Year 3 – Branching databases

Unit introduction

Learners will develop their understanding of what a branching database is and how to create one. They will use yes/no questions to gain an understanding of what attributes are and how to use them to sort groups of objects. Learners will create physical and on-screen branching databases. To conclude the unit, they will create an identification tool using a branching database, which they will test by using it. They will also consider real-world applications for branching databases.

Overview of lessons

Lesson	Brief overview	Learning objectives
1 Yes or no questions	Learners will start to explore questions with yes/no answers, and how these can be used to identify and compare objects. They will create their own yes/no questions, before using these to split a collection of objects into groups.	To create questions with yes/no answers • I can investigate questions with yes/no answers • I can make up a yes/no question about a collection of objects • I can create two groups of objects separated by one attribute
2 Making groups	Learners will develop their understanding of using questions with yes/no answers to group objects more	To identify the attributes needed to collect data about an object

	than once. They will learn how to arrange objects into a tree structure and will continue to think about which attributes the questions are related to.	• I can select an attribute to separate objects into groups • I can create a group of objects within an existing group • I can arrange objects into a tree structure
3 Creating a branching database	Learners will continue to develop their understanding of ordering objects/images in a branching database structure. They will learn how to use an online database tool to arrange objects into a branching database, and will create their own questions with yes/no answers. Learners will show that their branching database works through testing.	To create a branching database • I can select objects to arrange in a branching database • I can group objects using my own yes/no questions • I can test my branching database to see if it works
4 Structuring a branching database	Learners will continue to develop their understanding of how to create a well-structured database. They will use attributes to create questions with yes/no answers, and will apply these to given objects. Learners will compare the efficiency of different branching databases, and will be able to explain why questions need to be in a specific order.	To explain why it is helpful for a database to be well structured • I can create yes/no questions using given attributes • I can compare two branching database structures • I can explain that questions need to be ordered carefully to split objects into similarly sized groups
5 Planning a branching database	Learners will independently plan a branching database by creating a physical representation of one that will identify different types of dinosaur. They will continue to think about the attributes of objects to write questions with yes/no answers, which will enable them to separate a group of objects effectively. Learners will then arrange the questions and objects into a tree structure, before testing the structure.	To plan the structure of a branching database • I can independently create questions to use in a branching database • I can create questions that will enable objects to be uniquely identified • I can create a physical version of a branching database

6 Making a dinosaur identifier	Learners will independently create a branching database to identify different types of dinosaur, based on the paper-based version that they created in Lesson 5. They will then work with a partner to test that their database works, before considering real-world applications for branching databases.	To independently create an identification tool • I can create a branching database that reflects my plan • I can work with a partner to test my identification tool • I can suggest real-world uses for branching databases

Progression

This unit progresses learners' knowledge and understanding of the categories of data handling, with a particular focus on implementation. It builds on their knowledge of data and information from key stage 1. They will continue to develop their understanding of attributes and begin to construct and interrogate branching databases as a means of displaying and retrieving information.

Curriculum links

National curriculum links
- 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
- use technology safely, respectfully and responsibly
- Teaching Physical Computing to 5- to 11-year-olds
- Teaching Programming to 5- to 11-year-olds