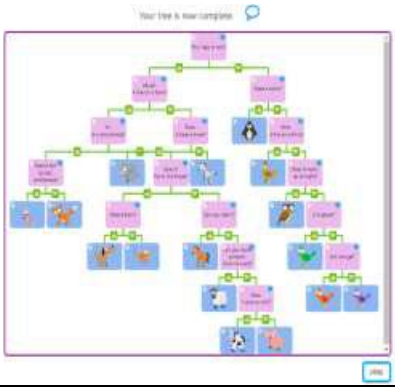
Jeavons Wood
Primary School

Knowledge Organiser for Year 3

Big question: How can we use yes/no questions and attributed to organise information?

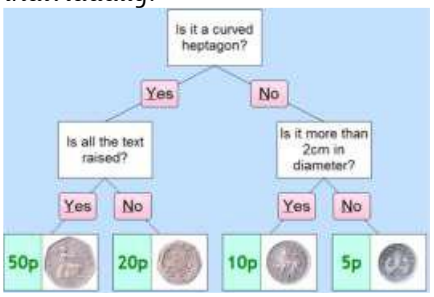
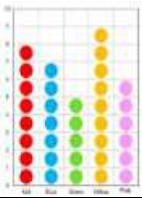
KS2 National curriculum specification
• Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • Use technology safely, respectfully and responsibly



In this unit, the children will:
• Understand what a branching database is and why it is useful. • Learn how to create branching databases using yes/no questions. • Explore attributes and use them to sort and group objects. • Make both physical and digital branching databases. • Plan and build an identification tool using a branching database. • Test the identification tool to make sure it works. • Think about real-world examples of branching databases and how they are used.

Key vocabulary:	
Information	What we understand after organising or interpreting data.
Data	Raw numbers and figures. Information is what we can understand from looking at data. E.g. a list of temperatures is data.
Attributes	Features or characteristics of an object that help describe it. E.g. colour, size, and shape are attributes.
Group	A collection of objects that share something in common, such as the same attribute. E.g. All red shapes in one group.
Branching database	A way of organising information using yes/no questions to classify objects into smaller groups. E.g. A tree diagram that helps identify animals based on questions like "Does it have wings?"
Multiple	More than one. E.g. You can ask multiple questions to sort objects.
Classify	To sort objects into categories based on their attributes. E.g. Classifying animals into mammals, birds, and reptiles.
Structure	The way something is arranged or organised. E.g. The order of questions in a branching database is its structure.

Present	To show or share information in a clear way.

Grouping and Separating	Branching Databases
-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.	-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. 
Structuring Branching Databased	**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. 

Teacher Subject Knowledge:	
Prior Knowledge	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.
Information for each lesson	**Lesson 1: Yes or No Questions** Learners will explore questions that have yes or no answers. They will use these questions to identify and compare objects. They will create their own yes/no questions and use them to split a collection of objects into groups. **Lesson 2: Making Groups** Learners will learn how to use yes/no questions to group objects more than once. They will arrange objects into a tree structure and think about which attributes the questions relate to. **Lesson 3: Creating a Branching Database** Learners will learn how to order objects in a branching database. They will use an online tool to arrange objects and create their own yes/no questions. They will test their

	branching database to show that it works. **Lesson 4: Structuring a Branching Database** Learners will learn how to create a well-structured branching database. They will use attributes to write yes/no questions and apply them to objects. They will compare different branching databases and explain why the order of questions matters. **Lesson 5: Planning a Branching Database** Learners will plan a branching database by making a physical version that identifies different types of dinosaur. They will write yes/no questions based on attributes and arrange them into a tree structure. They will test their plan to make sure it works. **Lesson 6: Making a Dinosaur Identifier** Learners will create a branching database to identify dinosaurs, based on their plan from Lesson 5. They will test their database with a partner and think about real-world uses for branching databases.
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. You 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, and 'red' is the attribute value. Learners may be familiar with the term 'property' introduced in Year 1 – 'Grouping data'. The terms 'property' and 'attribute' are interchangeable; however, 'property' has been used in resources designed for younger children to make them more accessible. Throughout this unit, learners will use the online database tool j2data Branch. You should be familiar with using this tool. Support with navigating j2data Branch can be found at www.j2e.com/help/videos/datags3.
Links to learning content	• See One Drive for curriculum overview and PowerPoint: Year 3. • For this unit, both you and your learners will need access to the j2data Pictogram, Branch, and Database tools (see https://www.j2e.com/jit5#branch).