

BEING AN ENGINEER (Computing) AT THE WEALD

A space to learn; a space to grow.

At The Weald, we support all members of our school community – our children, our staff and our families—to make and keep this pledge so that our children learn, grow and achieve their very best.

Our curriculum:

- Puts the mental and physical wellbeing of our children at the heart of all that we do;
- Connects our learners as local citizens of today with the ideas, knowledge and skills they will need as the global citizens of the future;
- Applies National Curriculum content through real world contexts;
- Encourages our learners to be curious, ask probing questions and be brave in finding solutions;
- Enacts the core Christian values of our school ‘*Respect, Responsibility, Love, Trust and Forgiveness*’, which promote respect for others, responsibility for ourselves and mutual trust.
- Promotes diversity and inclusion;
- Is enriched by well-planned, outdoor learning opportunities, off-site experience days and immersive workshops.

At The Weald, our intention is to create a culture of enquiry, curiosity and challenge that runs through our whole curriculum. Our school is developing a local, bespoke version of the Curious-city™ framework which supports our teachers to create contextually relevant, enquiry-led experiences. This enquiry-led approach is enabling The Weald to create a bespoke, locally focused curriculum for our learners that goes beyond the current National Curriculum.

How is the curriculum taught at The Weald?

Our enquiry-led curriculum supports our pupils to explore subjects through a sequence of ‘key questions’ which build up children’s knowledge and skills over time. Through our curriculum, our children see themselves as different states of being, for example, as Authors, Mathematicians and Artists – rather than simply learning about English, Mathematics or Art. Author (English) and Mathematicians (Maths) lessons are explicitly taught daily. Enquiries are planned to ensure a broad and balanced range of learning across each phase. The curriculum is enhanced by locally rich and relevant experiences, which weaves in faith, community, and culture.

We support learners to master both the *know of* and *know-how* of a subject, not just remember it. For instance, we want our learners to be Scientists, not just learn about science. It is also important to make logical links between subjects. We want our learners to discover for themselves that they can be an Author, Scientist, Geographer and Philosopher at the same time and that some adults combine these states to become Archaeologists, for instance. You will see these around our school buildings, on visual timetables, on school displays and our online learning platform. It is important that the children see the connection between the subjects they are learning and how this knowledge can be applied.

At The Weald our excellent outdoor environment and the local community are an opportunity for active learning for all our pupils. The school grounds are evolving to enrich different curriculum areas, and outdoor learning is actively promoted and planned for. We ensure in-school learning is enhanced by relevant educational visits and visitors, overnight residential visits which take place in Year 4 and 6, assemblies, charity days and responding to events in the news. A range of clubs and enrichment activities such as concerts, sports matches, gardening competitions, arts assemblies, music, and dance festivals are a regular occurrence in our school. These are a vital part of the children’s development as lifelong learners and ensure individual talents are nurtured and celebrated.

How is the impact of our curriculum measured?

The impact of our enquiry curriculum can be seen and heard as well as represented in outcomes. Real learning can be seen through the children’s books, displays and the challenges that the children produce. In classrooms, working walls demonstrate the learning journey; States of Being characters feature in books, classroom displays and visual timetables as well as on our website and newsletters.



Being an Engineer The Weald

Intent: Our Vision

Being Champion Digital Engineers at The Weald involves understanding and using computers to think creatively to solve problems, including learning how to write code. Digital Engineers are aware of online risks and learn how to navigate the online world safely. Through developing digital literacy, online safety, and programming, The Weald Digital Engineers are well-prepared for the future digital world.

Implementation: How we plan and teach for being an Engineer

At The Weald this year we are focussing on establishing a new Computing Curriculum following the whole-school enquiry approach to learning. Children will learn to deploy essential computing skills in the context of their current enquiry. By doing this, learners have a true purpose for their learning ensuring high levels of motivation and engagement. At The Weald we follow The Teach Computing Curriculum which has been written to support all pupils. Each lesson is sequenced so that it builds on the learning from the previous lesson, and where appropriate, activities are scaffolded so that all pupils can succeed and thrive. Scaffolded activities provide pupils with extra resources, such as visual prompts, to reach the same learning goals as the rest of the class. Exploratory tasks foster a deeper understanding of a concept, encouraging pupils to apply their learning in different contexts and make connections with other learning experiences. As well as scaffolded activities, embedded within the lessons are a range of pedagogical strategies (defined in the 'Pedagogy' section of this document), which support making computing topics more accessible.

Impact: How we evaluate our learning as Engineers

Focus groups with children and examples of their work enable an evaluation of how children's knowledge and skills progress and develop throughout their time at The Weald.

Every unit of work in the Teach Computing Curriculum contains: a unit overview; a learning graph, to show the progression of skills and concepts in a unit; lesson content — including a detailed lesson plan, slides for learners, and all the resources you will need; and formative and summative assessment opportunities.

2022-2024: The Weald C of E Primary School WHOLE SCHOOL ENQUIRY CURRICULUM OVERVIEW WITH **COMPUTING**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Lower KS2 (Year 3 & 4) 2022-2023	Where does the darkness come from?	How can we find out about people in the past?	What's underneath our feet?	What is the difference between surviving and being healthy?	How can you feel the force? How do plants die?	How do plants die? Why did people travel in the past?
Computing Block Cycle A	Y3 Stop Frame Animation (animation of shadow puppet show)	Y4 Photo Editing	Y3 Branching Databases (Stone classification)	Y3 Desktop Publishing (Leaflet linked to challenge)	(Stand-alone) Y3 Sequencing Sounds	Y4 Audio production (Podcast linked to the challenge)

<u>Lower KS2</u> <u>(Year 3 & 4)</u> 2023-2024	What is the difference between noise and sound?	Why do we live here?	Where does our water come from? What should we flush down the loo?	What should we flush down the loo? What is creativity?	Why are more people becoming vegetarian? Who stood here before us?	Who stood here before us? How can we switch off?
Computing Block Cycle B	Y4 Data Logging (Classroom noise over the course of a day)	Y4 Repetition in Shapes (Christmas stars, wrapping paper)	Y3 Events and Actions in Programs (Compass Points N, S, E, W rather than R, L, U, D)	(Stand-alone) Y3 Connecting Computers	Y4 The Internet (Linked to research for Who Stood Here Before Us?)	(Stand-alone) Y4 Repetition in Games
<u>Upper KS2</u> <u>(Year 5 & 6)</u> 2022-2023	How are lives saved?	Who were the greater engineers? The Victorians or the Ancient Britons?	Linnaeus and Darwin – how are they connected?	Where does our food really come from?	Who is trading with whom? Why are shadows important?	Why are shadows important? How big is your footprint?
Computing Block Cycle A	Y5 Sharing Information	Y5 Sky Academy Y6 Video Production	Y5 Factfile Databases	Y6 Webpage Creation	Y6 Introduction to Spreadsheets	Y5 Selection in Quizzes
<u>Upper KS2</u> <u>(Year 5 & 6)</u> 2023-2024	What does the Earth look like from the solar system?	How can we show what we believe in?	Where is our twin?	What do forces actually do? How can Science help the homeless?	How do we all live together?	How are you helping to save the planet? What makes a good performance great?
Computing Block Cycle B	Y5 Vector Drawing (Vector drawings of the solar system)	Y5 Sky Academy Y6 Video Production	Y6 3D Modelling (Create a landmark)	Y5 Selection in Physical Computing (after forces)	Y6 Sensing Movement (Linked to PE)	Y6 Variables in Games

Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating Media	Programming B
Year 3	Connecting computers Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to networks	Stop-frame animation Capturing and editing digital still images to produce a stop-frame animation that tells a story	Sequencing sounds Creating sequences in a block-based programming language to make music	Branching databases Building and using branching databases to group objects using yes/no questions	Desktop publishing Creating documents by modifying text, images and page layouts for a specified purpose	Events and actions in programs Writing algorithms and programs that use a range of events to trigger sequences of actions
Year 4	The internet Recognising the internet as a network of networks including the WWW, and why we should evaluate online content	Audio production Capturing and editing audio to produce a podcast, ensuring that copyright is considered	Repetition in shapes Using a text-based programming language to explore count-controlled loops when drawing shapes	Data Logging Recognising how and why data is collected over time, before using data loggers to carry out an investigation	Photo editing Manipulating digital images, and reflecting on the impact of changes and whether the required purpose is fulfilled	Repetition in games Using a block-based programming language to explore count-controlled and infinite loops when creating a game.
Year 5	Sharing information Recognising IT systems around us and how they allow us to search the internet	Video production Planning, capturing, and editing video to produce a short film	Selection in physical computing Exploring conditions and selection using a programmable controller	Flat file databases Using a database to order data and create charts to answer questions	Vector drawing Creating images in a drawing program by using layers and groups of objects	Selection in quizzes Exploring selection in programming to design and code an interactive quiz
Year 6	Communication and collaboration Identifying and exploring how data is transferred and information is shared online	Webpage creation Designing and creating webpages, considering copyright, aesthetics, and navigation	Variables in games Exploring variables when designing and coding a game	Introduction to spreadsheets Answering questions by using spreadsheets to organise and calculate data	3D Modelling Planning, developing, and evaluating 3D computer models of physical objects	Sensing Designing and coding a project that captures inputs from a physical device



Geographers • Mathematicians • Artists • Athletes • Authors (writer) • Scientists • Authors (Reader) • Philosophers • Linguists • Engineers • Historians • Musicians