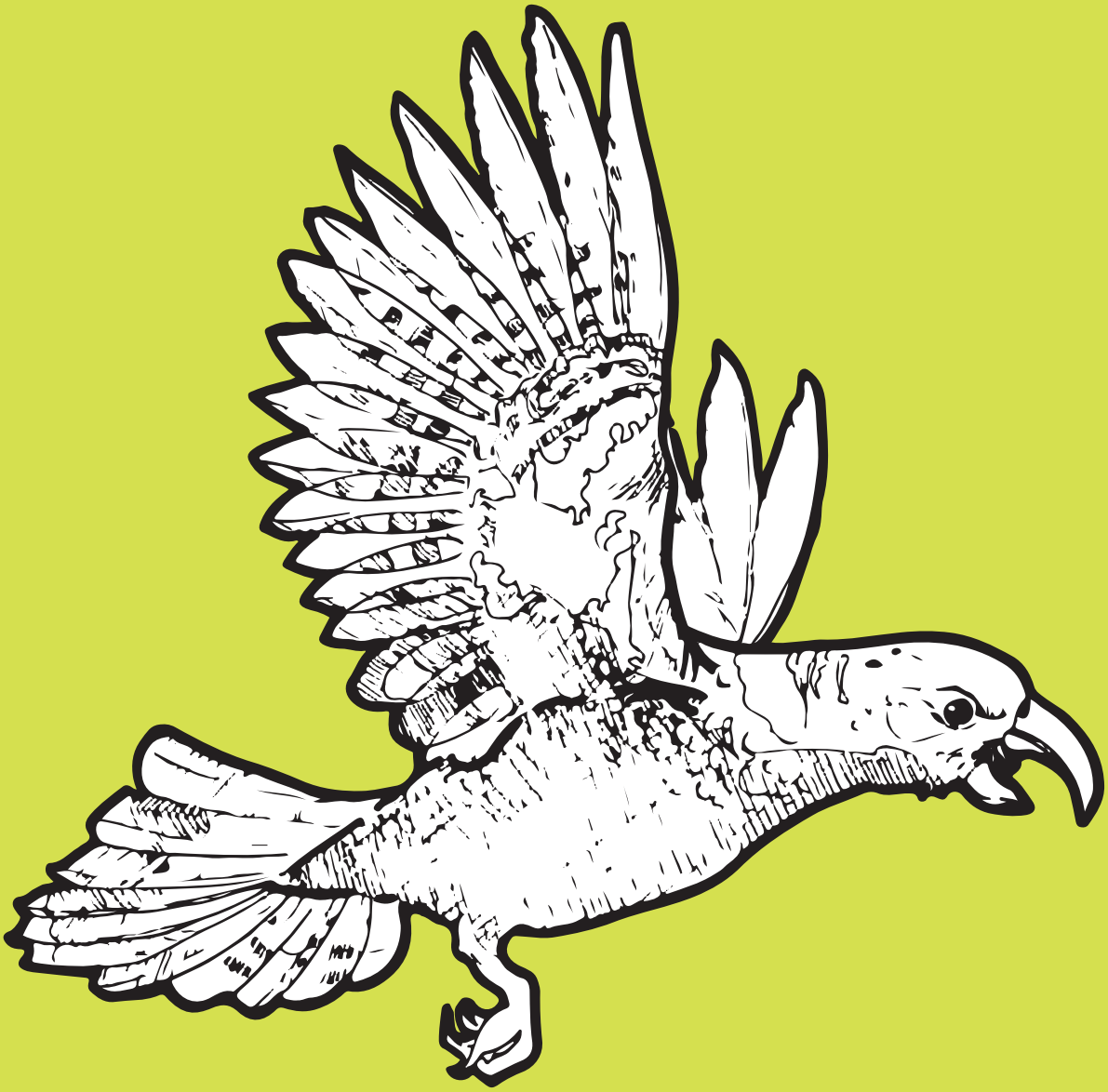
Auckland Zoo Education Pack

Secondary



Theme: Classification

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Zoo Lesson plan

Theme: Secondary (ages 12-17) **CLASSIFICATION**

What will I learn: How scientists group living things to help make sense of the natural world.

Inspire

Check out the Auckland Zoo Animal Pages on our website. Look at the different categories of animals.

- How many subpages are there from the main animal page?
- Why do you think these subpages were created?
- Are these subpages helpful? Why or why not?
- How many different species of animal are there at AZ?
- Can you find out approximately how many individual animals there are at AZ?

With so many animals on Earth, it can be helpful to put them into groups. Watch this BrainPOP video to learn how scientists classify animals as either mammals, birds, fish, reptiles, amphibians and invertebrates!

Reflect

Watch this TED ed video – Why is Biodiversity so Important?. Thinking about what you've learned about scientific classification and taxonomy, reflect on how this might be a useful tool for wildlife conservation.

What About Us – human classification tree (resource attached). Reflect on why we have been classified in this way. Are there any other species in the Homo genus? Research more about them and what makes them belong in this genus but different from us?

Create

Create your own **classification key** for your family and friends to solve.

Create an **acrostic poem or mnemonic rhyme** to remember the order of the classification tree – Kingdom, Phylum, Class, Order, Family, Genus, Species

Explore

Explore how the classification system we use came about by watching this video - Taxonomy: Life's Filing System.

Solve the **Classification Puzzle** (resource attached).

Animals are so incredibly unique that it is difficult to find a classification system that can group them all perfectly.

We usually classify animals as either mammal, fish, bird, reptile, amphibian or invertebrate based on certain criteria. But there are always exceptions to the criteria.

Do a little research online to find out about these super interesting exceptions. What makes each of them so difficult to classify?

- echidna
- pangolin
- mudskipper
- platypus
- tuna
- lungfish
- naked molerat

Curriculum links:

Lessons include a range of aspects from the main strands of the NZ Curriculum English, the arts, health and physical education, learning languages, mathematics and statistics, science, social science and technology.

They also consider the Key Competencies Thinking, Using language, symbols and text, Managing self, Relating to others, Participating and communicating.

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Classification
grouping animals

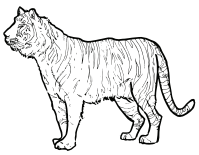
Some fun facts!

Animalia is the Latin word used for the Animal Kingdom.
Chordata is the Latin word for the phylum that includes all vertebrates.
Vertebrata is the Latin word used to classify animals with a backbone.

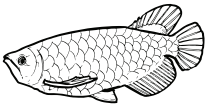
Now solve this classification puzzle by placing the Animal Classes in their correct spot on the classification key.

Birds
Class Aves

Reptiles
Class Reptilia

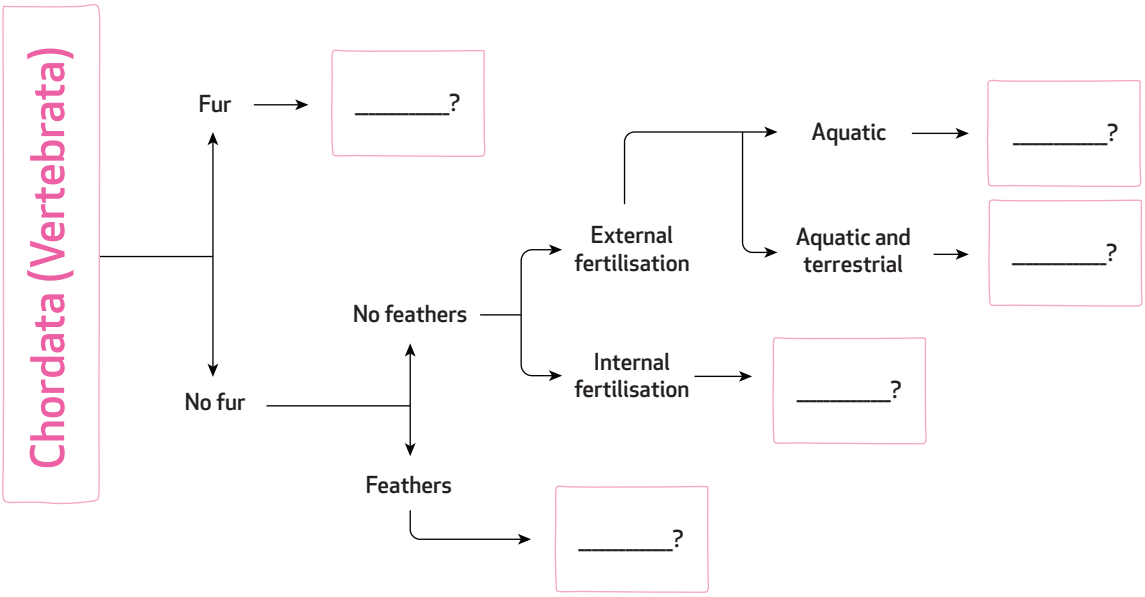


Mammals
Class Mammalia



Some Fish
Class Actinopterygii

Amphibians
Class Amphibia



Tip!

If you don't know some of the biology terms in the classification key, do a bit of research online.

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Classifying animals at Auckland Zoo

These are some of the animals that live at Auckland Zoo.
Using what you've learnt about classification and taxonomy, match them with their classification tree.

Lion

Zebra

Giraffe

Capybara

Orangutan

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Rodentia
Family: Caviidae
Genus: Hydrochoerus
Species: H. hydochaeris
Who am I? _____

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Primate
Family: Hominidae
Genus: Pongo
Species: P. pygmaeus
Who am I? _____

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Family: Felidae
Genus: Panthera
Species: P. leo
Who am I? _____

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Artiodactyla
Family: Giraffidae
Genus: Giraffa
Species: G. camelopardalis
Who am I? _____

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Perissodactyla
Family: Equidae
Genus: Equus
Species: E. quagga
Who am I? _____

Hints

- Order Carnivora mostly eat meat
- Order Primates are mammals with grasping fingers
- Order Artiodactyla are even-toed ungulates (hoofed mammals)
- Order Perissiodactyla are odd-toed ungulates (hoofed mammals)
- Order Rodentia are mammals with a single pair of continuously growing incisors (front teeth)

Reflect

- Was it easy to match these animals to their classification tree? Why or why not?
- Did you find the hints helpful?
- Do you notice any patterns in the classification of these animals?
- Can you think of other examples of animals that would fit into any of these Orders?
- Do a little research online to find out about your favourite animal's classification tree.

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What about us?
Human classification tree

Points to Ponder on classification characteristics:

- **Animalia**: ability to move on their own
- **Chordata**: includes animals with backbones (vertebrates)
- **Mammalia**: vertebrates with fur or hair and milk glands
- **Primates**: mammals with collar bones and grasping fingers
- **Hominids**: primates with relatively flat faces and 3D vision
- **Homo**: Hominids with upright posture and large brains
- **H. sapiens**: members of the Homo genus with a high forehead and thin skull bones

Kingdom: Animalia

Phylum: Chordata

Class: Mammalia

Order: Primates

Family: Hominidae

Genus: Homo

Species: H. sapiens

Homo habilis | Homo erectus | Homo neanderthalensis | Homo sapiens

Reflect

- Using the info from the human classification tree and the points to ponder, justify why scientists have classified humans in this way as each level of the tree.
- At the Order level we are related to great apes such as Orangutans.
  Watch this video – How smart are orangutans – and reflect on the similarities and differences between humans and orangutan.
- Now explore more about the genus Homo using these resources from National Geographic.
  Why do you think scientists put these species into the same genus as humans?

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