

Lesson 4: Structuring a branching database

Year 3 – Data and information – Branching database

Lesson 4: Structuring a branching database

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

Think, pair, share: What is an attribute?

An attribute is a way of describing things, such as:

- Colour
- Diet
- Habitat
- Size
- Pattern
- Number of legs



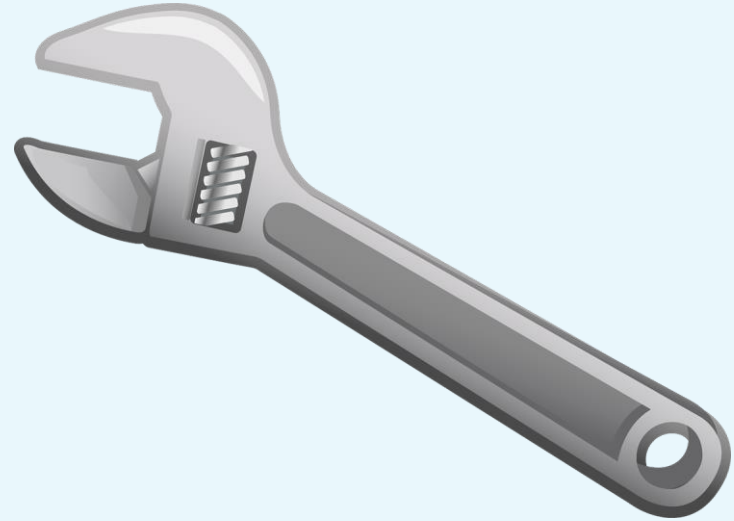
Yes or no questions

Question

Is it made of wood?

Attribute

Material



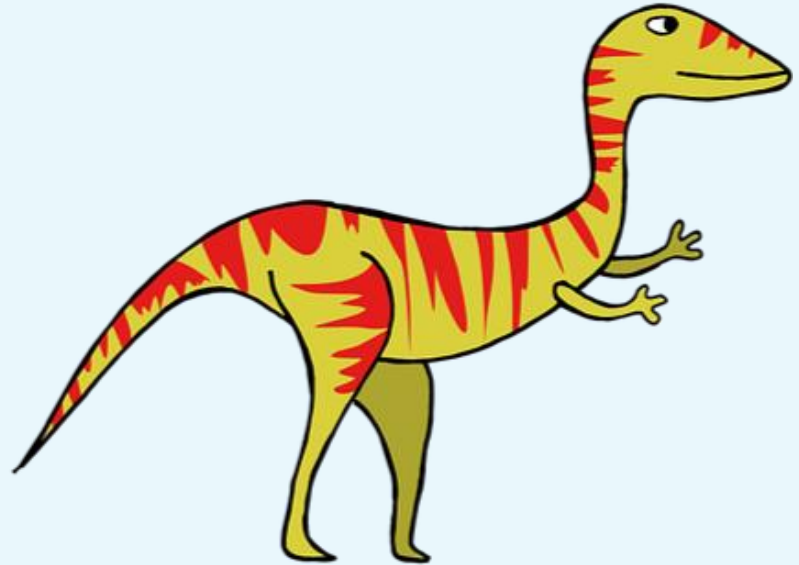
What's the attribute?

Question

Does it have stripes?

Attribute

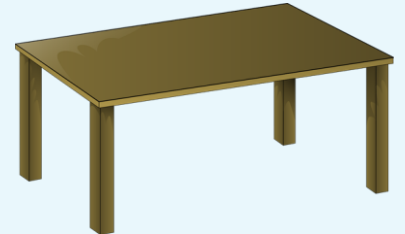
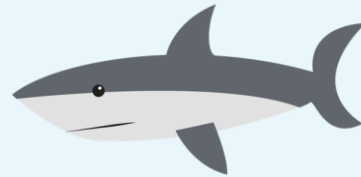
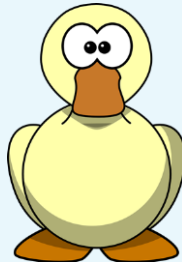
Pattern



What questions could you ask for the attribute, **number of legs**?

Words you could use:

- Legs
- Two, four, six, eight
- More than/less than
- Does it



Questions you could ask:

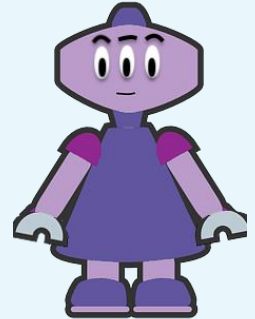
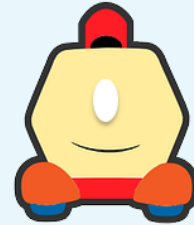
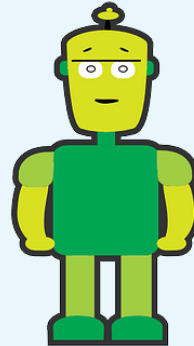
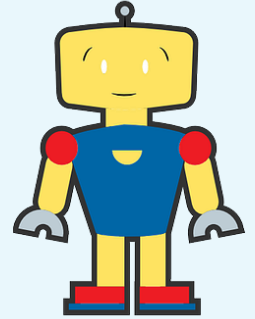
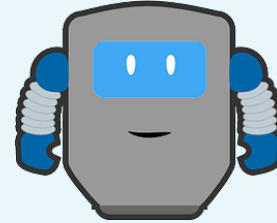
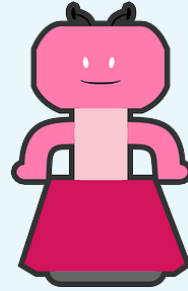
- Does it have legs?
- Does it have two legs?
- Does it have more than six legs?
- Does it have fewer than four legs?

Creating questions

Write down as many different questions as you can using:

- Colour
- Number of legs
- Claws
- Shape

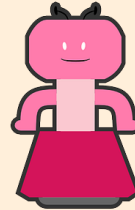
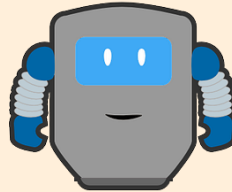
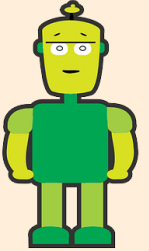
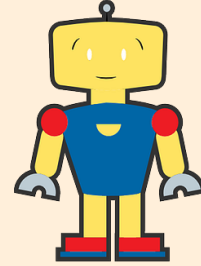
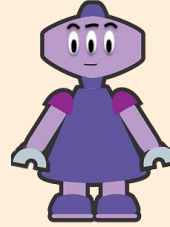
Can you think of any other attributes to write questions about?

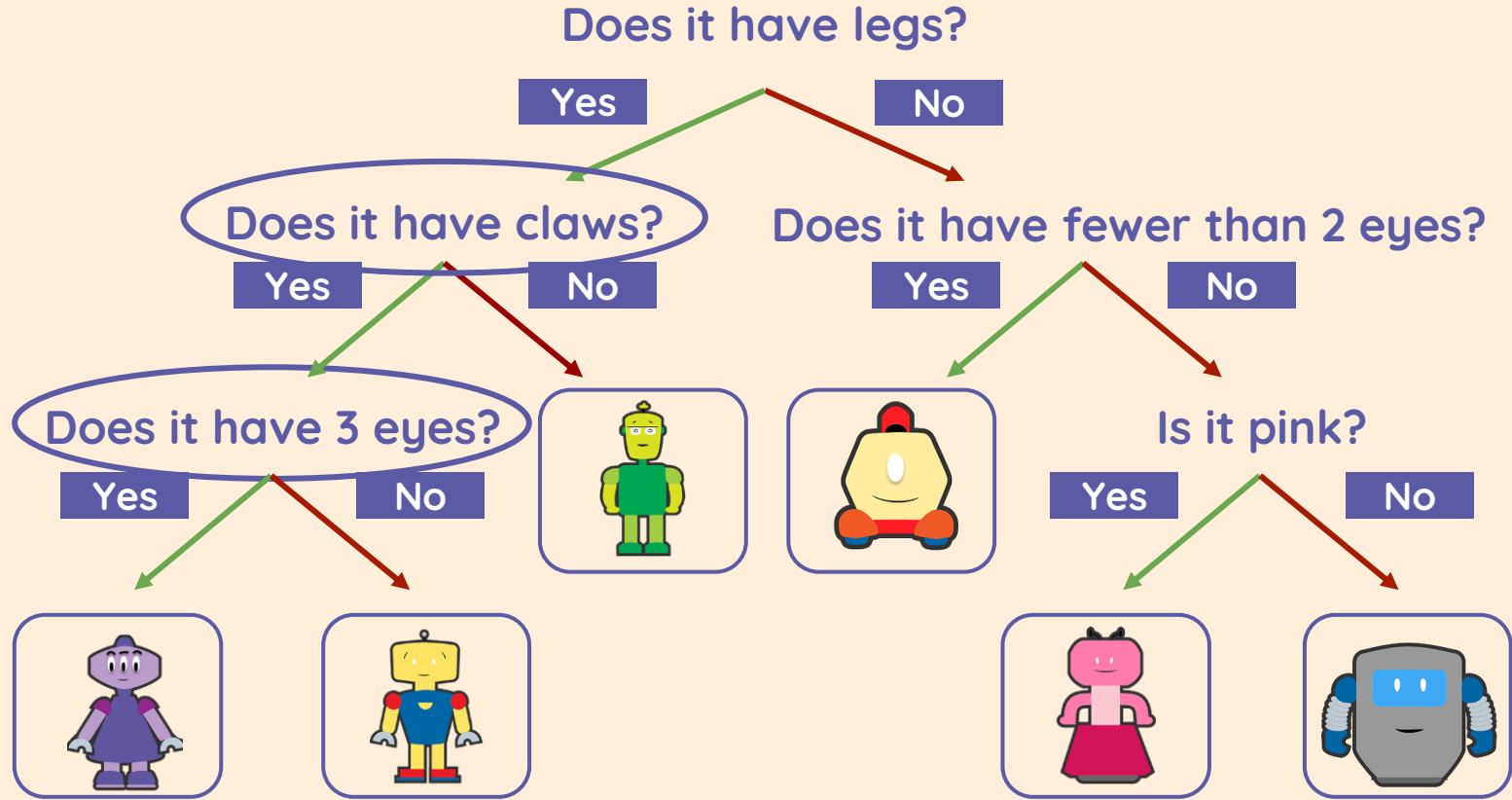


Ordering questions

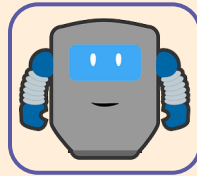
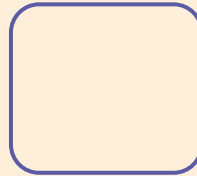
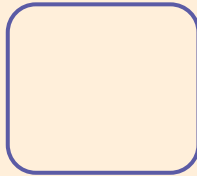
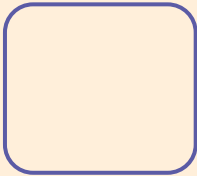
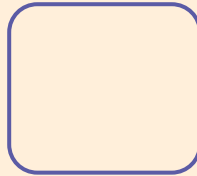
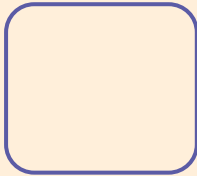
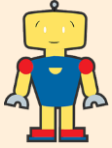
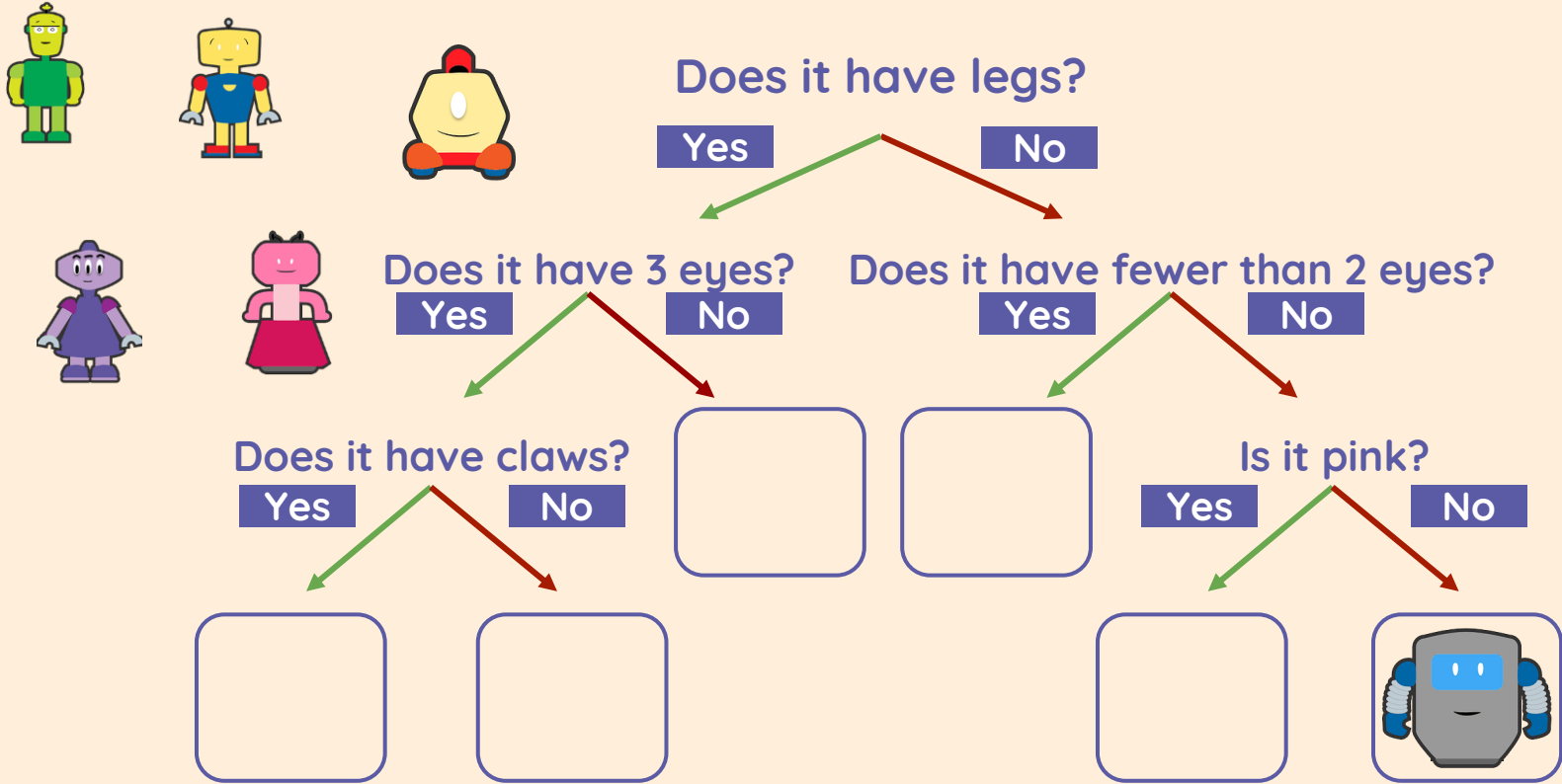
Use your questions and the images to create a branching database.

You may need to write more questions to help you.





Think, pair, share: What would happen if you swapped these two questions?



Ordering questions

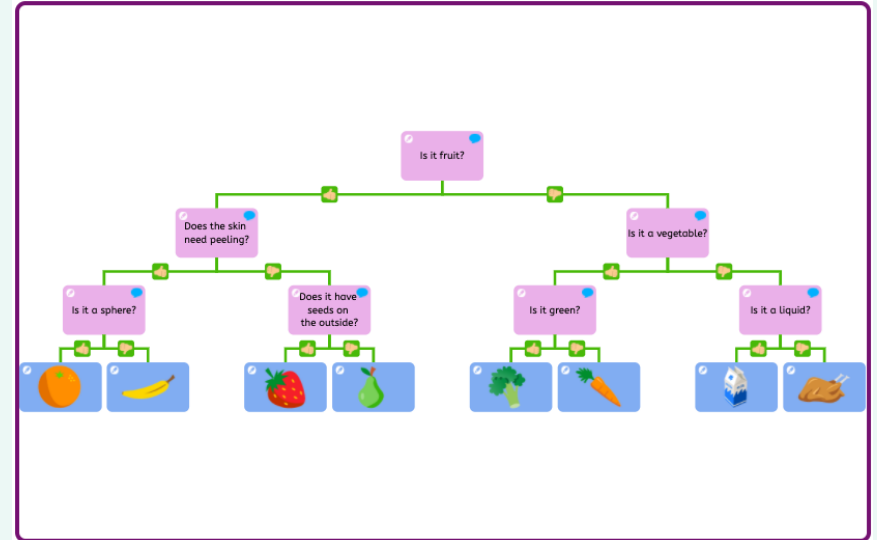
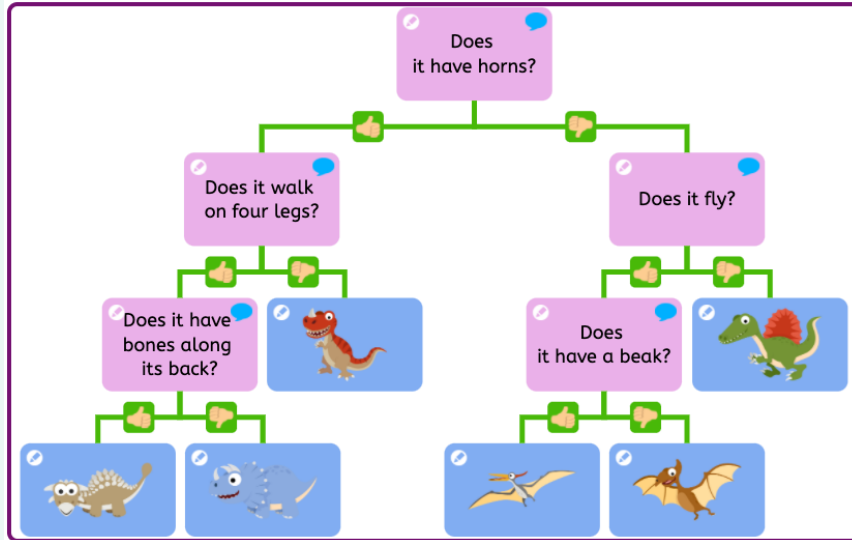
Your turn!

Take out the pictures and swap some questions around.

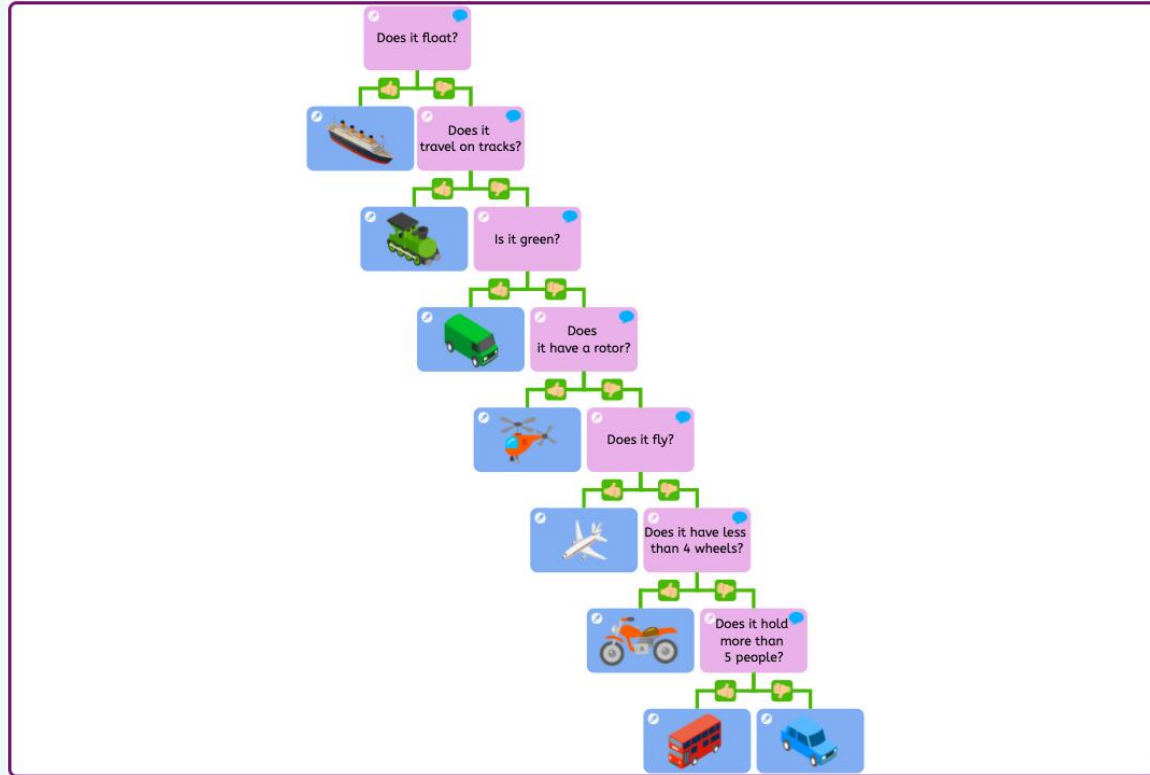
Does your branching database still work?

Think, pair, share: Why is it important for the questions to be ordered carefully?

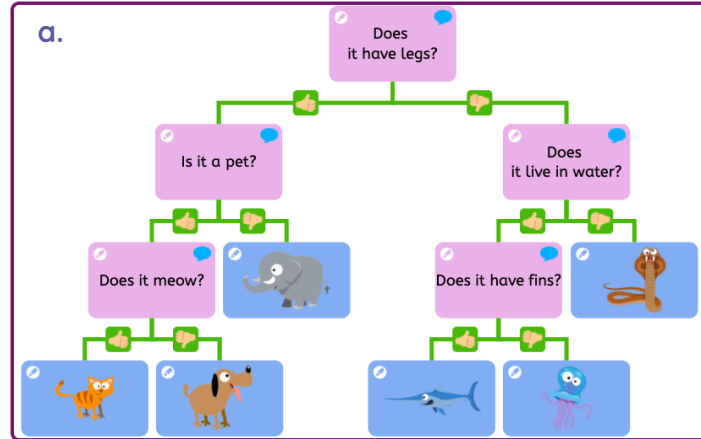
Branching databases



What do you notice about this branching database?

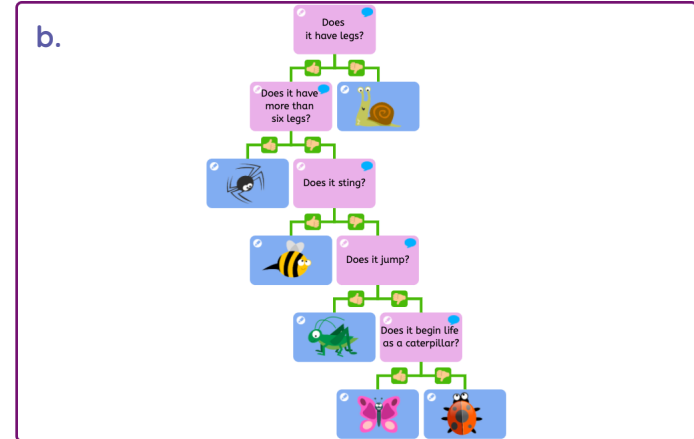


Comparing branching databases



How many attributes have been used in the database?

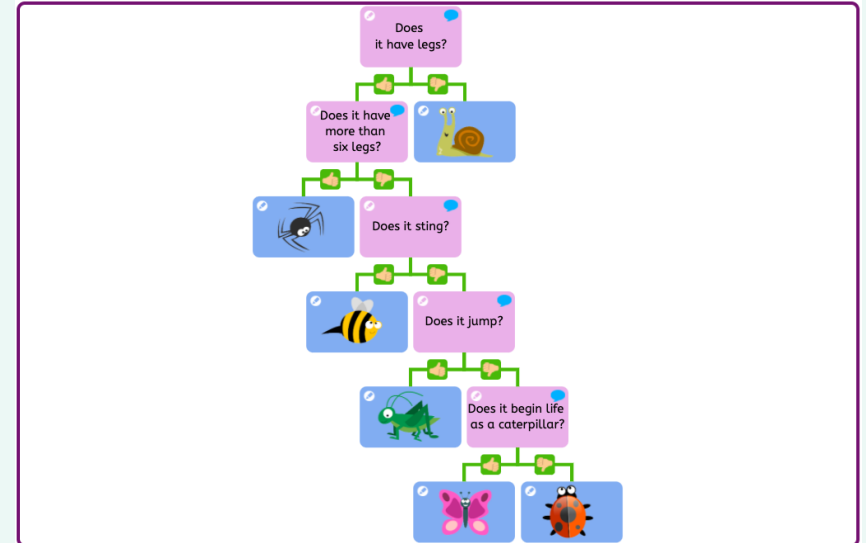
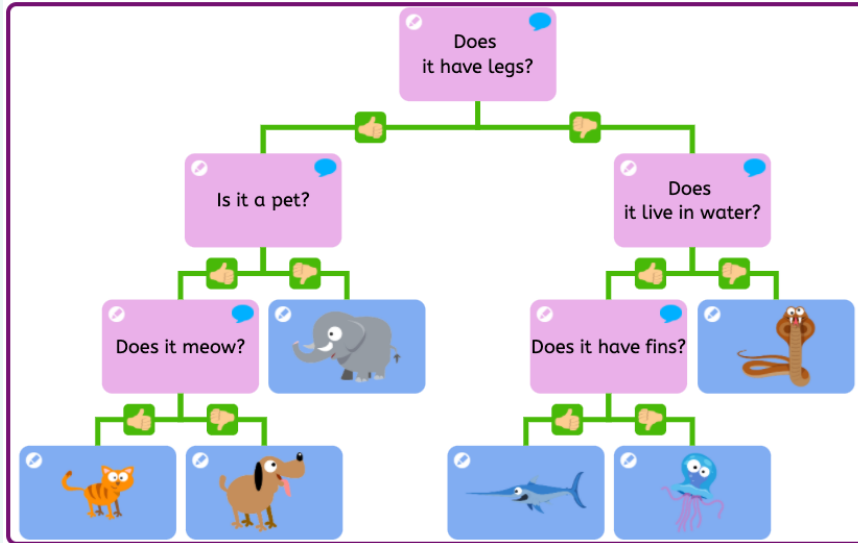
How many questions do you need to answer to find an object on the bottom row? E.g. cat



How many attributes have been used in the database?

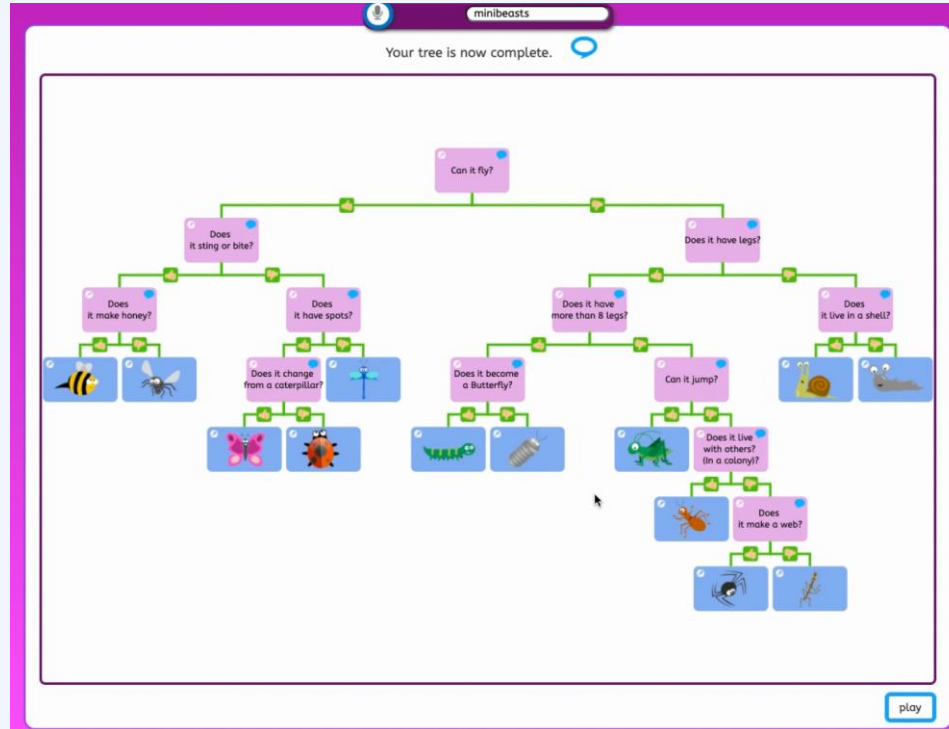
How many questions do you need to answer to find an object on the bottom row? E.g. butterfly

Branching databases



The first branching database is structured better. It takes fewer questions to find the objects.

Minibeast branching database



How confident are you? (1-3)

- 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

3 - Very confident



2 - Unsure



1 - Not confident



Next lesson

In this lesson, you...

Created questions with a yes or no answer using attributes

Moved questions within your database to demonstrate why order is important

Compared two different branching databases

Next lesson, you will...

Create a branching database, using your knowledge of the structure and using yes or no questions