Broadway Junior School

Subject: Computing Topic: Introduction to AI Year: 4 Term: Spring 2

NC Purpose of Study
A high-quality computing education equips pupils 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 pupils 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, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Intent	Implementation	Impact
Our vision at Broadway Junior School is that all pupils should enjoy Computing and become confident, passionate and responsible users of technology both inside and outside of school. Through interesting, relevant and inclusive lessons, they will be able to leave Year 6 with a good understanding of how computers and the Internet work, along with being able to complete tasks on them creatively, independently and reflectively for a range of purposes and audiences. The Computing curriculum at Broadway is designed to enable pupils to embrace and utilise new technologies through the application of essential knowledge, principles and concepts. Technology is everywhere and will play a pivotal part in students' lives, therefore, we want to model and educate our pupils on how to use technology positively, responsibly and safely. We want our pupils to be creators, not just consumers of content and our broad curriculum encompassing 'Coding & Computational Thinking', 'Information Technology', 'Computing Systems & Networks' and 'Online Safety' reflects this. We recognise that the best prevention for a lot of issues we currently see with technology and social media is through education.	Computing skills are taught explicitly at Broadway with every pupil receiving dedicated Computing lessons throughout each half-term. Each half-term has a focus on either Information Technology, Coding & Computational Thinking or Computing Systems & Networks with Online Safety lessons also included throughout each half-term. The skills acquired are then embedded throughout the curriculum. Learning is sequenced to build knowledge, skills and vocabulary. Throughout units of work teachers encourage children to make links between past learning and new content. We recognise prior learning and build on it with memorable learning experiences and provide targeted support where necessary. The units address the requirements of the National Curriculum and are broken down to cover all elements of the different strands of Computing. The progression of knowledge and skills statements build year on year to deepen and challenge our learners. We use Purple Mash as the core of our curriculum tied with Teach Computing and activities from Project Evolve to create a comprehensive curriculum providing full curriculum coverage and a variety of skills for our children.	The impact of our Computing curriculum is that we provide pupils with a set of skills to embed a lifelong love of learning and that they build on the knowledge and skills from previous learning. We ensure that every child can become a confident user of technology, while being able to use it to accomplish a wide variety of goals, both at home and in school. Children will have a secure and comprehensive knowledge of how technology works in the world around them and will develop their understanding of how to deal with online situations safely. Children will become confident global citizens. The knowledge organisers outline what we want the children to know within each unit. By nature Computing is going to be practical and hands on. We give the children the opportunity to record individually their responses to key questions. Teachers ensure that children understand and apply the correct vocabulary linked to different elements of the curriculum and this is also recorded within the floor books. Prior and future learning links are also included, so that there is a clear sequence in relation to the progression of skills and activities.

Key Vocabulary
Artificial Intelligence (AI) Data Human Oversight Generative AI Digital Citizenship Prompt Responsible Behaviour Refine Innovation Privacy Trustworthy / Reliable Prediction Future Technology

Knowledge	Skills
• To understand what Artificial Intelligence is and some of the tasks it can carry out. • To learn to communicate effectively with AI tools by writing clear and precise prompts. • To learn how to be a good digital citizen when using AI. • To think about how AI might develop in the future.	• I can identify at least three different tasks that Artificial Intelligence can do. • I can explain that Artificial Intelligence uses data to learn and make predictions. • I can define "generative AI". • I can write a clear prompt that tells AI exactly what I need. • I can improve my prompt if the AI response isn't quite right. • I can explain how digital citizenship applies when using AI. • I can describe ways AI might be used in the future. • I can explain that humans design and control AI. • I can think about how to use AI responsibly to make the future fair and helpful for everyone. • I can make responsible choices in scenarios involving AI. • I can explain why being specific helps AI interpret my instructions better.

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Learning Objectives/End Points	Learning Objectives/End Points		
To understand what Artificial Intelligence is and some of the tasks it can carry out. Lesson 1	To learn to communicate effectively with AI tools by writing clear and precise prompts. Lesson 2	To learn how to be a good digital citizen when using AI. Lesson 3	To think about how AI might develop in the future. Lesson 4

Careers	
Linking Curriculum Learning to Careers Discuss how the skills developed in this unit are used in a range of careers, including: Computer Programmer – Creates computer programs and apps. Game Designer – Designs and develops video games. Web Developer – Builds and maintains websites. Graphic Designer – Uses computers to create images, logos, and designs. Robotics Engineer – Designs and programs robots. Cybersecurity Specialist – Helps protect computers and networks from hackers. App Developer – Creates apps for phones and tablets. Animator – Uses computer software to create animations and visual effects. Data Scientist – Uses computers to study and understand data. IT Support Specialist – Helps people solve computer and technology problems. Transferable skills Digital literacy: Understanding what AI is and recognising its uses and limitations. Communication: Writing clear, precise prompts and refining instructions to improve results. Critical thinking: Questioning whether AI-generated information is accurate, reliable and appropriate. Problem-solving: Improving prompts and considering alternative ways to achieve an outcome. Ethical decision-making: Recognising issues relating to privacy, fairness, trust and responsible behaviour. Creativity and innovation: Exploring how AI can support ideas and help people develop new solutions. Adaptability: Considering how technology may change and how people can continue learning. Personal responsibility: Understanding that humans design, oversee and make decisions about how AI is used.	**Learning from career and labour market information** Introduce careers connected to AI and digital innovation, such as AI developers, data scientists, software engineers, robotics engineers and digital ethics specialists. Discuss how these roles involve designing, testing and improving technology. **Addressing the needs of each pupil** Ensure all pupils can explore AI safely and accessibly through practical examples, supported prompt-writing activities and discussions about responsible use. Encourage pupils to recognise that technology should be developed and used fairly and inclusively. **Linking curriculum learning to careers** Link understanding AI, writing and refining prompts, interpreting AI-generated responses and considering privacy and reliability to the work of people who develop, evaluate and use AI systems. Highlight the importance of human oversight and responsible decision-making. **Encounters with employers and employees** Where possible, invite a parent, school staff member or visitor who uses AI or digital technology at work to explain how it supports their role, how they check its accuracy and why human judgement remains important. **Experiences of workplaces** Explore examples of AI in workplaces, such as hospitals using AI-supported tools, businesses analysing information, designers generating ideas and engineers developing robotics. Discuss the importance of checking outputs and protecting personal information. **Encounters with further and higher education** Introduce pupils to future learning opportunities in computing, data science, engineering and digital technology through school projects, coding clubs, college, university and technical training.