



Computing long-term plan 2022-2023

Key Stage 2

Overchurch Junior School Key Elements:

To Connect To Communicate To Code To Collect

The approach of Overchurch Junior School follows the National Curriculum. We use a structured approach teaching in blocks as well as cross curricular.

Pupils should be taught:

- 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

Year	Autumn		Spring		Summer	
3	Computing systems and networks -I can connect computers -I can identify that digital devices have inputs, processes, and outputs, and how devices can be connected in networks	Creating media and animation -I can use stop-frame animation capturing and editing digital still images to produce a stop-frame animation that tells a story	Desktop publishing -I can creating documents by modifying text, images, and page layouts for a specified purpose	Branching databases -I can use branching databases I can build and use branching databases to group objects using yes/no questions	Sequence in music and actions -I can use Scratch. -I can make a product using scratch-the final product will be to make a piano	Programming events I can programme a sprite within a maze using Code Studio

4	<p>Audio Editing -I can capture and edit audio to produce a podcast, ensuring that copyright is considered. The Podcast will be made during the Year 4 residential, giving children real life experiences to record.</p>	<p>Computing systems-the internet -I can recognise the internet as a network of networks including the WWW, and why we should evaluate online content.</p>	<p>Photo editing -I can manipulate digital images, and reflect on the impact of changes and whether the required purpose is fulfilled.</p>	<p>Data logging -I can recognise how and why data is collected over time, before using data loggers to carry out an investigation</p>	<p>Repetition in shapes -I can use a text-based programming language to explore controlled loops when drawing shapes</p>	<p>Repetition in games -I can use block-based programming language to explore count-controlled and infinite loops when creating a game.</p>
5	<p>Computing networks sharing information -I can share information. - I can identify and explore how information is shared between digital systems.</p>	<p>Creating media vector drawing -I can create images in a drawing program by using layers and groups of objects.</p>	<p>Creating media-video editing -I can plan, capture, and edit video to produce a short film.</p>	<p>Flat-file databases -I can use a Flat-file database -I can use a database to order data and create charts to answer questions</p>	<p>Selection in physical computing -I can explore conditions and selection using a programmable microcontroller</p>	<p>Selection in quizzes -I can explore selection in programming to design and code an interactive quiz.</p>
6	<p>Computing systems and networks Internet connections -I can recognise the WWW as a communication tool -I can learn how search engines work -I can evaluate different methods of communication</p>	<p>3D Modelling -I can plan, develop, and evaluate 3D computer models of physical objects.</p>	<p>Webpage creation -I can design and create web pages, considering copyright, aesthetics, and navigation.</p>	<p>Spreadsheets -I can answer questions by using spreadsheets to organise and calculate data.</p>	<p>Variables in games -I can explore variables when designing and coding a game.</p>	<p>Sensing -I can design and code a project that captures inputs from a physical device. -I can use micro bits.</p>

The Primary National Curriculum for Computing is split into three strands: information technology, digital literacy and computer science. At Overchurch Junior School, our Computing curriculum strives to create excitement, creativity and overall love of technology through using various elements and skills to code, connect, communicate and collect. At Overchurch Junior School, we follow the Teach Computing Curriculum which is a spiral curriculum. This means that each of the themes is revisited regularly (at least once in each year group), and children revisit each theme through a new unit that consolidates and builds on prior learning within that theme. This style of curriculum design reduces the amount of knowledge lost through forgetting, as topics are revisited yearly ensuring that connections are made.

To Code: Being able to code and program through the use of computer science helps children of all ages to understand how computers and networks function. It gives all children the opportunity to learn basic computer programming, create on-screen computer games and write algorithms that program a range of devices.

To Connect: Being able to connect through digital literacy is vital in the development of a child's understanding on how to be safe and responsible whilst using technology. Children focus on how to keep safe online.

To Communicate: Being able to communicate in a variety of ways through the use of digital literacy, by developing keyboard skills and confidence whilst using a range of media programs. Children will learn how to safely collect pictures, videos and data and use appropriate applications and programmes to display, present or organise their information.

Please see: <https://teachcomputing.org/curriculum/key-stage-2> for more information about our Computing curriculum.

Lessons also include regular teaching of e-safety to ensure that children feel confident when using computers and the Internet, and know what to do if they come across something either inappropriate or uncomfortable.