



Leonard Stanley C of E Primary School



Computing Rationale

Intent: *Why do we teach this? Why do we teach it in the way we do?*

At Leonard Stanley Primary we want our children to love Computing. We want them to grow up with aspirations for careers in computer science, whether it be as an engineer, programmer or a social media influencer.

When planning and teaching computing at Leonard Stanley, we believe that it is an essential part of the curriculum; a subject that not only stands alone but is woven and should be an integral part of all learning. Computing, in general, is a significant part of everyone's daily life and children should be at the forefront of new technology, with a thirst for learning what is out there. Computing within schools can therefore provide a wealth of learning opportunities and transferable skills explicitly within the Computing lesson and across other curriculum subjects.

We want to equip them with not only the minimum statutory requirements of the computing National Curriculum but to prepare them for the opportunities, responsibilities and experiences of later life.

Computing subject specific characteristics, which we expect the children to demonstrate, have been developed and shared with all stakeholders. These characteristics underpin all work in computing and form a focal point for display areas and provide a common subject specific vocabulary for staff and pupils. These characteristics are:

- The ability to understand technology to understand the role of technology and the Internet, now and in the future.
- The ability to forge digital literacy. To be able to use technology to present, store and print information, including the use of APPS including Presentation software.
- Competence in coding including the ability to debug, create loops and solve simple tasks.
- The ability to connect with others safely and respectfully, understanding the need to act within the law and with moral and ethical integrity. An understanding of the connected nature of devices.

Our computing curriculum promotes our EARLY and DEEP curriculum. We want pupils to have high quality reading opportunities, engage in active and experiential learning and take pride in their outcomes. It is ambitious and empowers our children to become independent and resilient. We enrich their time in our school with memorable, unforgettable experiences and provide opportunities which are normally out of reach – this promotes a love of computing that reaches far beyond the classroom.

Implementation: *What do we teach? What does this look like?*

Computing is **designed to challenge pupils**, is practical (**experiential**) by nature with a focus on vocabulary. It is designed to enable children to produce **high quality** work. The content of computing teaching and learning is set out in the 2014 National Curriculum for primary schools in England. Within this, certain topics and areas are repeated across year groups, meaning that children may revisit a particular topic in each year of primary school but with increasing difficulty and with a different focus each time.

Early Years: Preschool and The Reception Year

In the EYFS, computing is embedded within the many of the early learning goals that feed into the programme of study for computing.

As with other learning in Preschool and Early Years, our children will learn about computing through carefully structured and planned continuous provision opportunities both inside the classroom and outdoors, with a focus on **Young Learner's Interest**.

The following table outlines some of the curriculum links that can be made between computing and The areas of learning within the Early Years Foundation Stage.

Computing			
Three and Four-Year-Olds	Personal, Social and Emotional Development		Remember rules without needing an adult to remind them.
	Physical Development		Match their developing physical skills to tasks and activities in the setting.
	Understanding the World		Explore how things work.
Reception	Personal, Social and Emotional Development		- Show resilience and perseverance in the face of a challenge. - Know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'.
	Physical Development		Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
	Expressive Arts and Design		Explore, use and refine a variety of artistic effects to express their ideas and feelings.
ELG	Personal, Social and Emotional Development	Managing Self	- 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.
	Expressive Arts and Design	Creating with Materials	Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Key Stage 1:

In Key Stage 1, children are taught a computing strand every term, rotating with other foundation subjects. This approach ensures concise teaching and allows children to develop their knowledge and skills throughout each computing topic. Teachers use the Twinkl Computing Scheme to plan richly linked and engaging contexts that connect to other subjects and topics.

Key Stage 2:

In Key Stage 2, Understanding Technology and Digital Literacy are taught within dedicated computing skill sessions. This ensures concise skill teaching, enabling children to use and apply their

acquired knowledge and skills across the curriculum. Coding is taught over 4 progressive sessions within our KS2 Curriculum Carousel. Children are taught in small groups to ensure all students can develop their knowledge and skills through focused and concise teaching. Internet safety is taught within PSHE and is supported throughout the year with dedicated e-safety sessions. Additionally, internet safety is discussed through assemblies, police workshops, and themed days such as 'Safer Internet Day'.

Our 4 strands

At Leonard Stanley Primary. Children will gain key knowledge and skills in our 4 computing strands:

- Understanding technology
- Digital literacy
- Coding
- Online safety

The learning within each strand supports the development of knowledge and skills across the key stages, ensuring a solid grounding for future learning and beyond.

Understanding Technology

Children's natural curiosity has always driven them to develop an understanding of the world around them and this is no different when it comes to understanding technology; both how it works and what it can do for us. From their first, early experiences with technology, pupils begin to make sense of how it works and the opportunities it can provide. Throughout their time in primary education, pupils now need to extend that understanding to include computer networks such as the Internet, and the services they can provide such as the World Wide Web. Teachers need to provide practical, fun experiences that allow pupils to make links with their existing understanding of the world around them. In doing so, pupils will ultimately become much more effective creators and users of digital content.

Digital Literacy

Digital Literacy is the ability to effectively and critically navigate, find, evaluate, summarise, use, create and communicate information using a range of digital technologies. It deals with the appropriate use of technology generated words, images, sounds and motion. Developing digital literacy is increasingly important because it supports learners to be confident and competent in their use of technology in a wide variety of contexts. The inter-related components of digital literacy can and should be developed alongside subject specific knowledge and understanding.

Coding (programming)

It's worth noting that computer science aims to cover two distinct, but related, aspects. There's a focus on computer science itself (the ideas and principles that underpin how digital technology works) but this sits alongside the practical experience of coding, almost certainly the best way for primary pupils to learn about computer science. In an educational context, coding encourages creativity, logical thought, precision and problem-solving, and helps foster the personal, learning and thinking skills required in the modern school curriculum. Coding gives concrete, tangible form to the idea of "abstraction", and repeatedly shows how useful it is.

Online Safety

"New technologies are integral to the lives of all children, young people and their parents. They inspire children to be creative, communicate and learn. It is essential that children and young people tap into the potential of the digital world if they are to enjoy their childhood and succeed in life. In educating children and young people we should empower them to learn how to use digital technology responsibly, not simply block what they can access. We must give them the information and skills they need to be digitally literate and savvy users. This enables them to take advantage of the opportunities that new technologies can offer, as well as being able to deal with any risks that arise."

Computing is taught discretely in computing lessons or as part of KS2 Carousel. We use a progression of knowledge and skills document to ensure a clear understanding of prior learning, current expectations and where the learning is going next.

- The school has a curriculum map for each year group, illustrating the topics and content taught in each session.
- There is a strong focus on learning specific computing vocabulary and a list of key words has been produced for each computing unit lesson.
- Adaptations are made in every lesson to ensure that children in all key groups, including SEND, access the knowledge and skills.
- We use cross-curricular links and provide outdoor learning opportunities as much as possible to help strengthen children's long-term memory by making valuable connections.
- Year group Padlets and Google classroom help children know and remember computing knowledge and vocabulary.

Assessment

- Assessment is an ongoing process throughout each lesson with opportunities for misconceptions to be addressed quickly.
- Feedback and planning sheets are used by the teacher to assess and inform next steps, as well as End of Unit assessment sheets.
- Assessment Data is collated and interpreted using our whole school assessment program, Insight.

Monitoring & Training

- The computer subject leader attends regular training, which shares up-to-date information and good practice. Information is fed back to school staff and actions carried out as a result of the training.
- Regular lesson visits, pupil conferences, staff conferences and evidence audits are carried out, led by the computing subject leader, and actions identified to ensure that science standards remain consistently high.
- Annual moderation ensures progress is monitored within classes and year groups.
- Staff CPD opportunities are provided when needed and available.
- A subject action plan is used to identify how to improve the subject; this is reviewed on a termly basis.

Extra-Curricular Opportunities in Computing:

Children love science learning at Leonard Stanley Primary School, so it is important for us to provide extra science learning opportunities for our children outside of the science lesson. We offer:

- Opportunities to explore computing across the curriculum, for example research in Foundation subjects and presenting written work in English.
- A Key Stage 1 & 2 Computing Club in Spring Term, delivered by subject leader.
- Police visits to KS2 exploring online safety
- Small Carousel groupings for concise coding lessons.

Impact: *What will this look like? What will children be able to do before they leave our school?*

Regardless of background, ability or additional needs, by the time children leave Leonard Stanley Primary School they will:

- Be able to retain and recall knowledge that is pertinent to computing with a real-life context.
- Use digital and technological vocabulary accurately, alongside a progression in their technical skills.
- Be able to question ideas and reflect on knowledge.
- Work collaboratively and practically to investigate and debug programming.
- Demonstrate a high level of mathematical skills through their work, organising, recording and interpreting their results.
- Achieve age-related expectations in science at the end of each academic year.
- Children will see the digital world as part of their world, extending beyond school, and understand that they have choices to make.
- They will be confident and respectful digital citizens
- Be ready for their next phase of education in computing at secondary school by the time they leave Leonard Stanley Primary School.

