



Porters Grange Primary School

Computing Learning Sequence

Computing Systems and Networks

EYFS	Provide a range of programmable toys for children to play with, as well as equipment involving ICT, such as computers, touchscreen devices and internet-connected toys.
Year 1	Learners will build their knowledge of parts of a computer and develop the basic skills needed to effectively use a computer keyboard and mouse.
Year 2	Progress students' knowledge and understanding of technology and how they interact with it beyond school. Learners will also build on their knowledge of using technology safely and responsibly, and begin to consider the implications of the choices that they make.
Year 3	Progress students' knowledge and understanding of technology by focussing on digital and non-digital devices, and introducing the concept of computers connected together as a network.
Year 4	In this unit, learners will explore the internet as a network of networks. They will learn that the internet enables us to view the world wide web and that the world wide web is made up of websites and web pages.
Year 5	Progress learners' knowledge and understanding of computing systems and online collaborative working. They will learn how information is transferred across the internet in packets using agreed protocols and to recognise that connections allow us to access shared stored files.
Year 6	This unit examines how search engines work and that search terms need to be chosen carefully. They will understand that ranking narrows down the search results based on a set of rules. They should then be able to identify that search engines can contain adverts and that adverts can be targeted.



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Creating Media

EYFS	Incorporate technology resources that children recognise into their play, such as a camera. When in the community and on trips to places such as the park, encourage children to take photographs and use mobile apps of things that interest them, ready to revisit later. Let children use machines like the photocopier to copy their own pictures.
Year 1	Use computers to create and manipulate digital content, focussing on using a word processor. The learners will develop their ability to find and use the keys on a keyboard in order to create digital content. The learners are then introduced to manipulating the resulting text, making cosmetic changes, and justifying their reason for making these changes.
Year 2	Progress students' knowledge through listening to music and considering how music can affect how we think and feel. Learners will then purposefully create rhythm patterns and music.
Year 3	This unit progresses students' knowledge and understanding of using digital devices to create media, exploring how they can create stop frame animations. Following this unit, learners will further develop their video editing skills in Year 5. Progress learners' knowledge and understanding of using digital devices to combine text and images building on work from the following units; Digital Writing Year 1, Digital painting Year 1, and Digital Photography Year 2.
Year 4	Progress students' knowledge and understanding of creating media, by focusing on the recording and editing of sound to produce a podcast. Following this unit, learners will explore combining audio with video in the 'Video editing' unit in Year 5. This unit progresses students' skills through editing digital images and considering the impact that editing can have on an image. Learners will also consider how editing can be used appropriately for different scenarios, and create and evaluate 'fake' images, combining all of their new skills.
Year 5	This unit progresses students' knowledge and understanding of digital painting and has some links to desktop publishing in which learners used digital images. They are now creating the images that they could use in desktop publishing documents. Progress learners' knowledge and understanding of creating media by guiding them systematically through the process involved in creating a video. By the end of the unit, learners will have developed the skills required to plan, record, edit, and finalise a video.
Year 6	This unit explores the stages and requirements of website development and recognises the relationship between HTML and visual display. They will recognise components of a web layout and the need for a navigation path. They will consider the ownership and use of images (copyright) and recognise the implications of linking to content owned by others.



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Data and Information

EYFS	We start to develop this strand in Year 1.
Year 1	This unit will introduce pupils to data and information. It will introduce pupils to the concept of labelling and grouping objects based on their properties. Pupils will develop their understanding that objects can be given labels, which is fundamental to their future learning concerning databases and spreadsheets. In addition, pupils will begin to improve their ability to use dragging and dropping skills on a device.
Year 2	This unit progresses students' knowledge and understanding of grouping data. They will use a computer to record counting and show that they can show data in different formats.
Year 3	Students' knowledge and understanding of presenting information is developed. It builds on their knowledge of data and information from key stage 1. They continue to develop their understanding of attributes and begin to construct and interrogate branching databases as a means of displaying and retrieving information.
Year 4	This unit progresses pupils' knowledge and understanding of data and how it can be collected over time to answer questions. The unit also introduces the idea of automatic data collection.
Year 5	Progress pupils' knowledge and understanding of why and how information might be stored in a database, and look at how tools within a database can help us to answer questions about our data. It moves on to demonstrate how a database can help us display data visually, and how real-life databases can be used to help us solve problems. Finally, the pupils create a presentation showing understanding and application of all the tools used within the unit.
Year 6	This unit introduces pupils to spreadsheets and to understand the nature of data that can be contained within them. They will explain how formulae can be used to produce calculated data and to recognise that changing inputs also changes outputs. They will apply formulae to data and choose suitable ways to represent it.



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Programming

EYFS	Provide a range of programmable toys for children to play with, as well as equipment involving ICT, such as computers, touchscreen devices and internet-connected toys.
Year 1	Here we progress students' knowledge and understanding of giving and following instructions. It moves from giving instructions to each other to giving instructions to a robot by programming it.
Year 2	This unit progresses students' knowledge and understanding of algorithms and how they are implemented as programs on digital devices. Pupils will spend time looking at how the order of commands affects outcomes. Pupils will use this knowledge and logical reasoning to trace programs and predict outcomes.
Year 3	In Year 3 we introduce the Scratch programming environment and the concept of sequences.
Year 4	This unit progresses students' knowledge and understanding of programming. It progresses from the sequence of commands in a program to using count-controlled loops. Pupils will create algorithms and then implement those algorithms as code.
Year 5	This unit progresses their understanding that conditional statements are used in computer programming. They will use these to connect a condition to an outcome which can be either true or false. They will then experiment with a repeat-until loop.
Year 6	This unit investigates the use of variables in games. They learn to identify variables in existing programs and to use a variable in a conditional statement to control the flow of a program.