Cedar Park School & Nursery

Be kind ★ Be inspired ★ Believe

Computing Curriculum Overview

Rationale	**At Cedar Park School, we acknowledge that computational confidence and digital skills will be essential within the chosen career paths of future generations. Therefore, it is our school's aim to equip children with the relevant skills and knowledge that will enable them to access our ever changing and growing digital world.** We intend to support our pupils to access and understand the core principles of this subject through engaging and activities. Whilst ensuring they understand the advantages and disadvantages associated with online experiences, we want children to develop as respectful, responsible and confident users of technology, aware of measures that can be taken to keep themselves and others safe online. At Cedar Park, we provide children with the ability to improve their knowledge, skills and understanding, by following the NCCE scheme of work and the Common Sense Education Online Safety Scheme. An emphasis on e-safety is always central to our teaching.
Approach	**The Computing Curriculum is based on a spiral curriculum. This means that each of the themes is revisited regularly (at least once in each year group), and pupils 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. It also ensures that connections are made even if different teachers are teaching the units within a theme in consecutive years. The Teach Computing Curriculum is structured in units. For these units to be coherent, the lessons within a unit must be taught in order. However, across a year group, the units themselves do not need to be taught in order, with the exception of 'Programming' units, where concepts and skills rely on prior learning and experiences. All learning outcomes (which go beyond our setting to KS4) can be described through a high-level taxonomy of ten strands, ordered alphabetically as follows: • **Algorithms** — Be able to comprehend, design, create, and evaluate algorithms • **Computer networks** — Understand how networks can be used to retrieve and share information, and how they come with associated risks • **Computer systems** — Understand what a computer is, and how its constituent parts function together as a whole • **Creating media** — Select and create a range of media including text, images, sounds, and video • **Data and information** — Understand how data is stored, organised and used to represent real-world artefacts and scenarios • **Design and development** — Understand the activities involved in planning, creating, and evaluating computing artefacts • **Effective use of tools** — Use software tools to support computing work • **Impact of technology** — Understand how individuals, systems, and society as a whole interact with computer systems • **Programming** — Create software to allow computers to solve problems • **Safety and security** — Understand risks when using technology, and how to protect individuals and systems The Teach Computing Curriculum acknowledges that physical computing plays an important role in modern pedagogical approaches in computing, both as a tool to engage pupils and as a strategy to develop pupils' understanding in more creative ways. Additionally, physical computing supports and engages a diverse range of pupils in tangible and challenging tasks. Computing in the Early Years Foundation Stage (EYFS) is designed to complement our whole school scheme of work by introducing younger children to computing, laying the foundations for their future work in Key Stage 1 and Key Stage 2. We recognise that whilst computing in the EYFS is not statutory, using technology is and we want children to benefit from being introduced to a wider range of computing activities. All children from Year 1 to Year 6 have a weekly computing lesson and at least one stand-alone e-safety lesson per half term. E-safety is also discussed in other areas of the computing curriculum where relevant (for example, when using the internet), as part of PSHE learning and during E-safety week where assemblies and additional workshops raise awareness with children and parents. The overview of units across the school can be seen on the following page.

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Our EYFS setting contains a role play area with a range of technology, both functioning and model / broken devices, electronic toys, such as remote-controlled cars, walkie-talkies and interactive pets, as part of continuous provision. For further information see the following page.					
Year 1	Mouse and Keyboard skills	Digital Art	Moving a Robot	Grouping Data	Digital Writing	Introduction to Programming
Year 2	Recognising uses of IT	Robots	Digital Photography	Pictograms	Digital Music	Programming Quizzes: Scratch Jnr
Year 3	Computing Systems and Networks	Stop-frame Animation	Sequencing Sounds	Branching Databases	Desktop Publishing	Events and Actions in Programs: Scratch
Year 4	Connecting Networks:	Programming with Logo: Repetition in Shapes	Audio Production	Data-Logging	Photo Editing	Repetition in Games
Year 5	Computer Networks: Sharing Information	Video Production	Selection in Physical Computing	Databases	Vector Graphics	Selection in Quizzes
Year 6	Internet Communication	Webpage Design	Variables in Games	Spreadsheets	3D Modelling	Sensing in Physical Computing

*E-safety to be the focus of at least 1 lesson every half term and to be addressed in each lesson where appropriate.

Computing Curriculum EYFS Overview 2022-23

Age group	Area	Statement	Provision
Three and Four-Year-Olds	**Personal, Social and Emotional Development**	Increasingly follow rules, understanding why they are important.	Children learn about keeping themselves safe and looking after our resources.
	Physical Development	Match their developing physical skills to tasks and activities in the setting.	We encourage children to explore all areas of our setting. We support children in learning to use new resources. We support children to source resources that they are comfortable or even confident in using independently.
	Understanding the World	Explore how things work.	We encourage children to explore a range of toys (such as beebots) that have buttons, lights, and sounds. We support children when using these toys, teaching how they could be used. We allow children to use technology within the classroom such as whiteboards, computers and tablets to support their IT skills.
Reception	**Personal, Social and Emotional Development**	Show resilience and perseverance in the face of a challenge.	We encourage children to keep trying when they face a challenge. We support children in developing their self-esteem and belief in their abilities
	Physical Development	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'.	We support children in developing fine motor skills. We support children to use these skills in a range of areas. We allow children to use technology within the classroom such as whiteboards, computers and tablets to support their IT skills. We offer a range of different educational games and apps to support children in using screens for a positive reason. We discuss the effects of screen time and set rules and boundaries in class to support this.
	Expressive Art and Design	Explore, use and refine a variety of artistic effects to express their ideas and feelings.	We offer art and design on the whiteboard regularly for children to explore different ways of mark making and creating.
Early Learning Goal	**Personal, Social and Emotional Development**	Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly.	We support children in trying to use new technology and devices. We encourage children to keep trying to succeed. We offer age appropriate apps for children so that it is not impossible for them to succeed.
	Expressive Art and Design	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	We teach and encourage children to use technology safely. We use different apps to support the development of these skills.