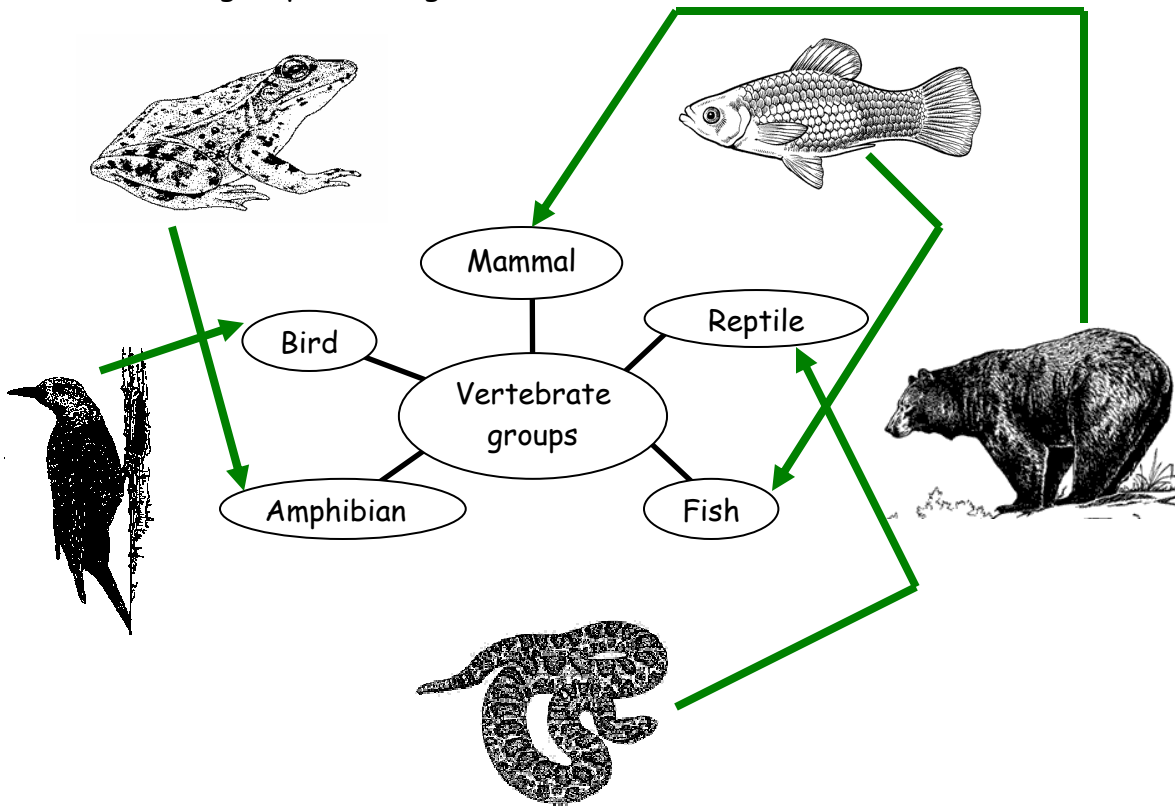


Putting animals into groups

With so many animals on the planet scientists need to identify them individually by giving each species a name but it also useful to divide animals with similar characteristics into groups. Whilst going round the Discovery Centre you will be studying a variety of species in detail and finding out some amazing facts about them. At the end of your tour round the Discovery Centre you will be able to classify the animals you have seen into groups.

Do you know the five vertebrate groups animals can be split into? (*Vertebrate means they have a backbone.*) Match the picture below with the group title by drawing an arrow from the animal to the group it belongs to.



Which group of animals is not included in the vertebrate groups because they don't have backbones? **Invertebrates (e.g. insects, molluscs, spiders, corals)**

Now go round the Discovery Centre in small groups studying the animals as you go. The activities in the booklet will focus on two of the five vertebrate groups. These are the only animals you have to study in depth but do enjoy looking at all the animals!

African pancake tortoise

How does this animal escape from predators? **The African pancake tortoise wedges itself in rock crevices and uses its strong claws to cling on.**

Axolotl

The axolotl is the larval stage of which animal? **A salamander.**

What can this animal do in its larval stage that others can't? **The axolotl can reproduce in its larval stage.**

Python

There is a very large python near the African pancake tortoise enclosure what species of python is it? **A Burmese python**

Where does this species of python live in the wild? **In the rainforests of Southern Asia.**

How many eggs can this species lay? **Between 6 and 100 eggs.**

Philippines sailfin lizard

How does the Sailfin incubate its eggs? **The females lay a clutch of 6-12 eggs which are buried in well drained soil for 2-3 months to incubate.**

Where is this species normally found in the wild? **In the Philippines.**

How do you think the skin of this lizard would feel? Try and describe the skin. **Rough scaly skin all over. The skin on their legs, tail and head look firm. The skin on the lizards body is loose and forms folds. The large upright scales on the back of the male look hard and pointy.**

Dwarf crocodile

"The West African Dwarf crocodile is the most armoured of all crocodiles"
Why do crocodiles need armour? They have armour to protect themselves from attacks by other crocodiles.

Where would you find Dwarf crocodiles in the wild? They are found in West and Central Africa.

Where do they make their nests and how many eggs do they lay? Dwarf crocodiles lay approximately 10-15 eggs in a nest on land. They make the nest out of a mound of vegetation.

Green and black poison frogs

Why are these and other species of poison frog brightly coloured? To warn predators of their toxic skin secretions.

Where do these frogs lay their eggs and how do they keep them from drying out? They lay their eggs on leaves or on the ground. Both parents keep the eggs moist.

Matamata

How do they detect fish in murky water? They pick up vibrations through the skin on their face and neck.

Where do the Matamata lay their eggs? These turtles lay approximately 12-18 eggs on land.

Spiny iguana

What does a spiny iguana eat? Insects, spiders and small lizards

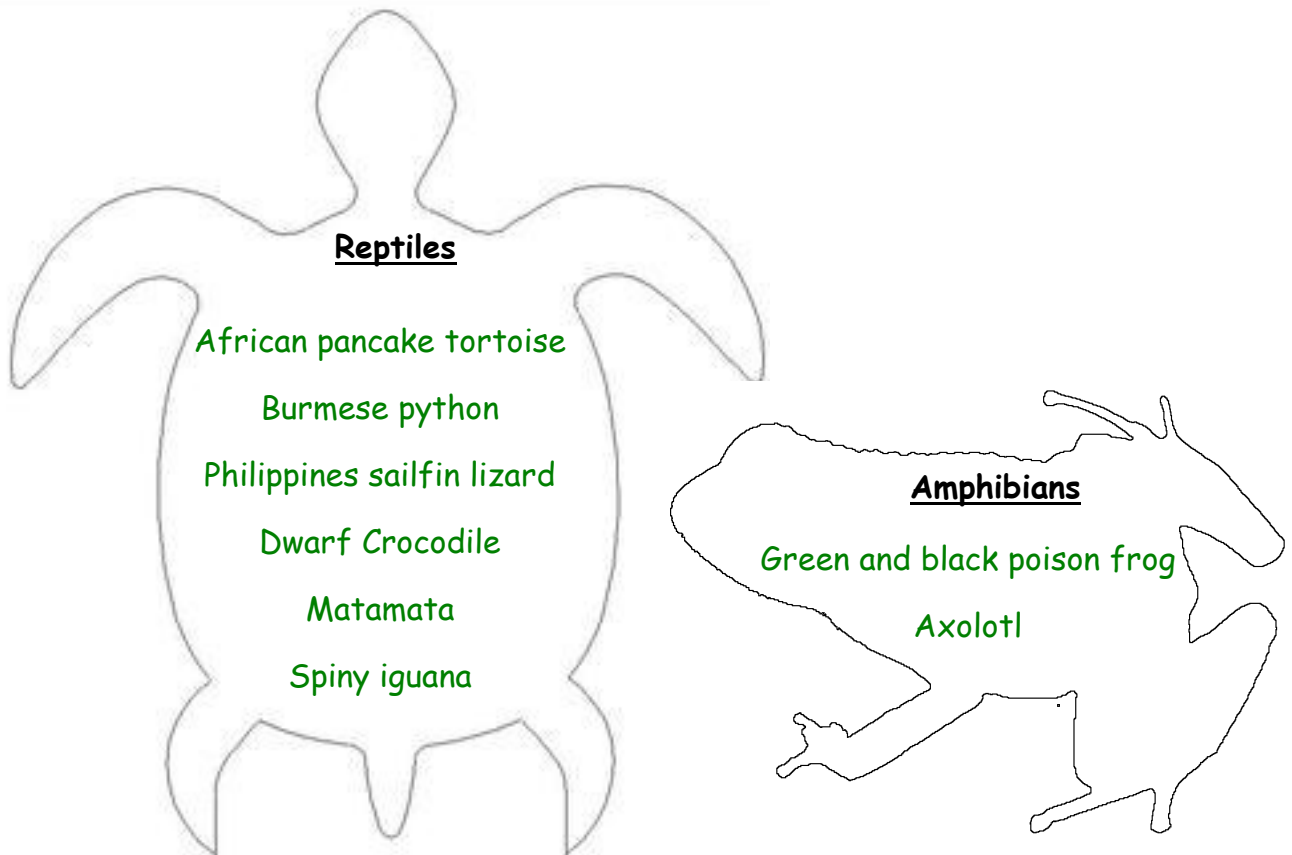
This species is arboreal but what does that mean? Arboreal means that they live in trees.

Splitting animals into smaller groups

The animals that you have studied can be split into two groups called classes. Animals in these classes have characteristics in common. (See the table below)

Class: Reptiles	Class: Amphibians
Reptiles are cold-blooded and their skin is dry and scaly. Reptiles lay leathery or hard shelled eggs on land. The tough shell of the egg protects it from losing moisture. Reptiles have lungs and breathe air.	Amphibians have moist skin and live in water or boggy places to keep themselves from drying out. They lay their eggs in or near to water to keep the jelly-like coating of the egg moist. Amphibians have a larval stage (tadpoles) that lives in water and have gills. As they get bigger they go through a metamorphosis and turn into adults that have lungs and live both on land and in water.

Decide whether the animals you have studied today were reptiles or amphibians and put the name of the species in the correct space below.



Splitting the reptile class into orders

Classes of animals can be split down further into even smaller groups called orders. The reptile class has over 4,500 species in it and it can be split into 3 orders. How would you split the reptile class into 3 different orders? Use the descriptions below to help you decide which species of reptile you have seen today would go into which order. Make a list of the species in the space provided.

Order	Description of the animals in the order	Species we have in the Discovery Centre
A	Animals in this group have hard shell into which they can retract their limbs, head and tail for protection. Their skin is soft and scaly. Some of the animals in this order have legs and live on land while others have flippers because they live in water.	African pancake tortoise Matamata
B	Some animals in this group have legs while others don't have any legs. Their skin is soft, dry and scaly. Some of the animals in this order have large fangs which can be used to kill their prey by injecting poison.	Burmese python Philippines sailfin lizard Spiny iguana
C	The animals in this group spend a lot of time in the water. They are very good swimmers and they can use their feet and tail to swim. They have lots of very sharp, pointed teeth which they use for catching prey.	Dwarf crocodile

What name would you give to each of the orders of reptiles?

Order A *Testudines*






Order B *Squamata*

Order C *Crocodylia*

The Latin names are shown above however students are not expected to know these. Any answer which describes the animals in each order is acceptable e.g. Order A: tortoises and turtles, Order B: snakes and lizards and Order C: crocodiles.

Splitting mammals into smaller groups

Most of the animals you will see round the Zoo are mammals. The class 'mammalia' can be split into smaller groups. As you go round the Zoo, look out for examples of mammals from each of the groups in the table below. How many from each group can you find?

Group	Main features	Examples in the Zoo
Carnivores 	Meat-eaters with forward facing eyes. They have sharp claws and teeth.	Brown bear, Amur tiger, African lion, cheetah, Oriental short-clawed otter, Californian sealions, Grey wolf, Dwarf mongoose
Marsupials 	They have a pouch on their belly where the young are carried after being born.	Bennett's wallabies
Primates 	They have grasping fingers and toes and can climb very well. They have forward facing eyes and can jump well.	Geoffroy's marmoset, Saki monkeys, Chimpanzees, lemurs (all species)
Rodents 	They have pointy noses and chisel-like teeth that grow continually. These mammals like to gnaw.	Cairo spiny mice, mara, marmot
Ungulates 	These plant eaters have large flat molar teeth to grind down vegetation. They have hooves on their feet.	Reticulated giraffe, Grevy's zebra, onager, gemsbok, common hippo, Asian elephant, rhino (White and Greater one horned), deer (all species), donkey, horse, Przewalski's horse, goat, sheep, Arabian oryx, Scimitar horned oryx, Bongo, Bactrian camel, Gaur