Broadway Junior School

Subject: Computing Topic: Data Detectives Year: 6 Term: Summer 1

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
Bar Chart A type of graph that uses categorical data, which means the data is grouped into categories e.g. colours, types of pet. Database A set of data that can be held in a computer in a format that can be searched and sorted for information. Field Filter Data Calculate Condition Group Line Graph Linked Tables Query Record Data Detectives Sort

Knowledge	Skills
• To find information in databases by filtering and sorting. • To create graphs from data within a database. • To be able to find information in linked table databases. • To be able to find requested information using databases.	• I can explain what a database is and how they are used. • I can use a range of filter rules to find information. • I can use the sort tool to help find information. • I can group data together. • I can apply calculations to data. • I can explain why a database might have multiple tables. • I can identify information being requested. • I can interpret information being requested. • I can query a database based on information being requested. • I can create queries using filter, sort, calculate and group. • I can link tables together to use in queries. • I can use the group and calculation tools to display the correct data on a graph.

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Learning Objectives/End Points			
To find information in databases by filtering and sorting. Lesson 1	To create graphs from data within a database. Lesson 2	To be able to find information in linked table databases. Lesson 3	To be able to find requested information using databases. Lesson 4

Careers

Linking Curriculum Learning to Careers
Discuss how the skills developed in this unit are used in a range of careers, including:

Data Analyst – Uses spreadsheets and databases to find patterns and answer questions.
Accountant – Uses spreadsheets to track money, budgets, income, and expenses.
Database Administrator – Organises and maintains databases so information is stored safely and efficiently.
Business Analyst – Uses data to help companies make better decisions.
Financial Analyst – Studies financial information using spreadsheets and databases.
Data Scientist – Works with large amounts of data to discover trends and make predictions.
Marketing Analyst – Analyses customer and advertising data to understand what works.
Stock/Inventory Manager – Uses databases and spreadsheets to keep track of products and supplies.
Project Manager – Uses spreadsheets and databases to track budgets, tasks, schedules, and resources.
HR (Human Resources) Analyst – Uses employee databases and spreadsheets to analyse staffing, salaries, and recruitment.
Transferable skills
Information management: Organising records and understanding how fields, records and linked tables structure information.
Critical thinking: Interpreting questions and identifying the information needed to answer them. Problem-solving: Creating database queries using filters, sorting, calculations and grouping. Data analysis: Identifying patterns, comparing results and drawing conclusions from datasets. Logical reasoning: Applying conditions and query rules to retrieve relevant information accurately.
Numeracy: Using calculations and grouping tools to analyse numerical data and support conclusions.
Communication: Presenting findings clearly through graphs and other visual representations.
Attention to detail: Checking query criteria, interpreting results and ensuring information is accurate and relevant.

Learning from career and labour market information
Explore how databases are used in sectors such as healthcare, retail, education, science and technology, and investigate the demand for professionals with data and digital skills.
Addressing the needs of each pupil
Provide structured database activities, worked examples and scaffolded queries. Offer opportunities for pupils to develop independence and tackle increasingly complex challenges using filters, calculations and linked tables.
Linking curriculum learning to careers
Apply computing and mathematical skills to search, sort, filter, group and calculate data. Create graphs to communicate findings, reflecting how professionals use databases to investigate questions and support decisions.
Encounters with employers and employees
Explore how data analysts, database administrators, researchers and other professionals use databases in their work. Where possible, arrange an encounter with someone who manages or analyses data professionally.
Experiences of workplaces
Use realistic workplace scenarios, such as investigating customer preferences, organising school survey results or analysing environmental data, to demonstrate how databases help professionals find and interpret information.
Encounters with further and higher education
Introduce pupils to pathways involving data management, computing and information technology through secondary education, college, university, apprenticeships and technical qualifications.