

Loseley Fields Primary School- Long Term Computing Curriculum Plan

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| EYFS | TBC | TBC | TBC | TBC | TBC | TBC |
| Year 1 | <p>Computer Systems and Networks- Technology Around Us</p> <p>Learners will develop their understanding of technology: how it can help them in their everyday lives, the different components of a computer and how to use technology responsibly.</p> | <p>Creating Media – Digital Painting</p> <p>During this unit, learners develop their understanding of a range of tools used for digital painting. They then use these tools to create their own digital paintings.</p> | <p>Creating Media – Digital Writing</p> <p>Learners will develop their understanding of the various aspects of using a computer to create and manipulate text. They will consider the differences between using a computer to create text, and writing text on paper.</p> | <p>Data and Information- Grouping Data</p> <p>This unit introduces learners to data and information. This unit of work focuses on assigning data (images) with different labels in order to demonstrate how computers are able to group and present data.</p> | <p>Programming A- Moving a Robot</p> <p>This unit introduces learners to early programming concepts. Learners will explore using individual commands, both with other learners and as part of a computer program.</p> | <p>Programming B- An Introduction to Animation</p> <p>Learners will be introduced to on-screen programming. Learners will explore programming blocks to use, modify, and create programs. Learners will also be introduced to the early stages of program design through the introduction of algorithms.</p> |
| Year 2 | <p>Computer Systems and Networks- IT Around Us</p> <p>Learners will develop their understanding of what information technology (IT) is and will begin to identify examples. Learners will then investigate how IT improves our world, and they will learn about the importance of using IT responsibly.</p> | <p>Creating Media – Digital Photography</p> <p>Learners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally, they will use this knowledge to recognise that images they see may not be real.</p> | <p>Creating Media – Making Music</p> <p>In this unit, learners will be using a computer to create music. They will listen to a variety of pieces of music and consider how music can make them think and feel. Learners will compare creating music digitally and non-digitally.</p> | <p>Data and Information- Pictograms</p> <p>Learners will begin to understand what the term data means and how data can be collected in the form of a tally chart. They will then progress onto presenting data in the form of pictograms and finally block diagrams.</p> | <p>Programming A- Robot Algorithms</p> <p>This unit develops pupils' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Pupils will use given commands in different orders to investigate how the order affects the outcome.</p> | <p>Programming B- An Introduction to Quizzes</p> <p>Learners begin to understand that sequences of commands have an outcome, and make predictions based on their learning.</p> |
| Year 3 | <p>Computer Systems and Networks- Connecting Computers</p> <p>Learners will develop their understanding of digital devices, with an initial focus on inputs, processes, and outputs. They will also compare digital and non-digital devices.</p> | <p>Creating Media – Animation</p> <p>Learners will use a range of techniques to create a stop-frame animation using tablets.</p> | <p>Creating Media – Desktop Publishing</p> <p>Learners will become familiar with the terms 'text' and 'images' and understand that they can be used to communicate messages. Learners will look at a range of page layouts thinking carefully about the purpose of these and evaluate how and why desktop publishing is used in the real world.</p> | <p>Data and Information- Branching Databases</p> <p>During this unit, learners will develop their understanding of what a branching database is and how to create one.</p> | <p>Programming A- Sequence in Music</p> <p>This unit explores the concept of sequencing in programming.</p> | <p>Programming B- Events and Actions</p> <p>This unit explores the links between events and actions, while consolidating prior learning relating to sequencing.</p> |

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| Year 4 | <p>Computer Systems and Networks- The Internet Learners will apply their knowledge and understanding of networks, to appreciate the internet as a network of networks which need to be kept secure. Finally, they will evaluate online content to decide how honest, accurate, or reliable it is, and understand the consequences of false information.</p> | <p>Creating Media – Audio Editing In this unit, learners will initially examine devices capable of recording digital audio, which will include identifying the input and output devices. Learners will discuss the ownership of digital audio and the copyright implications of duplicating the work of others.</p> | <p>Creating Media – Photo Editing In this unit, learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.</p> | <p>Data and Information- Data Logging In this unit, pupils will consider how and why data is collected over time. They will look at data points, data sets, and logging intervals. Pupils will spend time using a computer to review and analyse data.</p> | <p>Programming A- Repetition in Shapes Learners will create programs by planning, modifying, and testing commands to create shapes and patterns.</p> | <p>Programming B- Repetition in Games Learners will explore the concept of repetition in programming. Learners look at the difference between count-controlled and infinite loops, and use their knowledge to modify existing animations and games using repetition.</p> |
| Year 5 | <p>Computer Systems and Networks- Sharing Information In this unit, learners will develop their understanding of computer systems and how information is transferred between systems and devices.</p> | <p>Creating Media – Vector Drawing In this unit learners will find out that vector images are made up of shapes. They will learn how to use the different drawing tools and how images are created in layers.</p> | <p>Creating Media – Video Editing Learners will learn how to create and edit short videos by working in pairs or groups.</p> | <p>Data and Information- Flat-File Databases This unit looks at how a flat-file database can be used to organise data in records. Pupils use tools within a database to order and answer questions about data. They create graphs and charts from their data to help solve problems. They use a real-life database to answer a question, and present their work to others.</p> | <p>Programming A- Selection in Physical Computing In this unit, learners will use physical computing to explore the concept of selection in programming. Learners will be introduced to a microcontroller and learn how to connect and program it to control components.</p> | <p>Programming B- Selection in Quizzes In this unit, pupils develop their knowledge of 'selection' by revisiting how 'conditions' can be used in programming. They learn how to write programs that ask questions and use selection to control the outcomes based on the answers given.</p> |
| Year 6 | <p>Computer Systems and Networks- Communication In this unit, learners will develop their understanding of the World Wide Web as a communication tool. They will investigate how search engines work and look at different methods of communication, before focusing on internet-based communication.</p> | <p>Creating Media – 3D Modelling During this unit, learners will develop their knowledge and understanding of using a computer to produce 3D models.</p> | <p>Creating Media – Webpage Creation Learners will be introduced to creating websites for a chosen purpose. Learners identify what makes a good web page and use this information to design and evaluate their own website. Throughout the process, learners pay specific attention to copyright and fair use of media, the aesthetics of the site, and navigation paths.</p> | <p>Data and Information- Spreadsheets This unit introduces the learners to spreadsheets. They will be supported in organising data into columns and rows to create their own data set. Learners will be taught the importance of formatting data and using formulas and how they can be used to produce calculated data.</p> | <p>Programming A- Variables in Games In this unit, learners explore the concept of variables in programming within games. They will look at what variables are, and relate them to real-world examples of values that can be set and changed.</p> | <p>Programming B- Sensing This unit brings together elements of all the four programming constructs: sequence from Year 3, repetition from Year 4, selection from Year 5, and variables (introduced in Year 6 – 'Programming A'. It offers learners the opportunity to use all of these constructs in a different, but still familiar environment, while also utilising a physical device.</p> |