Bomere and the XI Towns Federation Knowledge Organiser - Computing

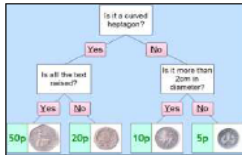| Topic: Data and information – Branching databases	Class/Year Groups: Grinshill	Term: Spring

What you already know?

This unit progresses childrens' 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.

What you will learn:

Branching Databases

-**Branching Databases:** A branching database (sometimes known as a binary tree) is a way of classifying a group of objects. If it has been designed correctly, a branching database can be used to help someone identify one of the objects.

-**Creating Branching Databases:** Programs such as *j2data* can help you to create branching databases. Firstly, you need to select which objects you would like to use in your database. You can then type in 'yes' or 'no' questions to sort your objects. Add as many questions as needed until all of the objects are sorted individually.

Grouping and Separating

-**Grouping:** Objects can be put into different groups. These groups can be made up of objects that are the same, or objects that have the same attributes (features).
Computers can help us by allowing us to put different objects into groups.

-**Yes or No Questions:** Questions that require yes and no answers can be useful for helping us to find out the attributes of different objects. For example:
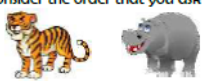-Is it big? (size)
-Is it red? (colour)
-Is it made of plastic? (material)
-Is it heavy? (weight)

-**Multiple Groups:** Sometimes, we need to split objects into more than two groups, and so one yes or no question alone is not enough. For example, we may wish to classify animals into the different animal types (mammals, birds, reptiles, amphibians, fish, etc.). We may ask multiple yes or no questions, such as 'does it lay eggs?' 'does it have hair or fur?' etc.

Vocabulary:

data	figures and numbers
information	what we understand from looking at data
classify	consider objects within a certain group
branching database	a way of classifying a group of objects

Structuring Branching Databases	Presenting Information
-Remember that for your branching database to be effective, the strength of the questions that you ask is hugely important. Your questions need to separate different objects based on their attributes. E.g. the question 'does it have stripes?' would separate the animals below. You should also carefully consider the order that you ask questions.	-Both pictograms and branching databases can be used in order to **answer questions and solve problems.** -You should know which is best to use in different situations. E.g. a pictogram is best to show the favourite colours of children in the class, whilst branching diagrams are best to identify different types of minibeasts.

National Curriculum Objectives:

- 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