

Computing Overview 2023-24 Jubilee with Pebblebed Federation

Computing National Curriculum Requirements	
KS1	KS2
<p>Pupils should –</p> <ul style="list-style-type: none"> ➤ understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms, and data representation. ➤ analyse problems in computational terms and have repeated practical experience of writing computer programs to solve such problems. ➤ evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. ➤ be responsible, competent, confident, and creative users of information and communication technology. <p>They should –</p> <ul style="list-style-type: none"> • 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. 	<p>Pupils should –</p> <ul style="list-style-type: none"> ➤ understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms, and data representation. ➤ analyse problems in computational terms and have repeated practical experience of writing computer programs to solve such problems. ➤ evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. ➤ be responsible, competent, confident, and creative users of information and communication technology. <p>They should –</p> <ul style="list-style-type: none"> • 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.

Computing National Curriculum Strands		
Computer Science	Information Technology	Digital Literacy
 <p>Computer science is the study of the numerous processes that interact with different sources of data and information and that can be represented, as a result, in the form of apps, games, software or programs.</p>	 <p>Information technology is the understanding and safe and effective use of digital artefacts. Pupils 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.</p>	 <p>Digital literacy means having the skills you need to live, learn, and work safely in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices</p>

In Computing at Jubilee with Pebblebed Federation, children will be able to develop a wide range of fundamental skills, knowledge and understanding that will equip them for the rest of their life. Computers and technology are such a part of everyday life that our children would be at a disadvantage if they were not exposed to a thorough and robust Computing curriculum. Children must be given opportunities to develop their skills and knowledge to provide them with essential knowledge that will enable them to participate effectively and safely in the digital world beyond our gates. Computing is taught using a thematic cross curricular approach. This ensures children can develop depth in their knowledge and skills over the duration of each of their computing topics. Teachers use the Cornerstones Curriculum topics as a starting point for the planning of their computing lessons, which are often richly linked to engaging contexts in other subjects and topics.

In Early Years and Key Stage 1, through the Movers and Shakers unit in Autumn term, the children will learn about programming. They will explore the basics of programming- what hardware and software is as well as starting to develop their understanding of how to programme a floor robot. In Spring term, the children learn about word processing and multimedia. They will be shown how to use a range of technology purposefully to create, organise, store, manipulate and retrieve digital content as well as recognise common uses of information technology

beyond school. They will be taught to 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. In summer term, the children will return to programming, extending their understanding of how robots can be programmed using algorithms; how algorithms are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. They will be taught to create and debug simple programs and use logical reasoning to predict the behaviour of simple programs. Children will also learn about data in summer 2, linking to their Coastlines project. They will collect, present, and interpret data which they will share interactively with others.

In Key Stage 2, the children will have 3 units, one for each term of the year. In the Autumn term, the children will learn about technology in our lives through word processing and multimedia. They will explore the development of photography and photo editing software and how photography trends have changed over time, since their discovery in the Victorian Era. In Spring term, Key Stage 2 will continue to develop their word processing skills as well as their data handling skills through surveys linked to their unit on the Tudors. The children will collect, present, analyse and present data in a variety of forms to include in their Tudor project. In Summer Term, the children will use and develop their word processing skills further through their study of websites. Children will be taught to understand computer networks, including the internet, and the opportunities they offer for communication and collaboration. They will use search technologies effectively, learn to appreciate how results are selected and ranked, and be discerning in evaluating digital content. They will use their learning to research and present information about the Greeks in the form of a PowerPoint presentation.

E-Safety will be taught in each of the units across the school. Children will use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Safer Internet Day is also celebrated each year across the federation.

	 <p style="text-align: center;">Sow Grow Farm</p>	 <p style="text-align: center;">Off with her Head!</p>	 <p style="text-align: center;">Ground-Breaking Greeks</p>
	Word Processing and Multimedia	Data Handling/ Word Processing	Websites/Word Processing
KS2 Cycle C 2023/24	<p>Technology in Our Lives Y3/4 Know how to save and retrieve work on Google Classroom and on a Chromebook. Know whether a resource that is being used is on the internet, Google Classroom or locally on a device.</p> <p>Y5/6 Know about copyright and how to acknowledge the sources of information that are found online.</p> <p>Multimedia Y3/4 Know how to combine text, graphic and sound to communicate ideas to others in a variety of ways. Know how to critically evaluate work and use this to improve its effectiveness. Know how to create, modify and present images and documents for a particular purpose. Know how to change the appearance of images and text to increase its effectiveness.</p> <p>Y5/6 Know how to select, use and combine appropriate technology tools to create an effect that will have an impact on others. Know how to use text, photo, sound and/or video editing tools to refine work. Know how to apply skills that have previously been developed to create content using unfamiliar technology.</p>	<p>A range of technologies can be selected, used and combined, such as using different hardware and software to create a solution that will have an impact on others.</p> <p>Multimedia Yr 3/4 Know how to combine text and graphics to communicate ideas to others in a variety of ways. Know how to use keyboard commands to amend text including the use of spell check to write and review work. Know how to critically evaluate work and use this to improve its effectiveness. Know how to create, modify and present documents for a particular purpose. Know how to change the appearance of text to increase its effectiveness.</p> <p>Yr 5/6 Know how to select, use and combine appropriate technology tools to create an effect that will have an impact on others. Know how to select appropriate online or offline tools to create and share ideas. Know how to use text, photos, sound and video editing tools to refine work. Know how to use skills that have previously been developed to create content using unfamiliar technology. Know that a range of media can be combined, recognising the contribution of each to achieve a particular outcome. Know how to discuss audience, atmosphere and structure when planning a particular outcome.</p>	<p>Text, images, animation, audio and video clips can be combined using tools within a piece of software or by using a range of software. For example, an image could be inserted into a word processing document, or a video could be inserted into a presentation. Several pieces of software can be used together to complete one task, such as adding a video to a word-processed document.</p> <p>Technology In Our Lives Yr 3/4 Know how to use search tools to find and use an appropriate website. Know that the World Wide Web is a part of the internet that contains websites. Know how to save and retrieve work on Google Classroom or a Chromebook. Know how to scan a QR code to retrieve information. Know how to create a QR code to link to information and resources. Text, images, animation, audio and video clips can be combined using tools within a piece of software or by using a range of software. For example, an image could be inserted into a word processing document or a video could be inserted into a presentation. Know that information on line may not always be reliable. Know how to identify key words to use when searching safely on the World Wide Web. Know how to create a hyperlink to a resource. Know whether a resource that is being used is on the internet or locally on a device.</p> <p>Yr 5/6</p>

Know that a range of media can be combined, recognising the contribution of each to achieve a particular outcome.

Know how to be digitally discerning when evaluating the effectiveness of own and others' work.

Learn about the history of photography from Victorian Times until the present day. Learn about the different equipment and technologies that have helped to develop photography over that time period.

Look at the range of compositions provided in Art Project (Light, Line and Shadow) Use iPad to take a range of photos of the local environment, including up close and from interesting angles. Use editing software to change to black and white.

Teach the children other photo editing effects that can be used, and they should practise these to create a set of images.

Most cameras come with photo editing software that will allow you to create a sepia effect. Your school's photo editing software may also do this.

Teach the children other photo editing effects that can be used and they should practise these to create a set of more modern photographs within given themes.

They should create an album of all their work on the computer and then use these, and their research to create a multimedia document to explain the history of photography.

A classroom photo gallery and museum could be created.

Know how to be digitally discerning when evaluating the effectiveness of own work and that of others.

Handling Data

Yr 3/4

Know how to collect data in order to answer a question, planning what needs to be collected.

Know some different ways in which data can be organised.

Yr 5/6

Know how to collect data, identify where it could be inaccurate and suggest how it could be checked. Know how to present data in an appropriate way.

Know how to use a spreadsheet to collect and record data.

Know how to select the most effective tool to collect data for my investigation.

Know how to check the data I collect for accuracy and plausibility.

Know how to present the data I collect in an appropriate way.

Know how to create, select and combine a range of texts, images, sound clips and videos for given purposes which could include creating a web page, slide show presentation, short film or an animation.

Take an initial survey of their classmates to discover how many think Anne was guilty. Use the categories: strongly agree; agree; don't know; disagree; strongly disagree. Record this data in a bar or pie chart and include within an information page about Anne.

Create an informative presentation, using appropriate software, to create a synopsis of their Tudor project, highlighting their favourite parts. Use text (in suitably historic-style fonts), an atmospheric Tudor music soundtrack and downloaded images of the key players in the Tudor story.

Know how to explain the difference between the internet and the World Wide Web and how they are linked.

Know how information online may not always be reliable.

Know which resources on the internet I can download and use.

Know how information is transported on the internet. Know the internet services that are needed to use for different purposes.

Know how to check the reliability of a website.

Know about copyright and how to acknowledge the sources of information that are found online.

Multimedia

Yr 3/4

Know several pieces of software can be used together to complete one task, such as adding a video to a word-processed document.

Know how to combine text, graphic and sound to communicate ideas to others in a variety of ways.

Know how to use keyboard commands to amend text including the use of spell check.

Know how to critically evaluate work and use this to improve its effectiveness.

Know how to use Google Classrooms to share work with others in the class.

Know how to create, modify and present documents for a particular purpose.

Know how to change the appearance of text to increase its effectiveness.

Yr 5/6

Know how to select, use and combine appropriate technology tools to create an effect that will have an impact on others.

Know how to select appropriate online or offline tools to create and share ideas.

Know how to use text, photo, sound and video editing tools to refine work.

Know how to apply skills that have previously been developed to create content using unfamiliar technology.

Know that a range of media can be combined, recognising the contribution of each to achieve a particular outcome.

Know how to discuss audience, atmosphere and structure when planning a particular outcome.

Know how to be digitally discerning when evaluating effectiveness of own work and the work of others.

Use the internet to research about an element of the Greeks topic. Use PowerPoint/Google Slides presentation to reflect on their learning throughout the project. Create a presentation to share with others the part of the project that most interested or fascinated them, then share this with an invited audience.

Computing success criteria to include the following, are the effects and font size consistent throughout the presentation, consider headings, colour and layout. Has audio or visual been included? Was the symmetry tool used to create any patterns, photos or images sized and pasted correctly?