

"There is a world of difference between what computers can do and what society will choose to do with them." – **Seymour Papert**

Computing Handbook

Approved by: Headteacher & SLT

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Next review: July 2025

Rationale

Learning is a change to long-term memory. We want our children to develop a positive attitude towards Computing; to see it as an interesting, enjoyable and exciting subject. We want to inspire the children's curiosity to know more about the past, develop their understanding of identity and enable them to make better choices in life today. Computing at Gaskell Primary School is a forward-thinking educational strategy that equips children with the skills and knowledge they need to thrive in the digital age. It empowers them to become informed, responsible, and innovative citizens in an increasingly technology-driven world.

Intent

Children to be critical thinkers and use resources cross curricular to enhance learning and be adaptive users of technology for the present and for the future. Our bespoke curriculum is driven by our aim, '**To develop each of our pupils to become successful citizens in today and tomorrow's world.'**

Implementation

A high-quality computing education equips the children to use computational thinking and creativity to understand and change the world. Computing has deep links with Mathematics, Science and Design and Technology and provides insights into both natural and artificial systems. The core of Computing is Computer Science, in which the children are taught the principles of information and computation, how digital systems work and how to put this knowledge to use through programming. Building on this knowledge and understanding, the children are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that the children become digitally literate – able to use and express themselves and develop their ideas through, information and communication technology.

1. **Digital Citizenship:**
    - 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 technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
2. **Digital Literacy:**
    - 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.
3. **Computer Science:**
    - 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.
    - 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.
4. **Information Technology:**
    - 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.

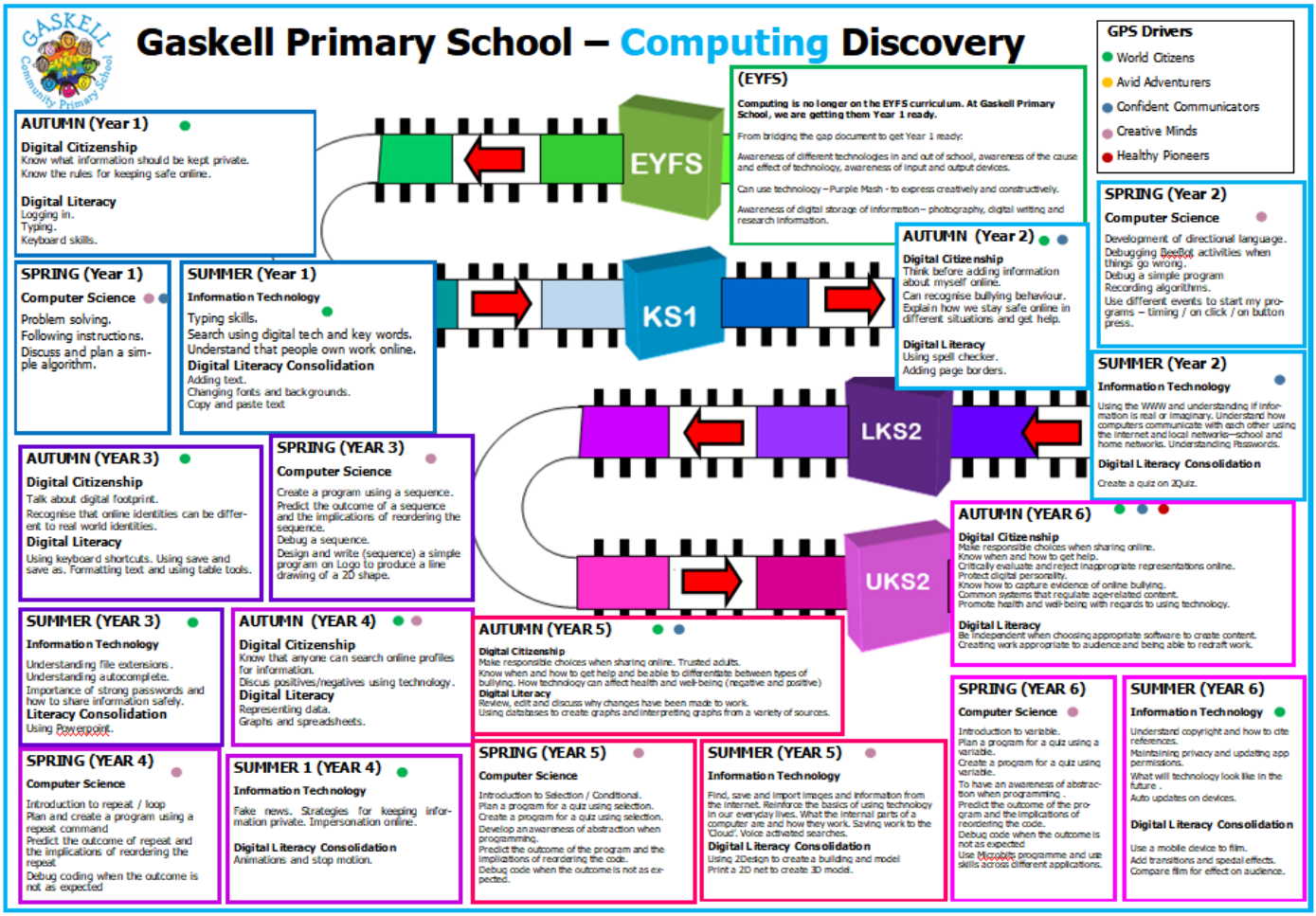
Impact

After the implementation of this robust Computing curriculum, the children at Gaskell Primary School will be digitally literate and able to join the rest of the world on its digital platform.

Teaching the children Computing lessons has a significant and wide-ranging impact on their development, education and future prospects. Here are some of the key impacts:

- **Digital Literacy:** Computing lessons equip the children with digital literacy skills, ensuring they can effectively navigate and use digital devices, software and the internet. This is essential in today's technology-driven world.
- **Problem-Solving Skills:** Computing encourages critical thinking and problem-solving. Children learn how to break down complex problems, analyse them, and develop solutions—a skill applicable in various aspects of life.
- **Creativity and Innovation:** Computing fosters creativity by enabling the children to create digital projects, games, and art. This can spark a passion for technology and innovation, potentially leading to future career interests.
- **STEM Education:** Computing is a fundamental component of STEM (Science, Technology, Engineering, and Mathematics) education. It can inspire the children's interest in STEM fields and careers.
- **Career Opportunities:** Early exposure to Computing can prepare the children for a wide range of future career opportunities in technology-related fields, including software development, data analysis, and IT management.
- **Digital Citizenship:** Computing lessons teach responsible online behaviour, cybersecurity, and ethical use of technology, helping the children to become responsible digital citizens.
- **Adaptability:** Children learn to adapt to new technologies and software, a valuable skill in a rapidly evolving digital landscape.
- **Cross-Curricular Integration:** Computing can enhance learning in other subjects, making education more engaging. For example, the children can use programming to simulate scientific experiments or create multimedia presentations for History projects.
- **Inclusivity:** Teaching Computing ensures that all of the children have the opportunity to acquire essential digital skills, reducing the digital divide.
- **Empowerment:** Computing empowers the children to use technology as a tool for learning and self-expression, giving them more control over their education.
- **Critical Thinking:** Computing encourages logical thinking and problem deconstruction, which helps the children to approach challenges more methodically.
- **Future-Proofing:** In an increasingly automated world, Computing skills are becoming essential. Teaching these skills early helps future-proof the children’s careers.

Curriculum Structure



Within this curriculum Digital Citizenship, Digital Literacy, Computer Science and Information Technology are developed and extended each year. Each year builds on the previous years' knowledge and skills to enable the children to build up essential Computing skills to be used throughout their time at school.

Consideration has been given to the breadth and balance of the coverage of the contextual knowledge to ensure a diverse range of technology, skills, and resources are used well and represented throughout.

Computing will be taught in weekly sessions to enable the children to build up a variety of skills every half term. Children access the technology once they have completed their 'acceptable use policy' during their sessions of Digital Citizenship where they learn to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. Children will be encouraged to explore Computing in everyday life and trips out will be part of some topics. Computing will also be used for cross-curricular activities and this will enhance their range of skills further.

Planning

Our lesson plans are designed by the Subject Leader, who makes sure that the teaching of Computing is sequenced and progressive and that the key knowledge and skills are built upon each year. In Computing, knowledge is selected by using concepts. The concepts build schema links, which allow the children to 'know more, remember more and do more'. We ensure that the skills outlined in the National Curriculum are covered within the units and that we are continuously re-visiting previous learning. We do this by embedding the Gaskell Principles of Learning. We also make explicit links to our school drivers to ensure that the children understand that when they leave Gaskell Primary School, they have experienced essential life skills such as being a World Citizen, Avid Adventurer, Confident Communicator, Creative Mind and a Healthy Pioneer.

Computing Long Term Overview

Unit of Study	Year Groups							
	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Digital Citizenship  Autumn 1	From bridging the gap document to get Year 1 ready: Awareness of different technologies in and out of school Awareness of the cause and effect of technology Awareness of input and output devices Can use technology to express creatively and constructively Awareness of digital storage of information – photography In provision areas over the year Beebots, remote control cars, camera, iPads, torches, calculators, phones, remotes and walkie talkies.		Recognise warning signs while online and know how to get help Accessing the internet in an age-appropriate way Know what information should be kept private Know how to behave appropriately online Now the rules for keeping safe online	Understand that people might behave and communicate differently online Know that it is OK to say "no" Think carefully before adding information about myself online Can recognise bullying behaviour Explain how we can stay safe online in different situations and get help if we need it	Talk about digital footprint and what it means Recognise that online identities can be different to real world identities Understand the concepts of trust, likes and feelings while online Know that people can overshare information that should be kept private Recognise the impact of people being unkind online Develop a healthy balance between online and real life activity	Discuss Digital footprint and online vs real life identity Respect others while online and be aware of how online behaviour and content can impact on others Know that anyone can search online profiles for information Focus on Online bullying and how it may affect others Discus positives and negatives to using technology	Make responsible choices when sharing online and understand how this could be used be others Know when and how to get help Differentiate between types of bullying Promote health and well-being with regards to using technology	Make responsible choices when sharing online Know when and how to get help Critically evaluate and reject inappropriate representations online Be kind and respect others online Protect digital personality Know how to capture evidence of online bullying Common systems that regulate age-related content Promote health and well-being with regards to using technology

Key Objectives for each half term are outlined on the Computing Curriculum progression document. Computing Curriculum Progression.docx

Children's learning is evidenced weekly on Seesaw in each of the classes Computing folders. The development of skills, research, exploration and practice is recorded here, where appropriate the teachers/children may add a copy of their finished work and any self and peer assessment.

Assessment

We assess the children at the end of each unit using teacher judgement and Learning by Questions. Children are assessed against their year group's objectives which are split into the following strands:

- Digital Citizenship
- Digital Literacy
- Computer Science
- Information Technology

The information we gather during each unit about the performance of individual children and groups will enable the teacher to provide carefully tailored feedback, questioning, explanation and support, according to their needs. When each unit has been completed, teacher assessments are updated on **INSIGHT**. Seesaw will be used to support objectives and showcase evidence.