National Centre for Computing Education

Raspberry Pi

Year 3 – Branching databases

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 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.	To identify the attributes needed to collect data about an object • 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