Broadway Junior School

Subject: Computing Topic: Databases Year: 5 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
Condition Field Data Edit Linked Tables Database Filter Operator 2Investigate Group Query Record Sort Validation

Knowledge	Skills
• To understand what a database is. • To design and create a database. • To build queries to find information. • To solve problems using a database.	• I can explain what a database is. • I can organise how information is presented in a database. • I can use features of database software to find information. • I can design a database suitable for the data I have. • I can create and edit records within a database. • I can explain what a query is. • I can use a range of operators in queries that use a filter. • I can build a query to find information. • I can link separate tables together in a database. • I can use linked tables in a query.

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Learning Objectives/End Points			
To understand what a database is. Lesson 1	To design and create a database. Lesson 2	To build queries to find information. Lesson 3	To solve problems using a database. 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 Organisation: structuring information into fields, records and tables. Digital literacy: using database software to store, edit and retrieve information. Logical thinking: creating queries and applying operators to find specific records. Problem-solving: using filters and linked tables to answer questions and investigate information. Attention to detail: checking data accuracy and ensuring records are organised correctly. Analytical thinking: identifying patterns and using information to draw conclusions. Decision-making: selecting relevant information to answer questions and solve problems. Planning: designing a database structure that meets a particular purpose.	**Learning from career and labour market information** Children explore how organisations use databases to manage information and make decisions. They consider the importance of data skills in careers such as data analysis, business management, healthcare and information technology. **Addressing the needs of each pupil** Children develop database skills through structured tasks, modelling and guided practice. They can organise records, edit data, create queries and apply filters at an appropriate level, with opportunities for additional support and challenge. **Linking curriculum learning to careers** Children apply computing and mathematical skills to organise data, sort records, create queries and solve problems. They explore how these skills relate to careers involving data management, research, business, science and technology. **Encounters with employers and employees** Children learn how professionals use databases to store, retrieve and analyse information. This learning could be extended through a case study or guest speaker from a field such as business, healthcare, scientific research or IT. **Experiences of workplaces** Children experience a simplified workplace data task by designing a database, creating and editing records, linking tables and building queries to answer questions. They learn how accurate, well-organised data supports effective decision-making. **Encounters with further and higher education** Children recognise that computing, mathematics and data handling can support further study in computer science, business, statistics and data science. They begin to understand how these subjects can lead to further education and vocational training.