Fellside Community Primary School Computing Curriculum
Year 3 – Branching databases

Unit introduction

During this unit, learners will develop their understanding of what a branching database is and how to create one. They will gain an understanding of what attributes are and how to use them to sort groups of objects by using yes/no questions. The learners will create physical and on-screen branching databases. Finally, they will evaluate the effectiveness of branching databases and will decide what types of data should be presented as a branching database.

Overview of lessons

Lesson	Brief overview	Learning objectives
1. Yes or no questions	During this lesson, learners will start to explore questions with yes or no answers, and how these can be used to identify and compare objects. They will create their own yes or 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	During this lesson, learners will continue to develop their understanding of using questions with yes or no answers to group collections of objects. They will learn how to arrange objects in a tree structure and will continue to think about which attributes the questions are related to.	To identify the object attributes needed to collect relevant data ● 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	During this lesson, 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 or no answers. The 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 prove my branching database works
4. Structuring a branching database	During this lesson, learners will continue to develop their understanding of how to create a well-structured database. They will use attributes to create questions with yes or no answers and apply these to given objects. The learners will be able to explain why questions need to be in a specific order and will compare the efficiency of different branching databases.	To explain why it is helpful for a database to be well structured ● I can create yes/no questions using given attributes ● I can explain that questions need to be ordered carefully to split objects into similarly

		sized groups • I can compare two branching database structures
5. Using a branching database	During this lesson, learners will independently create a branching database that will identify a given object. They will continue to think about the attributes of objects to write questions with a yes or no answer, which will enable them to separate a group of objects effectively. The learners will then arrange the questions and objects into a tree structure, before using their branching database to answer questions.	To identify objects using a branching database • I can select a theme and choose a variety of objects • I can create questions and apply them to a tree structure • I can use my branching database to answer questions
6. Presenting information	During this lesson, the learners will compare two ways of presenting information. They will demonstrate their ability to explain what information is shown in a pictogram and a branching database. The learners will begin to compare the two ways of presenting information.	To compare the information shown in a pictogram with a branching database • I can explain what a pictogram tells me • I can explain what a branching database tells me • I can compare two ways of presenting information

Progression

This unit progresses students' knowledge and understanding of presenting information. It builds on their knowledge of data and information from key stage 1. They continue to develop their understanding of attributes and begin to construct and interrogate branching databases as a means of displaying and retrieving information.

Please see the learning graph for this unit for more information about progression.

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

Education for a Connected World links

Assessment

Summative assessment
- Please see the assessment question and answer documents for this unit.

Subject knowledge

This unit focuses on branching databases. A branching database is a collection of data organised in a tree structure using yes/no or true/false questions. In computer science, these are known as binary trees. In the final lesson of this unit, learners will begin to recognise that information can be presented in different ways. Teachers will need to be familiar with pictograms. A pictogram is a pictorial representation of information, usually used to present numerical data, such as common methods of transport amongst a group of people.

Teachers will also need to be familiar with the term attributes. An attribute includes its name and a value. For example, a ball will have a colour which might be red. Colour is the attribute name, red is the attribute value. Learners may be familiar with the term property introduced in Year 1 – 'Grouping data'. Property and attribute are interchangeable; however, property has been used with younger children to make it more accessible.

Throughout this unit, learners will use the online database tool j2data. You should be familiar with using the 'Branch' tool. Support with navigating the 'Branch' tool can be found at https://www.j2e.com/help/videos/datags3. Teachers would also benefit from having an understanding of the 'Pictogram' tool. Support with navigating the 'Pictogram' tool can be found at https://www.j2e.com/help/videos/ks1datavideo1.

Enhance your subject knowledge to teach this unit through the following training opportunities:

Online training courses
- Raspberry Pi Foundation online training courses

Face-to-face courses
- National Centre for Computing Education face-to-face training courses

Resources are updated regularly — please check that you are using the latest version.