



CLADISTICS

HOW TO MAKE AN EVOLUTIONARY TREE

Cladistics are something scientists use to make family trees of animal evolution based on what an animal looks like. It's a very useful skill for a palaeontologist.

Step 1

Make a table of your animals with some of their special features.

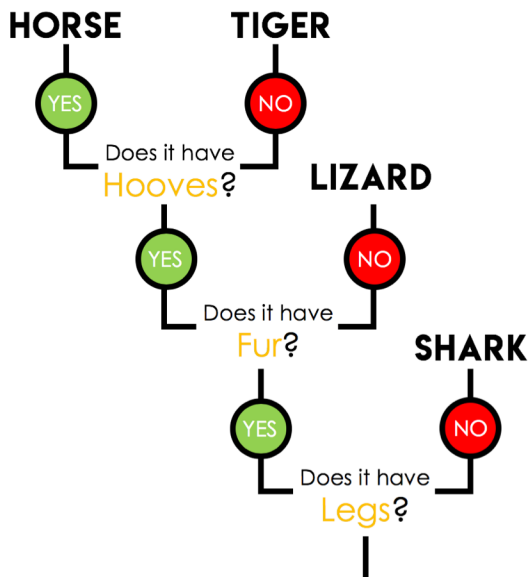
Ask does each animal have that feature?

Yes (Y) or No (N)

| | Legs? | Fur? | Hooves? |
|--------|-------|------|---------|
| Shark | N | N | N |
| Lizard | Y | N | N |
| Tiger | Y | Y | N |
| Horse | Y | Y | Y |

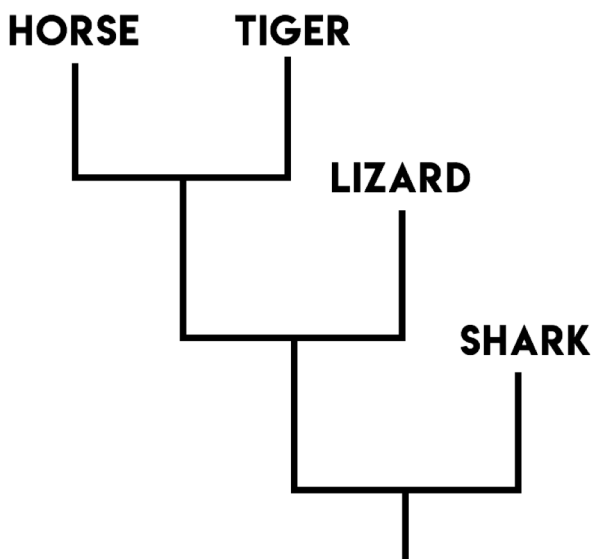
Step 2

Put this information into a flow chart



Step 3

Trim the labels to complete your tree



Because DNA doesn't preserve in the fossil record, this can be one of the best ways to make a family tree for extinct animals, like dinosaurs. We can look at the features seen in their fossils and use them to see who might be related to who.



Useful Fact!

When it comes to dinosaurs, one of the best things to look at their hips (made of three bones).

There are two major groups of dinosaurs, separated by some having “lizard-like” hips, and others having “bird-like” hips.

“LIZARD” HIP



“BIRD” HIP



Activity ①

Can you fill in the table with information on these famous dinosaurs?

| | "Lizard" Hips? | Horns? | Sharp Teeth? | Big Toe Claw? |
|---------------|----------------|--------|--------------|---------------|
| Triceratops | N | | | |
| Stegosaurus | N | | | |
| Diplodocus | Y | | | |
| Tyrannosaurus | Y | | | |
| Velociraptor | Y | | | |

Activity ②

