lives** To **critically** understand what content and contact is unsafe when online and how you should act upon concerns **by explaining their reasoning** To **confidently** explain how people can find out personal information about you by what you put online

| | | | To **accurately and effectively** use the internet safely by using keywords to search for information

To explain how we act if we are being bullied online **and why we acted that way** |
| | | | |

SPRING UNIT	**Key generic learning objectives**	Unit specific learning objectives	KS1 working at the **EXPECTED STANDARD**	KS1 working **ABOVE** the expected standard
What I Believe: I have the right to a safe place to live.	Understanding and Creating Algorithms	• To program a robot to do a specific task by using a precise algorithm • To use programming software to create simple programs • To use logical reasoning to predict the behaviour of simple programs • To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) To explain the order of a set of instructions as an algorithm To read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm To use programming software to create simple programs To use logical reasoning to predict the behaviour of simple programs To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) **consistently** To explain the order of a set of instructions as an algorithm **and begin to break instructions down into smaller parts** To **confidently** read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm **consistently and explain their thinking** To **consistently use a range of** programming software to create simple programs To **confidently** use logical reasoning to predict the behaviour of simple programs To watch an algorithm and, **consistently and confidently** debug to make an algorithm precise
	Digital Content and the Internet	• To use technology to collect information (text, photos, videos and sounds) • To use technology to create, organise and present my work • To use information that I have found on the internet • To be creative using different technology (shapes) • To use a keyboard to add, delete and space text • To save and retrieve digital content on an online platform • To begin to use branching database	To use technology to collect information (text, photos, videos and sounds) To use technology to create, organise and present my work To use information that I have found on the internet To be creative using different technology (shapes) To use a keyboard to add, delete and space text To save and retrieve digital content on an online platform To make and save spreadsheets created on a digital device	To **effectively** use technology to collect information (text, photos, videos and sounds) To **effectively** use technology to **confidently** create, organise and present my work To **confidently and consistently** use information that I have found on the internet To be **consistently** creative using different technology (shapes) To use a keyboard to add, delete and space text **with increasing confidence**

			To begin to use charts and graphs to represent data To begin to use branching database	To **consistently** save and retrieve digital content on an online platform **without any adult support** To **confidently** make and save spreadsheets created on a digital device To use charts and graphs to represent data **without adult support** To use branching database **without adult support**
	Understanding the Application of IT	• To explain why technology is used in the local area • To recognise common uses of information technology outside of school • To make simple internet searches to find information • To retrieve information from the internet to investigate questions	To identify and explain the benefits of using technology To explain how the real world is different to the online world To explain how I can share my work online with others To explain what inputs and outputs are To explain why you use technology in the classroom To explain why technology is used in the local area To recognise common uses of information technology outside of school To make simple internet searches to find information To retrieve information from the internet to investigate questions	To **confidently** identify and explain the benefits of using technology **and explain why the technology is beneficial** To explain how the real world is different to the online world **and reason the understanding** To **confidently** explain how I can share my work online with others To explain what inputs and outputs are **in detail** To explain **and compare** why you use technology in the classroom To explain **and compare** why technology is used in the local area To recognise **and compare** common uses of information technology outside of school To **accurately** make simple internet searches to find information **using specific keywords** To **accurately** retrieve information from the internet to investigate questions **and check its relevance**
	Online Safety and Appropriate Use	• To use technology safely and respectfully • To understand who I should go to for support when online and why I should do this • To understand what content and contact is unsafe when online and how you should act upon concerns • To use the internet safely by using keywords to search for information	To use technology safely and respectfully To explain why it is important to keep personal information safe To understand who I should go to for support when online and why I should do this To understand what content and contact is unsafe when online and how you should act upon concerns To explain how people can find out personal information about you by what you put online To use the internet safely by using keywords to search for information To explain how we act if we are being bullied online	To use technology safely and respectfully **with confidence** To explain why it is important to keep personal information safe **and what could happen if your personal information is not kept safely** To understand who I should go to for support when online and why I should do this **using experiences in their own lives** To **critically** understand what content and contact is unsafe when online and how you should act upon concerns **by explaining their reasoning** To **confidently** explain how people can find out personal information about you by what you put online

			To **accurately and effectively** use the internet safely by using keywords to search for information
			To explain how we act if we are being bullied online **and why we acted that way**

SUMMER UNIT	Key generic learning objectives	Unit specific learning objectives	KS1 working at the **EXPECTED STANDARD**	KS1 working **ABOVE** the expected standard
Transport: Planes, trains and automobiles	Understanding and Creating Algorithms	• To program a robot to do a specific task by using a precise algorithm • To use programming software to create simple programs • To use logical reasoning to predict the behaviour of simple programs • To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) To explain the order of a set of instructions as an algorithm To read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm To use programming software to create simple programs To use logical reasoning to predict the behaviour of simple programs To watch an algorithm and debug to make an algorithm precise	To give precise and simple instructions to a friends to make them move (forwards, backwards, turn right, turn left) **consistently** To explain the order of a set of instructions as an algorithm **and begin to break instructions down into smaller parts** To **confidently** read an algorithm and demonstrate what will happen To program a robot to do a specific task by using a precise algorithm **consistently and explain their thinking** To **consistently use a range of** programming software to create simple programs To **confidently** use logical reasoning to predict the behaviour of simple programs To watch an algorithm and, **consistently and confidently** debug to make an algorithm precise
	Digital Content and the Internet	• To use technology to create, organise and present my work • To use information that I have found on the internet • To use a keyboard to add, delete and space text • To save and retrieve digital content on an online platform • To make and save spreadsheets created on a digital device • To begin to use charts and graphs to represent data	To use technology to collect information (text, photos, videos and sounds) To use technology to create, organise and present my work To use information that I have found on the internet To be creative using different technology (shapes) To use a keyboard to add, delete and space text To save and retrieve digital content on an online platform To make and save spreadsheets created on a digital device	To **effectively** use technology to collect information (text, photos, videos and sounds) To **effectively** use technology to **confidently** create, organise and present my work To **confidently and consistently** use information that I have found on the internet To be **consistently** creative using different technology (shapes) To use a keyboard to add, delete and space text **with increasing confidence**

			To begin to use charts and graphs to represent data To begin to use branching database	To **consistently** save and retrieve digital content on an online platform **without any adult support** To **confidently** make and save spreadsheets created on a digital device To use charts and graphs to represent data **without adult support** To use branching database **without adult support**
	Understanding the Application of IT	• To explain how the real world is different to the online world • To explain how I can share my work online with others • To explain what inputs and outputs are • To make simple internet searches to find information • To retrieve information from the internet to investigate questions	To identify and explain the benefits of using technology To explain how the real world is different to the online world To explain how I can share my work online with others To explain what inputs and outputs are To explain why you use technology in the classroom To explain why technology is used in the local area To recognise common uses of information technology outside of school To make simple internet searches to find information To retrieve information from the internet to investigate questions	To **confidently** identify and explain the benefits of using technology **and explain why the technology is beneficial** To explain how the real world is different to the online world **and reason the understanding** To **confidently** explain how I can share my work online with others To explain what inputs and outputs are **in detail** To explain **and compare** why you use technology in the classroom To explain **and compare** why technology is used in the local area To recognise **and compare** common uses of information technology outside of school To **accurately** make simple internet searches to find information **using specific keywords** To **accurately** retrieve information from the internet to investigate questions **and check its relevance**
	Online Safety and Appropriate Use	• To use technology safely and respectfully • To use the internet safely by using keywords to search for information • To explain how we act if we are being bullied online	To use technology safely and respectfully To explain why it is important to keep personal information safe To understand who I should go to for support when online and why I should do this To understand what content and contact is unsafe when online and how you should act upon concerns To explain how people can find out personal information about you by what you put online To use the internet safely by using keywords to search for information To explain how we act if we are being bullied online	To use technology safely and respectfully **with confidence** To explain why it is important to keep personal information safe **and what could happen if your personal information is not kept safely** To understand who I should go to for support when online and why I should do this **using experiences in their own lives** To **critically** understand what content and contact is unsafe when online and how you should act upon concerns **by explaining their reasoning** To **confidently** explain how people can find out personal information about you by what you put online

				To **accurately and effectively** use the internet safely by using keywords to search for information To explain how we act if we are being bullied online **and why we acted that way**

YEAR 3

AUTUMN UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Lower KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**
Over 2000 years ago… Stone, Bronze and Iron Age	Understanding and Creating Algorithms	• To decompose an open-ended problem into smaller parts • To sequence instructions to complete a specific outcome	To use logical reasoning to decompose an open-ended problem into smaller parts To use algorithms to solve complex problems To use logical reasoning to simplify a program To explain the input and output to program a robot/software To use a sensor within an algorithm To use a variety of commands to create a precise program To detect errors in an algorithm and debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable	To **effectively** use logical reasoning to decompose an open-ended problem into smaller parts **and begin to identify patterns** To use **precise, accurate and logical** algorithms to solve complex problems To use logical reasoning to simplify a program **consistently and effectively** To explain the input and output to program a robot/software **and explain how the input affects the output** To **confidently** use a sensor within an algorithm To use a variety of commands to create a precise program **with greater accuracy and consistency** To **accurately** detect errors in an algorithm and **precisely** debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable **and unsuitable to achieve a specific outcome**
	Digital Content and the Internet	• To use technology to collect information (text, photos, videos, sounds) g for a specific purpose) • To evaluate digital work and explain how to improve it • To understand how to modify a template and use a range of tools to create a piece of work	To create work using a range of text, pictorial and audio for a specific purpose and audience To modify a template and use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work	To **effectively** create work using a range of text, pictorial and audio for a specific purpose and audience To **effectively** modify a template and **confidently** use a range of tools to create a piece of work for a specific purpose

			• To effectively use information that I have found on the internet • To be creative when creating work online using a range of different effects (font, letter size, colour, etc.) • To use appropriate keyboard commands to amend text (capitalisation, paragraphs, etc.) • To use the spellcheck tool • To use technology creatively when creating work online using a range of different effects (font, letter size, colour, etc.) • To save, store and retrieve work on an online platform or school network • To create a database and add data to it	To begin to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) To use a keyboard confidently and use spellchecker to review my work To change the appearance of text to increase its effectiveness for a specific purpose To save, store and retrieve work on an online platform or school network To describe and explain different ways data can be organised digitally for different purposes (charts/graphs) To plan, create and search a database to answer questions I can collect data and identify when data could be inaccurate To collect data for a specific purpose and present data using an appropriate way	To critically evaluate the effectiveness of my work **and why my work is good and how I could improve it** To to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability **with increasing confidence** To **effectively** use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) **with confidence** To use a keyboard confidently and **effectively** use spellchecker to review my work To **effectively and consistently** change the appearance of text to increase its effectiveness for a specific purpose To **confidently and consistently** save, store and retrieve work on an online platform or school network **without adult support** To **confidently** describe and explain different ways data can be organised digitally for different purposes (charts/graphs) **and why data is presented in a specific way** To **logically and effectively** plan, create and search a database to answer questions To **confidently** collect data and **consistently** identify when data could be inaccurate To **confidently** collect data for a specific purpose and present data **effectively** using an appropriate way
		Understanding the Application of IT	• To explain ways to communicate with others online • To understand how people, collaborate online • To use search engines to find appropriate websites • To evaluate if an image from online is appropriate for a specific purpose	To describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose To explain the design of a web-page and the external links To choose an appropriate online platform to collaborate with others To create a hyperlink to a website on the World Wide Web To use search engines to find appropriate websites using specific keywords	To **confidently** describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose **and explain my choice** To explain the design of a web-page and the external links **by making links with others** To **critically** choose an appropriate online platform to collaborate with others **and explain my choice** To **confidently and consistently** create a hyperlink to a website on the World Wide Web

			To understand and check who owns images and text on the internet To identify key words to use when searching the World Wide Web safely	To use search engines **effectively and accurately** to find appropriate websites using specific keywords To understand and check who owns images and text on the internet **and explain how you know** To **effectively and accurately** identify key words to use when searching the World Wide Web safely
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To recognise acceptable and unacceptable behaviour online • To understand how to report content and concerns • To identify online bullying using a range of digital devices	To use technology safely, responsibly and respectfully To recognise and describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns To describe how online message can be hurtful To explore online plagiarism To explore online games and whether they are age appropriate To create a safe online profile To describe how to be a good digital citizen online and in real life	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise and **confidently** describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns **in detail** To describe how **and why** online message can be hurtful To explore online plagiarism **and why it is important** To **critically** explore online games and whether they are age appropriate **and explain why** To **effectively** create a safe **and secure** online profile To describe how to be a good digital citizen online and in real life **by making comparisons between reality and virtual**

SPRING UNIT	Key generic learning objectives	Unit specific learning objectives	Lower KS2 working at the EXPECTED STANDARD	Lower KS2 working ABOVE the expected standard
Along the river	Understanding and Creating Algorithms	• To use repeat commands to make an algorithm more precise • To use appropriate programming software or app to achieve specific outcomes • To identify patterns within a program • To detect errors in an algorithm and debug an algorithm	To use logical reasoning to decompose an open-ended problem into smaller parts To use algorithms to solve complex problems To use logical reasoning to simplify a program To explain the input and output to program a robot/software To use a sensor within an algorithm To use a variety of commands to create a precise program	To **effectively** use logical reasoning to decompose an open-ended problem into smaller parts **and begin to identify patterns** To use **precise, accurate and logical** algorithms to solve complex problems To use logical reasoning to simplify a program **consistently and effectively** To explain the input and output to program a robot/software **and explain how the input affects the output**

				To detect errors in an algorithm and debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable	To **confidently** use a sensor within an algorithm To use a variety of commands to create a precise program **with greater accuracy and consistency** To **accurately** detect errors in an algorithm and **precisely** debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable **and unsuitable to achieve a specific outcome**
		Digital Content and the Internet	• To use technology to collect information (text, photos, videos, sounds) g for a specific purpose) • To evaluate digital work and explain how to improve it • To understand how to modify a template and use a range of tools to create a piece of work • To effectively use information that I have found on the internet • To be creative when creating work online using a range of different effects (font, letter size, colour, etc.) • To use appropriate keyboard commands to amend text (capitalisation, paragraphs, etc.) • To use the spellcheck tool • To use technology creatively when creating work online using a range of different effects (font, letter size, colour, etc.) • To save, store and retrieve work on an online platform or school network	To create work using a range of text, pictorial and audio for a specific purpose and audience To modify a template and use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work To begin to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) To use a keyboard confidently and use spellchecker to review my work To change the appearance of text to increase its effectiveness for a specific purpose To save, store and retrieve work on an online platform or school network To describe and explain different ways data can be organised digitally for different purposes (charts/graphs) To plan, create and search a database to answer questions I can collect data and identify when data could be inaccurate To collect data for a specific purpose and present data using an appropriate way	To **effectively** create work using a range of text, pictorial and audio for a specific purpose and audience To **effectively** modify a template and **confidently** use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work **and why my work is good and how I could improve it** To to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability **with increasing confidence** To **effectively** use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) **with confidence** To use a keyboard confidently and **effectively** use spellchecker to review my work To **effectively and consistently** change the appearance of text to increase its effectiveness for a specific purpose To **confidently and consistently** save, store and retrieve work on an online platform or school network **without adult support** To **confidently** describe and explain different ways data can be organised digitally for different purposes (charts/graphs) **and why data is presented in a specific way** To **logically and effectively** plan, create and search a database to answer questions To **confidently** collect data and **consistently** identify when data could be inaccurate

				To **confidently** collect data for a specific purpose and present data **effectively** using an appropriate way
	Understanding the Application of IT	• To understand what a computer network is • To talk about the different parts of a computer and how they work • To use search engines to find appropriate websites • To evaluate if an image from online is appropriate for a specific purpose	To describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose To explain the design of a web-page and the external links To choose an appropriate online platform to collaborate with others To create a hyperlink to a website on the World Wide Web To use search engines to find appropriate websites using specific keywords To understand and check who owns images and text on the internet To identify key words to use when searching the World Wide Web safely	To **confidently** describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose **and explain my choice** To explain the design of a web-page and the external links **by making links with others** To **critically** choose an appropriate online platform to collaborate with others **and explain my choice** To **confidently and consistently** create a hyperlink to a website on the World Wide Web To use search engines **effectively and accurately** to find appropriate websites using specific keywords To understand and check who owns images and text on the internet **and explain how you know** To **effectively and accurately** identify key words to use when searching the World Wide Web safely
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To understand passwords, keep personal information safe • To create a safe and secure password • To safely send and receive emails	To use technology safely, responsibly and respectfully To recognise and describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns To describe how online message can be hurtful To explore online plagiarism To explore online games and whether they are age appropriate To create a safe online profile To describe how to be a good digital citizen online and in real life	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise and **confidently** describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns **in detail** To describe how **and why** online message can be hurtful To explore online plagiarism **and why it is important** To **critically** explore online games and whether they are age appropriate **and explain why** To **effectively** create a safe **and secure** online profile To describe how to be a good digital citizen online and in real life **by making comparisons between reality and virtual**

SUMMER UNIT	Key generic learning objectives	Unit specific learning objectives	Lower KS2 working at the EXPECTED STANDARD	Lower KS2 working ABOVE the expected standard
What I Believe: The right to choose religion and beliefs [exploring religion around the world]	Understanding and Creating Algorithms	• To use appropriate programming software or app to achieve specific outcomes • To debug programs and keep testing a program until it achieves a specific goal • To evaluate the effectiveness of a program	To use logical reasoning to decompose an open-ended problem into smaller parts To use algorithms to solve complex problems To use logical reasoning to simplify a program To explain the input and output to program a robot/software To use a sensor within an algorithm To use a variety of commands to create a precise program To detect errors in an algorithm and debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable	To **effectively** use logical reasoning to decompose an open-ended problem into smaller parts **and begin to identify patterns** To use **precise, accurate and logical** algorithms to solve complex problems To use logical reasoning to simplify a program **consistently and effectively** To explain the input and output to program a robot/software **and explain how the input affects the output** To **confidently** use a sensor within an algorithm To use a variety of commands to create a precise program **with greater accuracy and consistency** To **accurately** detect errors in an algorithm and **precisely** debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable **and unsuitable to achieve a specific outcome**
	Digital Content and the Internet	• To effectively use information that I have found on the internet • To be creative when creating work online using a range of different effects (font, letter size, colour, etc.) • To use appropriate keyboard commands to amend text (capitalisation, paragraphs, etc.) • To use the spellcheck tool • To save, store and retrieve work on an online platform or school network • To create a database and add data to it • To describe different ways data can be organised digitally (charts/graphs) • To search a ready-made database to gather information • To create a branching database using digital tools	To create work using a range of text, pictorial and audio for a specific purpose and audience To modify a template and use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work To begin to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) To use a keyboard confidently and use spellchecker to review my work	To **effectively** create work using a range of text, pictorial and audio for a specific purpose and audience To **effectively** modify a template and **confidently** use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work **and why my work is good and how I could improve it** To to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability **with increasing confidence** To **effectively** use technology creatively when creating work online using a range of different

				To change the appearance of text to increase its effectiveness for a specific purpose	effects appropriately (font, letter size, colour, etc.) **with confidence**
				To save, store and retrieve work on an online platform or school network	To use a keyboard confidently and **effectively** use spellchecker to review my work
				To describe and explain different ways data can be organised digitally for different purposes (charts/graphs)	To **effectively and consistently** change the appearance of text to increase its effectiveness for a specific purpose
				To plan, create and search a database to answer questions	To **confidently and consistently** save, store and retrieve work on an online platform or school network **without adult support**
				I can collect data and identify when data could be inaccurate	To **confidently** describe and explain different ways data can be organised digitally for different purposes (charts/graphs) **and why data is presented in a specific way**
				To collect data for a specific purpose and present data using an appropriate way	To **logically and effectively** plan, create and search a database to answer questions
					To **confidently** collect data and **consistently** identify when data could be inaccurate
					To **confidently** collect data for a specific purpose and present data **effectively** using an appropriate way
	Understanding the Application of IT	• To describe the World Wide Web as part of the internet that contains websites • To use search engines to find appropriate websites • To evaluate if an image from online is appropriate for a specific purpose	To describe whether I am using something from the internet, school network or a digital device	To **confidently** describe whether I am using something from the internet, school network or a digital device	
				To choose which digital application to use to meet a purpose	To choose which digital application to use to meet a purpose **and explain my choice**
				To explain the design of a web-page and the external links	To explain the design of a web-page and the external links **by making links with others**
				To choose an appropriate online platform to collaborate with others	To **critically** choose an appropriate online platform to collaborate with others **and explain my choice**
				To create a hyperlink to a website on the World Wide Web To use search engines to find appropriate websites using specific keywords	To **confidently and consistently** create a hyperlink to a website on the World Wide Web To use search engines **effectively and accurately** to find appropriate websites using specific keywords
				To understand and check who owns images and text on the internet	To understand and check who owns images and text on the internet **and explain how you know**
				To identify key words to use when searching the World Wide Web safely	To **effectively and accurately** identify key words to use when searching the World Wide Web safely

| | Online Safety and Appropriate Use | • To use technology safely, responsibly and respectfully

• To identify online advertisements and their purpose

• To describe how to be a good digital citizen | To use technology safely, responsibly and respectfully

To recognise and describe acceptable and unacceptable behaviour online

To understand how and why to report content and concerns

To describe how online message can be hurtful

To explore online plagiarism

To explore online games and whether they are age appropriate

To create a safe online profile

To describe how to be a good digital citizen online and in real life | To use technology safely, responsibly and respectfully **with confidence**

To **accurately** recognise and **confidently** describe acceptable and unacceptable behaviour online

To understand how and why to report content and concerns **in detail**

To describe how **and why** online message can be hurtful

To explore online plagiarism **and why it is important**

To **critically** explore online games and whether they are age appropriate **and explain why**

To **effectively** create a safe **and secure** online profile

To describe how to be a good digital citizen online and in real life **by making comparisons between reality and virtual** |

YEAR 4

AUTUMN UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Lower KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**

The Ancient Greeks	Understanding and Creating Algorithms	• To use logical reasoning to decompose an open-ended problem into smaller parts • To use algorithms to solve complex problems	To use logical reasoning to decompose an open-ended problem into smaller parts To use algorithms to solve complex problems To use logical reasoning to simplify a program To explain the input and output to program a robot/software To use a sensor within an algorithm To use a variety of commands to create a precise program To detect errors in an algorithm and debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable	To **effectively** use logical reasoning to decompose an open-ended problem into smaller parts **and begin to identify patterns** To use **precise, accurate and logical** algorithms to solve complex problems To use logical reasoning to simplify a program **consistently and effectively** To explain the input and output to program a robot/software **and explain how the input affects the output** To **confidently** use a sensor within an algorithm To use a variety of commands to create a precise program **with greater accuracy and consistency** To **accurately** detect errors in an algorithm and **precisely** debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable **and unsuitable to achieve a specific outcome**
	Digital Content and the Internet	• To create work using a range of text, pictorial and audio for a specific purpose and audience • To modify a template and use a range of tools to create a piece of work for a specific purpose • To critically evaluate the effectiveness of my work • To begin to use transitions and animations when creating presentations • To effectively use information, I have found on the internet and check its reliability • To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) • To use a keyboard confidently and use spellchecker to review my work • To change the appearance of text to increase its effectiveness for a specific purpose • To save, store and retrieve work on an online platform or school network	To create work using a range of text, pictorial and audio for a specific purpose and audience To modify a template and use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work To begin to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) To use a keyboard confidently and use spellchecker to review my work To change the appearance of text to increase its effectiveness for a specific purpose To save, store and retrieve work on an online platform or school network To describe and explain different ways data can be organised digitally for different purposes (charts/graphs)	To **effectively** create work using a range of text, pictorial and audio for a specific purpose and audience To **effectively** modify a template and **confidently** use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work **and why my work is good and how I could improve it** To to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability **with increasing confidence** To **effectively** use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) **with confidence** To use a keyboard confidently and **effectively** use spellchecker to review my work To **effectively and consistently** change the appearance of text to increase its effectiveness for a specific purpose

				To plan, create and search a database to answer questions I can collect data and identify when data could be inaccurate To collect data for a specific purpose and present data using an appropriate way	To **confidently and consistently** save, store and retrieve work on an online platform or school network **without adult support** To **confidently** describe and explain different ways data can be organised digitally for different purposes (charts/graphs) **and why data is presented in a specific way** To **logically and effectively** plan, create and search a database to answer questions To **confidently** collect data and **consistently** identify when data could be inaccurate To **confidently** collect data for a specific purpose and present data **effectively** using an appropriate way
	Understanding the Application of IT	• To describe whether I am using something from the internet, school network or a digital device • To choose which digital application to use to meet a purpose • To use search engines to find appropriate websites using specific keywords • To understand and check who owns images and text on the internet • To identify key words to use when searching the World Wide Web safely	To describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose To explain the design of a web-page and the external links To choose an appropriate online platform to collaborate with others To create a hyperlink to a website on the World Wide Web To use search engines to find appropriate websites using specific keywords To understand and check who owns images and text on the internet To identify key words to use when searching the World Wide Web safely	To **confidently** describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose **and explain my choice** To explain the design of a web-page and the external links **by making links with others** To **critically** choose an appropriate online platform to collaborate with others **and explain my choice** To **confidently and consistently** create a hyperlink to a website on the World Wide Web To use search engines **effectively and accurately** to find appropriate websites using specific keywords To understand and check who owns images and text on the internet **and explain how you know** To **effectively and accurately** identify key words to use when searching the World Wide Web safely
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To recognise and describe acceptable and unacceptable behaviour online • To understand how and why to report content and concerns • To describe how online message can be hurtful • To explore online games and whether they are age appropriate	To use technology safely, responsibly and respectfully To recognise and describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns To describe how online message can be hurtful To explore online plagiarism To explore online games and whether they are age appropriate	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise and **confidently** describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns **in detail** To describe how **and why** online message can be hurtful

			To create a safe online profile To describe how to be a good digital citizen online and in real life	To explore online plagiarism **and why it is important** To **critically** explore online games and whether they are age appropriate **and explain why** To **effectively** create a safe **and secure** online profile To describe how to be a good digital citizen online and in real life **by making comparisons between reality and virtual**

SPRING UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Lower KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**
What did the Roman's do for us?	Understanding and Creating Algorithms	• To use logical reasoning to simplify a program • To explain the input and output to program a robot/software • To use a sensor within an algorithm	To use logical reasoning to decompose an open-ended problem into smaller parts To use algorithms to solve complex problems To use logical reasoning to simplify a program To explain the input and output to program a robot/software To use a sensor within an algorithm To use a variety of commands to create a precise program To detect errors in an algorithm and debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable	To **effectively** use logical reasoning to decompose an open-ended problem into smaller parts **and begin to identify patterns** To use **precise, accurate and logical** algorithms to solve complex problems To use logical reasoning to simplify a program **consistently and effectively** To explain the input and output to program a robot/software **and explain how the input affects the output** To **confidently** use a sensor within an algorithm To use a variety of commands to create a precise program **with greater accuracy and consistency** To **accurately** detect errors in an algorithm and **precisely** debug an algorithm using abstraction To evaluate the effectiveness of a program and why a program is suitable **and unsuitable to achieve a specific outcome**

	Digital Content and the Internet	• To create work using a range of text, pictorial and audio for a specific purpose and audience • To modify a template and use a range of tools to create a piece of work for a specific purpose • To critically evaluate the effectiveness of my work • To begin to use transitions and animations when creating presentations • To effectively use information, I have found on the internet and check its reliability • To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) • To use a keyboard confidently and use spellchecker to review my work • To change the appearance of text to increase its effectiveness for a specific purpose • To save, store and retrieve work on an online platform or school network	To create work using a range of text, pictorial and audio for a specific purpose and audience To modify a template and use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work To begin to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) To use a keyboard confidently and use spellchecker to review my work To change the appearance of text to increase its effectiveness for a specific purpose To save, store and retrieve work on an online platform or school network To describe and explain different ways data can be organised digitally for different purposes (charts/graphs) To plan, create and search a database to answer questions I can collect data and identify when data could be inaccurate To collect data for a specific purpose and present data using an appropriate way	To **effectively** create work using a range of text, pictorial and audio for a specific purpose and audience To **effectively** modify a template and **confidently** use a range of tools to create a piece of work for a specific purpose To critically evaluate the effectiveness of my work **and why my work is good and how I could improve it** To to use transitions and animations when creating presentations To confidently use information, I have found on the internet and check its reliability **with increasing confidence** To **effectively** use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) **with confidence** To use a keyboard confidently and **effectively** use spellchecker to review my work To **effectively and consistently** change the appearance of text to increase its effectiveness for a specific purpose To **confidently and consistently** save, store and retrieve work on an online platform or school network **without adult support** To **confidently** describe and explain different ways data can be organised digitally for different purposes (charts/graphs) **and why data is presented in a specific way** To **logically and effectively** plan, create and search a database to answer questions To **confidently** collect data and **consistently** identify when data could be inaccurate To **confidently** collect data for a specific purpose and present data **effectively** using an appropriate way
	Understanding the Application of IT	• To choose which digital application to use to meet a purpose • To explain the design of a web-page and the external links • To create a hyperlink to a website on the World Wide Web	To describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose To explain the design of a web-page and the external links	To **confidently** describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose **and explain my choice** To explain the design of a web-page and the external links **by making links with others**

		Unit specific learning objectives	Lower KS2 working at the EXPECTED STANDARD	Lower KS2 working ABOVE the expected standard
		• To use search engines to find appropriate websites using specific keywords • To identify key words to use when searching the World Wide Web safely	To choose an appropriate online platform to collaborate with others To create a hyperlink to a website on the World Wide Web To use search engines to find appropriate websites using specific keywords To understand and check who owns images and text on the internet To identify key words to use when searching the World Wide Web safely	To **critically** choose an appropriate online platform to collaborate with others **and explain my choice** To **confidently and consistently** create a hyperlink to a website on the World Wide Web To use search engines **effectively and accurately** to find appropriate websites using specific keywords To understand and check who owns images and text on the internet **and explain how you know** To **effectively and accurately** identify key words to use when searching the World Wide Web safely
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To explore online plagiarism	To use technology safely, responsibly and respectfully To recognise and describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns To describe how online message can be hurtful To explore online plagiarism To explore online games and whether they are age appropriate To create a safe online profile To describe how to be a good digital citizen online and in real life	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise and **confidently** describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns **in detail** To describe how **and why** online message can be hurtful To explore online plagiarism **and why it is important** To **critically** explore online games and whether they are age appropriate **and explain why** To **effectively** create a safe **and secure** online profile To describe how to be a good digital citizen online and in real life **by making comparisons between reality and virtual**

SUMMER UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Lower KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**

| What I believe: Everyone and everything has the right to be alive.

Life in the rainforest. | Understanding and Creating Algorithms | • To use a variety of commands to create a precise program

• To detect errors in an algorithm and debug an algorithm using abstraction

• To evaluate the effectiveness of a program and why a program is suitable | To use logical reasoning to decompose an open-ended problem into smaller parts

To use algorithms to solve complex problems

To use logical reasoning to simplify a program

To explain the input and output to program a robot/software

To use a sensor within an algorithm

To use a variety of commands to create a precise program

To detect errors in an algorithm and debug an algorithm using abstraction

To evaluate the effectiveness of a program and why a program is suitable | To **effectively** use logical reasoning to decompose an open-ended problem into smaller parts **and begin to identify patterns**

To use **precise, accurate and logical** algorithms to solve complex problems

To use logical reasoning to simplify a program **consistently and effectively**

To explain the input and output to program a robot/software **and explain how the input affects the output**

To **confidently** use a sensor within an algorithm

To use a variety of commands to create a precise program **with greater accuracy and consistency**

To **accurately** detect errors in an algorithm and **precisely** debug an algorithm using abstraction

To evaluate the effectiveness of a program and why a program is suitable **and unsuitable to achieve a specific outcome** |
| | Digital Content and the Internet | • To effectively use information, I have found on the internet and check its reliability

• To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.)

• To use a keyboard confidently and use spellchecker to review my work

• To change the appearance of text to increase its effectiveness for a specific purpose

• To save, store and retrieve work on an online platform or school network

• To describe and explain different ways data can be organised digitally for different purposes (charts/graphs)

• To plan, create and search a database to answer questions

• To can collect data and identify when data could be inaccurate

• To collect data for a specific purpose and present data using an appropriate way | To create work using a range of text, pictorial and audio for a specific purpose and audience

To modify a template and use a range of tools to create a piece of work for a specific purpose

To critically evaluate the effectiveness of my work

To begin to use transitions and animations when creating presentations

To confidently use information, I have found on the internet and check its reliability

To use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.)

To use a keyboard confidently and use spellchecker to review my work

To change the appearance of text to increase its effectiveness for a specific purpose

To save, store and retrieve work on an online platform or school network

To describe and explain different ways data can be organised digitally for different purposes (charts/graphs) | To **effectively** create work using a range of text, pictorial and audio for a specific purpose and audience

To **effectively** modify a template and **confidently** use a range of tools to create a piece of work for a specific purpose

To critically evaluate the effectiveness of my work **and why my work is good and how I could improve it**

To to use transitions and animations when creating presentations

To confidently use information, I have found on the internet and check its reliability **with increasing confidence**

To **effectively** use technology creatively when creating work online using a range of different effects appropriately (font, letter size, colour, etc.) **with confidence**

To use a keyboard confidently and **effectively** use spellchecker to review my work

To **effectively and consistently** change the appearance of text to increase its effectiveness for a specific purpose |

				To plan, create and search a database to answer questions I can collect data and identify when data could be inaccurate To collect data for a specific purpose and present data using an appropriate way	To **confidently and consistently** save, store and retrieve work on an online platform or school network **without adult support** To **confidently** describe and explain different ways data can be organised digitally for different purposes (charts/graphs) **and why data is presented in a specific way** To **logically and effectively** plan, create and search a database to answer questions To **confidently** collect data and **consistently** identify when data could be inaccurate To **confidently** collect data for a specific purpose and present data **effectively** using an appropriate way
	Understanding the Application of IT	• To choose which digital application to use to meet a purpose • To choose an appropriate online platform to collaborate with others • To use search engines to find appropriate websites using specific keywords • To identify key words to use when searching the World Wide Web safely	To describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose To explain the design of a web-page and the external links To choose an appropriate online platform to collaborate with others To create a hyperlink to a website on the World Wide Web To use search engines to find appropriate websites using specific keywords To understand and check who owns images and text on the internet To identify key words to use when searching the World Wide Web safely	To **confidently** describe whether I am using something from the internet, school network or a digital device To choose which digital application to use to meet a purpose **and explain my choice** To explain the design of a web-page and the external links **by making links with others** To **critically** choose an appropriate online platform to collaborate with others **and explain my choice** To **confidently and consistently** create a hyperlink to a website on the World Wide Web To use search engines **effectively and accurately** to find appropriate websites using specific keywords To understand and check who owns images and text on the internet **and explain how you know** To **effectively and accurately** identify key words to use when searching the World Wide Web safely
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To create a safe online profile • To describe how to be a good digital citizen online and in real life	To use technology safely, responsibly and respectfully To recognise and describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns To describe how online message can be hurtful To explore online plagiarism To explore online games and whether they are age appropriate	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise and **confidently** describe acceptable and unacceptable behaviour online To understand how and why to report content and concerns **in detail** To describe how **and why** online message can be hurtful

			To create a safe online profile	To explore online plagiarism **and why it is important**
			To describe how to be a good digital citizen online and in real life	To **critically** explore online games and whether they are age appropriate **and explain why**
				To **effectively** create a safe **and secure** online profile
				To describe how to be a good digital citizen online and in real life **by making comparisons between reality and virtual**

YEAR 5

AUTUMN UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Upper KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**
Settlers and Settlements Anglo-Saxon, Vikings and Scots	Understanding and Creating Algorithms	• To select appropriate commands to create a specific program • To use algorithms to solve complex problems using logical reasoning	To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem To design, write and debug programs that achieve a specific goal To evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To use logical reasoning to detect correct errors in algorithms and programs To recognise the use of a variable to achieve a specific outcome To use a variable and operators to stop a program	To **effectively** decompose an open-ended problem into smaller parts and **consistently** recognise patterns between programs to solve a problem To **confidently and consistently** design, write and debug programs that achieve a specific goal To **critically** evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To **effectively** use logical reasoning to **confidently** detect correct errors in algorithms and programs To **confidently** recognise the use of a variable to achieve a specific outcome To **effectively** use a variable and operators to stop a program
	Digital Content and the Internet	• To create digital content by adding appropriate text, images, sounds and videos to meet a specific purpose • To modify an appropriate template and use a range of tools to create a piece of work for a specific purpose • To use logical reasoning to evaluate the effectiveness of how to present information • To use appropriate information sources to gather digital content	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose To effectively plan the process of using, finding, creating and modifying digital content To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose **consistently and with confidence** To effectively **and critically** plan the process of using, finding, creating and modifying digital content

		• To be digitally critical when searching for information online and check its reliability • To select, use and combine appropriate digital tools to create effects to enhance my work creatively • To use a keyboard with increasing fluency • To choose appropriate tools to edit the appearance of text and images to meet a specific purpose • To save, store and retrieve work on an appropriate online platform or school network	To be digitally critical when evaluating effectiveness of content To be digitally critical when searching for information online by checking its reliability and plausibility To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively To use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose To save, store and retrieve work on an appropriate online platform or school network To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs To input a range of formulas to create data (adding, averages) To appropriately edit the format of a cell on a database for different purposes To check the plausibility and accuracy of data collected and how it can be interpreted in different ways	To **confidently** use logically reasoning to choose an appropriate template to modify to effectively meet a purpose **and articulate their how it meets the purpose** To be digitally critical when evaluating effectiveness of content **by explain and reasoning their understanding of content** To be digitally critical when searching for information online by checking its reliability and plausibility **consistently** To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively **consistently to meet a purpose** To **confidently** use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose **and explain why they have edited in a specific way** To **confidently and consistently** save, store and retrieve work on an appropriate online platform or school network **and explain why they have saved their work on the appropriate platform** To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs **consistently and explain why they have presented data in specific way** To input a range of formulas to create data (adding, averages) **with confidence** To appropriately edit the format of a cell on a database for different purposes **with confidence** To **critically** check the plausibility and accuracy of data collected and how it can be interpreted in different ways
	Understanding the Application of IT	• To choose an appropriate online or offline tool to share and create ideas • To understand how to use different online communication tools for different purposes • To use a search engine to find appropriate information and check its reliability	To explain the internet services for different purposes To understand 'copyright' and describe what it means To describe how to acknowledge sources from the internet To describe how information is transported on the internet	To **effectively** explain the internet services for different purposes **and why the services are important** To **confidently** understand 'copyright', describe what it means **and why it is important** To **confidently** describe how to acknowledge sources from the internet

		• To recognise and evaluate information found on the internet	To understand different types of tools used online and on technologies that can be used for collaboration and communication To use keywords to make effective internet searches and evaluate rankings of websites and digital content To evaluate the reliability of websites To explain how website are ranked and selected based on how they are searched	To describe how information is transported on the internet **in great detail** To understand different types of tools used online and on technologies that can be used for collaboration and communication **and compare how we use them** To **consistently and accurately** use keywords to make effective internet searches and **critically** evaluate rankings of websites and digital content To **critically** evaluate the reliability of websites To **confidently** explain how website are ranked and selected based on how they are searched **by making comparison**
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To recognise, describe and explain acceptable and unacceptable behaviour online • To understand how and why to report content and concerns using a variety of methods • To identify what spam emails are and how what to do with them • To create strong passwords to protect information	To use technology safely, responsibly and respectfully To recognise, describe and explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting To compare online bullying to other types of bullying To identify similarities and differences between strategies for online bullying and other types of bullying To recognise secure and insecure websites To understand safe and unsafe information to share with other online To evaluate media aimed at boys and girls	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise, describe **in detail** and **effectively** explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting **and reason their actions** To **critically** compare online bullying to other types of bullying **focusing on similarities and differences** To identify similarities and differences between strategies for online bullying and other types of bullying **and which strategies are effective for different situations** To **accurately** recognise secure and insecure websites **and explain how secure they are** To understand safe and unsafe information to share with other online **by critically evaluating the information** To **critically** evaluate media aimed at boys and girls **and why they may be similar or different**

SPRING UNIT	Key generic learning objectives	Unit specific learning objectives	Upper KS2 working at the EXPECTED STANDARD	Lower KS2 working ABOVE the expected standard
What happened after 1066? Tudors and Stewarts	Understanding and Creating Algorithms	• To use programs to control and simulate physical systems • To refine and design a program using repeat commands effectively • To change the input of a program to achieve a different output •	To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem To design, write and debug programs that achieve a specific goal To evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To use logical reasoning to detect correct errors in algorithms and programs To recognise the use of a variable to achieve a specific outcome To use a variable and operators to stop a program	To **effectively** decompose an open-ended problem into smaller parts and **consistently** recognise patterns between programs to solve a problem To **confidently and consistently** design, write and debug programs that achieve a specific goal To **critically** evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To **effectively** use logical reasoning to **confidently** detect correct errors in algorithms and programs To **confidently** recognise the use of a variable to achieve a specific outcome To **effectively** use a variable and operators to stop a program
	Digital Content and the Internet	• To create digital content by adding appropriate text, images, sounds and videos to meet a specific purpose • To modify an appropriate template and use a range of tools to create a piece of work for a specific purpose • To use logical reasoning to evaluate the effectiveness of how to present information • To use appropriate information sources to gather digital content • To be digitally critical when searching for information online and check its reliability • To select, use and combine appropriate digital tools to create effects to enhance my work creatively • To use a keyboard with increasing fluency • To choose appropriate tools to edit the appearance of text and images to meet a specific purpose • To save, store and retrieve work on an appropriate online platform or school network	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose To effectively plan the process of using, finding, creating and modifying digital content To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose To be digitally critical when evaluating effectiveness of content To be digitally critical when searching for information online by checking its reliability and plausibility To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively To use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose **consistently and with confidence** To effectively **and critically** plan the process of using, finding, creating and modifying digital content To **confidently** use logically reasoning to choose an appropriate template to modify to effectively meet a purpose **and articulate their how it meets the purpose** To be digitally critical when evaluating effectiveness of content **by explain and reasoning their understanding of content** To be digitally critical when searching for information online by checking its reliability and plausibility **consistently** To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively **consistently to meet a purpose**

				To save, store and retrieve work on an appropriate online platform or school network To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs To input a range of formulas to create data (adding, averages) To appropriately edit the format of a cell on a database for different purposes To check the plausibility and accuracy of data collected and how it can be interpreted in different ways	To **confidently** use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose **and explain why they have edited in a specific way** To **confidently and consistently** save, store and retrieve work on an appropriate online platform or school network **and explain why they have saved their work on the appropriate platform** To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs **consistently and explain why they have presented data in specific way** To input a range of formulas to create data (adding, averages) **with confidence** To appropriately edit the format of a cell on a database for different purposes **with confidence** To **critically** check the plausibility and accuracy of data collected and how it can be interpreted in different ways
	Understanding the Application of IT	• To describe the different parts of the internet • To use a search engine to find appropriate information and check its reliability • To recognise and evaluate information found on the internet		To explain the internet services for different purposes To understand 'copyright' and describe what it means To describe how to acknowledge sources from the internet To describe how information is transported on the internet To understand different types of tools used online and on technologies that can be used for collaboration and communication To use keywords to make effective internet searches and evaluate rankings of websites and digital content To evaluate the reliability of websites To explain how website are ranked and selected based on how they are searched	To **effectively** explain the internet services for different purposes **and why the services are important** To **confidently** understand 'copyright', describe what it means **and why it is important** To **confidently** describe how to acknowledge sources from the internet To describe how information is transported on the internet **in great detail** To understand different types of tools used online and on technologies that can be used for collaboration and communication **and compare how we use them** To **consistently and accurately** use keywords to make effective internet searches and **critically** evaluate rankings of websites and digital content To **critically** evaluate the reliability of websites

				To **confidently** explain how website are ranked and selected based on how they are searched **by making comparison**
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To recognise, describe and explain acceptable and unacceptable behaviour online • To understand how and why to report content and concerns using a variety of methods • To write citations for websites to understand the source of information	To use technology safely, responsibly and respectfully To recognise, describe and explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting To compare online bullying to other types of bullying To identify similarities and differences between strategies for online bullying and other types of bullying To recognise secure and insecure websites To understand safe and unsafe information to share with other online To evaluate media aimed at boys and girls	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise, describe **in detail** and **effectively** explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting **and reason their actions** To **critically** compare online bullying to other types of bullying **focusing on similarities and differences** To identify similarities and differences between strategies for online bullying and other types of bullying **and which strategies are effective for different situations** To **accurately** recognise secure and insecure websites **and explain how secure they are** To understand safe and unsafe information to share with other online **by critically evaluating the information** To **critically** evaluate media aimed at boys and girls **and why they may be similar or different**

SUMMER UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Upper KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**
What I believe: No one is allowed to punish you in a cruel or harmful way.	Understanding and Creating Algorithms	• To use a variable to increase the possibility of programming • To use 'if' and 'then' command in an algorithm • To use logical reasoning to detect errors in an algorithm and debug an algorithm	To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem To design, write and debug programs that achieve a specific goal To evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To use logical reasoning to detect correct errors in algorithms and programs	To **effectively** decompose an open-ended problem into smaller parts and **consistently** recognise patterns between programs to solve a problem To **confidently and consistently** design, write and debug programs that achieve a specific goal To **critically** evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program

Exploring crime and punishment.			To recognise the use of a variable to achieve a specific outcome To use a variable and operators to stop a program	To **effectively** use logical reasoning to **confidently** detect correct errors in algorithms and programs To **confidently** recognise the use of a variable to achieve a specific outcome To **effectively** use a variable and operators to stop a program
	Digital Content and the Internet	• To use appropriate information sources to gather digital content • To be digitally critical when searching for information online and check its reliability • To select, use and combine appropriate digital tools to create effects to enhance my work creatively • To use a keyboard with increasing fluency • To choose appropriate tools to edit the appearance of text and images to meet a specific purpose • To save, store and retrieve work on an appropriate online platform or school network • To use spreadsheets and databases to collect, record and analyse data • To choose an appropriate way to present data and explain why • To search a database using different operators to refine my search • To edit data to amend inaccuracies • To begin input a range of formulas to create data (adding) • To edit the format of a cell on a database	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose To effectively plan the process of using, finding, creating and modifying digital content To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose To be digitally critical when evaluating effectiveness of content To be digitally critical when searching for information online by checking its reliability and plausibility To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively To use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose To save, store and retrieve work on an appropriate online platform or school network To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs To input a range of formulas to create data (adding, averages) To appropriately edit the format of a cell on a database for different purposes To check the plausibility and accuracy of data collected and how it can be interpreted in different ways	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose **consistently and with confidence** To effectively **and critically** plan the process of using, finding, creating and modifying digital content To **confidently** use logically reasoning to choose an appropriate template to modify to effectively meet a purpose **and articulate their how it meets the purpose** To be digitally critical when evaluating effectiveness of content **by explain and reasoning their understanding of content** To be digitally critical when searching for information online by checking its reliability and plausibility **consistently** To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively **consistently to meet a purpose** To **confidently** use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose **and explain why they have edited in a specific way** To **confidently and consistently** save, store and retrieve work on an appropriate online platform or school network **and explain why they have saved their work on the appropriate platform** To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs

				consistently and explain why they have presented data in specific way To input a range of formulas to create data (adding, averages) **with confidence** To appropriately edit the format of a cell on a database for different purposes **with confidence** To **critically** check the plausibility and accuracy of data collected and how it can be interpreted in different ways
	Understanding the Application of IT	• To describe the different parts of a webpage and how they work • To use a search engine to find appropriate information and check its reliability • To recognise and evaluate information found on the internet	To explain the internet services for different purposes To understand 'copyright' and describe what it means To describe how to acknowledge sources from the internet To describe how information is transported on the internet To understand different types of tools used online and on technologies that can be used for collaboration and communication To use keywords to make effective internet searches and evaluate rankings of websites and digital content To evaluate the reliability of websites To explain how website are ranked and selected based on how they are searched	To **effectively** explain the internet services for different purposes **and why the services are important** To **confidently** understand 'copyright', describe what it means **and why it is important** To **confidently** describe how to acknowledge sources from the internet To describe how information is transported on the internet **in great detail** To understand different types of tools used online and on technologies that can be used for collaboration and communication **and compare how we use them** To **consistently and accurately** use keywords to make effective internet searches and **critically** evaluate rankings of websites and digital content To **critically** evaluate the reliability of websites To **confidently** explain how website are ranked and selected based on how they are searched **by making comparison**
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To understand how photos online can be edited and their reliability • To critically evaluate content on the internet	To use technology safely, responsibly and respectfully To recognise, describe and explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting To compare online bullying to other types of bullying To identify similarities and differences between strategies for online bullying and other types of bullying	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise, describe **in detail** and **effectively** explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting **and reason their actions** To **critically** compare online bullying to other types of bullying **focusing on similarities and differences**

			To recognise secure and insecure websites	To identify similarities and differences between strategies for online bullying and other types of bullying **and which strategies are effective for different situations**
			To understand safe and unsafe information to share with other online	
				To **accurately** recognise secure and insecure websites **and explain how secure they are**
			To evaluate media aimed at boys and girls	
				To understand safe and unsafe information to share with other online **by critically evaluating the information**
				To **critically** evaluate media aimed at boys and girls **and why they may be similar or different**

YEAR 6

AUTUMN UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Upper KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**
Children in WWII in Sunderland	Understanding and Creating Algorithms	• To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem • To design, write and debug programs that achieve a specific goal	To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem To design, write and debug programs that achieve a specific goal To evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To use logical reasoning to detect correct errors in algorithms and programs To recognise the use of a variable to achieve a specific outcome To use a variable and operators to stop a program	To **effectively** decompose an open-ended problem into smaller parts and **consistently** recognise patterns between programs to solve a problem To **confidently and consistently** design, write and debug programs that achieve a specific goal To **critically** evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To **effectively** use logical reasoning to **confidently** detect correct errors in algorithms and programs To **confidently** recognise the use of a variable to achieve a specific outcome To **effectively** use a variable and operators to stop a program

| | | Digital Content and the Internet | | • To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose

• To effectively plan the process of using, finding, creating and modifying digital content

• To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose

• To be digitally critical when evaluating effectiveness of content

• To be digitally critical when searching for information online by checking its reliability and plausibility

• To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively

• To use a keyboard with increasing fluency and pace

• To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose

• To save, store and retrieve work on an appropriate online platform or school network | To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose

To effectively plan the process of using, finding, creating and modifying digital content

To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose

To be digitally critical when evaluating effectiveness of content

To be digitally critical when searching for information online by checking its reliability and plausibility

To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively

To use a keyboard with increasing fluency and pace

To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose

To save, store and retrieve work on an appropriate online platform or school network

To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs

To input a range of formulas to create data (adding, averages)

To appropriately edit the format of a cell on a database for different purposes

To check the plausibility and accuracy of data collected and how it can be interpreted in different ways | To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose **consistently and with confidence**

To effectively **and critically** plan the process of using, finding, creating and modifying digital content

To **confidently** use logically reasoning to choose an appropriate template to modify to effectively meet a purpose **and articulate their how it meets the purpose**

To be digitally critical when evaluating effectiveness of content **by explain and reasoning their understanding of content**

To be digitally critical when searching for information online by checking its reliability and plausibility **consistently**

To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively **consistently to meet a purpose**

To **confidently** use a keyboard with increasing fluency and pace

To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose **and explain why they have edited in a specific way**

To **confidently and consistently** save, store and retrieve work on an appropriate online platform or school network **and explain why they have saved their work on the appropriate platform**

To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs **consistently and explain why they have presented data in specific way**

To input a range of formulas to create data (adding, averages) **with confidence**

To appropriately edit the format of a cell on a database for different purposes **with confidence**

To **critically** check the plausibility and accuracy of data collected and how it can be interpreted in different ways |

		Understanding the Application of IT	• To use keywords to make effective internet searches and evaluate rankings of websites and digital content • To evaluate the reliability of websites • To explain how website are ranked and selected based on how they are searched	To explain the internet services for different purposes To understand 'copyright' and describe what it means To describe how to acknowledge sources from the internet To describe how information is transported on the internet To understand different types of tools used online and on technologies that can be used for collaboration and communication To use keywords to make effective internet searches and evaluate rankings of websites and digital content To evaluate the reliability of websites To explain how website are ranked and selected based on how they are searched	To **effectively** explain the internet services for different purposes **and why the services are important** To **confidently** understand 'copyright', describe what it means **and why it is important** To **confidently** describe how to acknowledge sources from the internet To describe how information is transported on the internet **in great detail** To understand different types of tools used online and on technologies that can be used for collaboration and communication **and compare how we use them** To **consistently and accurately** use keywords to make effective internet searches and **critically** evaluate rankings of websites and digital content To **critically** evaluate the reliability of websites To **confidently** explain how website are ranked and selected based on how they are searched **by making comparison**
		Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To recognise, describe and explain acceptable and unacceptable behaviour online effectively • To understand how and why to report content and concerns by explaining the most appropriate method of reporting • To compare online bullying to other types of bullying	To use technology safely, responsibly and respectfully To recognise, describe and explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting To compare online bullying to other types of bullying To identify similarities and differences between strategies for online bullying and other types of bullying To recognise secure and insecure websites To understand safe and unsafe information to share with other online To evaluate media aimed at boys and girls	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise, describe **in detail** and **effectively** explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting **and reason their actions** To **critically** compare online bullying to other types of bullying **focusing on similarities and differences** To identify similarities and differences between strategies for online bullying and other types of bullying **and which strategies are effective for different situations** To **accurately** recognise secure and insecure websites **and explain how secure they are** To understand safe and unsafe information to share with other online **by critically evaluating the information**

				To **critically** evaluate media aimed at boys and girls **and why they may be similar or different**

SPRING UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Upper KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**
Sunderland's Heritage: Coalmining	Understanding and Creating Algorithms	• To recognise the use of a variable to achieve a specific outcome • To use a variable and operators to stop a program	To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem To design, write and debug programs that achieve a specific goal To evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To use logical reasoning to detect correct errors in algorithms and programs To recognise the use of a variable to achieve a specific outcome To use a variable and operators to stop a program	To **effectively** decompose an open-ended problem into smaller parts and **consistently** recognise patterns between programs to solve a problem To **confidently and consistently** design, write and debug programs that achieve a specific goal To **critically** evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To **effectively** use logical reasoning to **confidently** detect correct errors in algorithms and programs To **confidently** recognise the use of a variable to achieve a specific outcome To **effectively** use a variable and operators to stop a program
	Digital Content and the Internet	• To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose • To effectively plan the process of using, finding, creating and modifying digital content • To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose • To be digitally critical when evaluating effectiveness of content • To be digitally critical when searching for information online by checking its reliability and plausibility • To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose To effectively plan the process of using, finding, creating and modifying digital content To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose To be digitally critical when evaluating effectiveness of content To be digitally critical when searching for information online by checking its reliability and plausibility	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose **consistently and with confidence** To effectively **and critically** plan the process of using, finding, creating and modifying digital content To **confidently** use logically reasoning to choose an appropriate template to modify to effectively meet a purpose **and articulate their how it meets the purpose**

			• To use a keyboard with increasing fluency and pace • To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose • To save, store and retrieve work on an appropriate online platform or school network	To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively To use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose To save, store and retrieve work on an appropriate online platform or school network To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs To input a range of formulas to create data (adding, averages) To appropriately edit the format of a cell on a database for different purposes To check the plausibility and accuracy of data collected and how it can be interpreted in different ways	To be digitally critical when evaluating effectiveness of content **by explain and reasoning their understanding of content** To be digitally critical when searching for information online by checking its reliability and plausibility **consistently** To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively **consistently to meet a purpose** To **confidently** use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose **and explain why they have edited in a specific way** To **confidently and consistently** save, store and retrieve work on an appropriate online platform or school network **and explain why they have saved their work on the appropriate platform** To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs **consistently and explain why they have presented data in specific way** To input a range of formulas to create data (adding, averages) **with confidence** To appropriately edit the format of a cell on a database for different purposes **with confidence** To **critically** check the plausibility and accuracy of data collected and how it can be interpreted in different ways
	Understanding the Application of IT		• To explain the internet services for different purposes • To describe how information is transported on the internet • To use keywords to make effective internet searches and evaluate rankings of websites and digital content • To evaluate the reliability of websites •	To explain the internet services for different purposes To understand 'copyright' and describe what it means To describe how to acknowledge sources from the internet To describe how information is transported on the internet To understand different types of tools used online and on technologies that can be used for collaboration and communication	To **effectively** explain the internet services for different purposes **and why the services are important** To **confidently** understand 'copyright', describe what it means **and why it is important** To **confidently** describe how to acknowledge sources from the internet To describe how information is transported on the internet **in great detail**

			Upper KS2 working at the EXPECTED STANDARD	Lower KS2 working ABOVE the expected standard
			To use keywords to make effective internet searches and evaluate rankings of websites and digital content To evaluate the reliability of websites To explain how website are ranked and selected based on how they are searched	To understand different types of tools used online and on technologies that can be used for collaboration and communication **and compare how we use them** To **consistently and accurately** use keywords to make effective internet searches and **critically** evaluate rankings of websites and digital content To **critically** evaluate the reliability of websites To **confidently** explain how website are ranked and selected based on how they are searched **by making comparison**
	Online Safety and Appropriate Use	• To use technology safely, responsibly and respectfully • To identify similarities and differences between strategies for online bullying and other types of bullying • To understand safe and unsafe information to share with other online	To use technology safely, responsibly and respectfully To recognise, describe and explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting To compare online bullying to other types of bullying To identify similarities and differences between strategies for online bullying and other types of bullying To recognise secure and insecure websites To understand safe and unsafe information to share with other online To evaluate media aimed at boys and girls	To use technology safely, responsibly and respectfully **with confidence** To **accurately** recognise, describe **in detail** and **effectively** explain acceptable and unacceptable behaviour online effectively To understand how and why to report content and concerns by explaining the most appropriate method of reporting **and reason their actions** To **critically** compare online bullying to other types of bullying **focusing on similarities and differences** To identify similarities and differences between strategies for online bullying and other types of bullying **and which strategies are effective for different situations** To **accurately** recognise secure and insecure websites **and explain how secure they are** To understand safe and unsafe information to share with other online **by critically evaluating the information** To **critically** evaluate media aimed at boys and girls **and why they may be similar or different**

SUMMER UNIT	**Key generic learning objectives**	Unit specific learning objectives	**Upper KS2 working at the EXPECTED STANDARD**	**Lower KS2 working ABOVE the expected standard**

What I believe: I have the right to protection from any kind of exploitation. I have the right to give my opinion.	Understanding and Creating Algorithms	• To evaluate the effectiveness and efficiency of my algorithm whole continually testing the program • To use logical reasoning to detect correct errors in algorithms and programs	To decompose an open-ended problem into smaller parts and recognise patterns between programs to solve a problem To design, write and debug programs that achieve a specific goal To evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To use logical reasoning to detect correct errors in algorithms and programs To recognise the use of a variable to achieve a specific outcome To use a variable and operators to stop a program	To **effectively** decompose an open-ended problem into smaller parts and **consistently** recognise patterns between programs to solve a problem To **confidently and consistently** design, write and debug programs that achieve a specific goal To **critically** evaluate the effectiveness and efficiency of my algorithm as a whole by continually testing the program To **effectively** use logical reasoning to **confidently** detect correct errors in algorithms and programs To **confidently** recognise the use of a variable to achieve a specific outcome To **effectively** use a variable and operators to stop a program
	Digital Content and the Internet	• To be digitally critical when searching for information online by checking its reliability and plausibility • To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively • To use a keyboard with increasing fluency and pace • To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose • To save, store and retrieve work on an appropriate online platform or school network • To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs • To input a range of formulas to create data (adding, averages) • To appropriately edit the format of a cell on a database for different purposes • To check the plausibility and accuracy of data collected and how it can be interpreted in different ways	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose To effectively plan the process of using, finding, creating and modifying digital content To use logically reasoning to choose an appropriate template to modify to effectively meet a purpose To be digitally critical when evaluating effectiveness of content To be digitally critical when searching for information online by checking its reliability and plausibility To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively To use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose To save, store and retrieve work on an appropriate online platform or school network To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs	To effectively create digital content by adding appropriate text, images, sound and videos to meet a specific purpose **consistently and with confidence** To effectively **and critically** plan the process of using, finding, creating and modifying digital content To **confidently** use logically reasoning to choose an appropriate template to modify to effectively meet a purpose **and articulate their how it meets the purpose** To be digitally critical when evaluating effectiveness of content **by explain and reasoning their understanding of content** To be digitally critical when searching for information online by checking its reliability and plausibility **consistently** To effectively select, use and combine appropriate digital tools to create effects to enhance my work creatively **consistently to meet a purpose** To **confidently** use a keyboard with increasing fluency and pace To be digitally critically when choosing appropriate tools to edit the appearance of text and images to meet a specific purpose **and**

				To input a range of formulas to create data (adding, averages)	**explain why they have edited in a specific way**
				To appropriately edit the format of a cell on a database for different purposes	To **confidently and consistently** save, store and retrieve work on an appropriate online platform or school network **and explain why they have saved their work on the appropriate platform**
				To check the plausibility and accuracy of data collected and how it can be interpreted in different ways	To effectively create, critically analyse, confidently evaluate and appropriately present data using spreadsheets, databases and graphs **consistently and explain why they have presented data in specific way**
					To input a range of formulas to create data (adding, averages) **with confidence**
					To appropriately edit the format of a cell on a database for different purposes **with confidence**
					To **critically** check the plausibility and accuracy of data collected and how it can be interpreted in different ways
	Understanding the Application of IT	• To understand 'copyright' and describe what it means • To describe how to acknowledge sources from the internet • To understand different types of tools used online and on technologies that can be used for collaboration and communication • To use keywords to make effective internet searches and evaluate rankings of websites and digital content • To evaluate the reliability of websites	To explain the internet services for different purposes To understand 'copyright' and describe what it means To describe how to acknowledge sources from the internet To describe how information is transported on the internet To understand different types of tools used online and on technologies that can be used for collaboration and communication To use keywords to make effective internet searches and evaluate rankings of websites and digital content To evaluate the reliability of websites To explain how website are ranked and selected based on how they are searched	To **effectively** explain the internet services for different purposes **and why the services are important** To **confidently** understand 'copyright', describe what it means **and why it is important** To **confidently** describe how to acknowledge sources from the internet To describe how information is transported on the internet **in great detail** To understand different types of tools used online and on technologies that can be used for collaboration and communication **and compare how we use them** To **consistently and accurately** use keywords to make effective internet searches and **critically** evaluate rankings of websites and digital content To **critically** evaluate the reliability of websites To **confidently** explain how website are ranked and selected based on how they are searched **by making comparison**

| | | Online Safety and Appropriate Use | • To use technology safely, responsibly and respectfully

• To recognise secure and insecure websites

• To evaluate media aimed at boys and girls | To use technology safely, responsibly and respectfully

To recognise, describe and explain acceptable and unacceptable behaviour online effectively

To understand how and why to report content and concerns by explaining the most appropriate method of reporting

To compare online bullying to other types of bullying

To identify similarities and differences between strategies for online bullying and other types of bullying

To recognise secure and insecure websites

To understand safe and unsafe information to share with other online

To evaluate media aimed at boys and girls | To use technology safely, responsibly and respectfully **with confidence**

To **accurately** recognise, describe **in detail** and **effectively** explain acceptable and unacceptable behaviour online effectively

To understand how and why to report content and concerns by explaining the most appropriate method of reporting **and reason their actions**

To **critically** compare online bullying to other types of bullying **focusing on similarities and differences**

To identify similarities and differences between strategies for online bullying and other types of bullying **and which strategies are effective for different situations**

To **accurately** recognise secure and insecure websites **and explain how secure they are**

To understand safe and unsafe information to share with other online **by critically evaluating the information**

To **critically** evaluate media aimed at boys and girls **and why they may be similar or different** |