Britannica EDUCATION

Comparing Animals

Learning Resources and Activities aligned
to the Australian Curriculum

Introduction

Why Do We Learn About Different Types of Animals?

Have you ever wondered why some animals have backbones and others don't? Or why frogs grow from tiny eggs into jumping adults, while humans grow very differently?

Learning about animals helps us **understand the world around us**. Animals are everywhere! Whether it's a bug on the footpath, a bird in the sky, or a pet in your home. Knowing how they are grouped helps us make sense of their shapes, sizes, how they move, and how they grow.

By learning to **sort animals into groups like vertebrates (with a spine) and invertebrates (without a spine)**, we start to build a way of thinking that scientists use called **classification**. It's like giving your brain a set of drawers to put information into!

Understanding animal types also helps us:

- Notice patterns in nature
- Ask better questions about living things
- Build strong science skills for the future
- Make connections to the environment, zoos, farms, oceans, and even our own bodies!

So let's dive into the amazing world of animals and discover what makes them the same, what makes them different, and how it all connects back to *you*.

Curriculum Alignment

Australian Curriculum (Version 9.0)	NSW Stage 3 Science Syllabus Mapping
AC9S3U01 – Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals.	**Living World – Stage 3** **Content focus:** Body systems work together to enable movement. **Descriptor:** Recognise that all animals are either invertebrates with no spine, or vertebrates with a spine.

These activities align with AC9S3U01 and NSW Stage 3 Science (Living World) outcomes, making them a perfect fit for curriculum-aligned, real-world learning.

Inside This Activity Pack

This activity pack is designed to help primary students build their science skills by learning how to classify animals into groups. It includes hands-on learning, real-world thinking, and opportunities for students to think like scientists!

For Students

Students will explore:

- The difference between vertebrates and invertebrates
- How scientists use models like branching diagrams to group animals
- How to observe, compare, and classify animals in their own environment

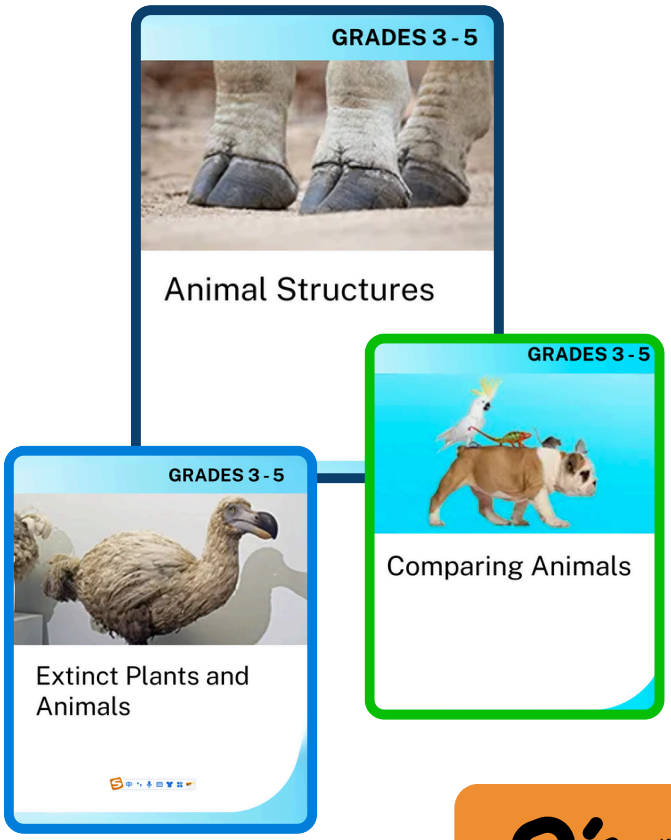
Printable worksheets to support student learning:

Sort and Classify	Students will complete a cut-and-paste worksheet where they sort animals into two groups: vertebrates (with spines) and invertebrates (without spines). It's a hands-on way to introduce classification in a visual and memorable way.
Research Like a Zoologist	Students act as young scientists, choosing three animals from their local environment to investigate. They'll research body features (like backbone, blood temperature, skin covering), then create their own classification model using a branching diagram.
Quiz Your Knowledge	To check understanding, students will complete a 10-question quiz based on everything they've learned; from classifying animals to identifying characteristics like body coverings, reproduction, and movement.

For Teachers

Teaching resources to support classroom delivery:

Teacher Slide Deck	A “Vertebrates vs Invertebrates” presentation slide deck that introduces key classification concepts and why this knowledge is valuable.
Britannica Science Resources	Links to Britannica lessons and articles, including content on vertebrates and invertebrates, animal groups and life cycles, and using models in science.
Answer Sheets	Printable answer sheets for quick and easy checking



Britannica Expedition:LEARN!

Featured! Comparing Animals

Further Lessons: Animal Structures, Extinct Plants and Animals

If your school is not yet subscribed to Expedition: Learn, you can request free trial access for you and your students at **https://elearn.eb.com/expedition-learn**

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Activity 1: Sort the Animals!

Look at each animal. Decide if it is a vertebrate (has a spine) or invertebrate (no spine). Cut out the animal pictures on the next page and glue them into the correct column.

Sorting Table:

Vertebrate (Has a spine)	Invertebrate (No spine)

Bonus question: Choose one vertebrate and one invertebrate from your list. Draw them and label any body parts that help them move.

Animal Images (Cut and Paste)

🐕 Dog

🐍 Snake

🐟 Fish

🦜 Parrot

🐌 Snail

🐙 Octopus

🦀 Crab

🐝 Bee

🐸 Frog

🐢 Turtle

🕷 Spider

🐄 Cow

Image credit: Images from Britannica School

Name:

Activity 2: Science Activity: Classify Animals in Your Environment

Background

Scientists all around the world study animals by observing their characteristics. This includes things like whether they have a backbone, what their skin is like, and how they keep warm. When you look closely at animals around you, you can start to notice patterns too!

By asking a few simple questions, you can begin to sort animals into groups just like a scientist does. This helps you better understand the natural world and how different animals are connected.

Your Mission

You are a *young zoologist*! Your task is to choose three animals that live in your local environment. These could be animals you see in your backyard, park, zoo, or even on TV if they're common in your area.

You will research and record their features, then use what you've learned to classify them into groups using a branching diagram (we'll show you how!).

Step 1: Choose 3 Animals

Pick any animals that interest you or that you've seen before. For example:

- Magpie
- Blue-tongue lizard
- Possum
- Garden snail
- Green tree frog
- Koala
- Goldfish

Step 2: Research Their Features

Use books, trusted websites like Britannica School, or ask a teacher to help you answer these questions for each animal:

1. Does it have a backbone?
   (If yes, it's a vertebrate. If not, it's an invertebrate.)
2. Is it warm-blooded or cold-blooded?
   (Warm-blooded animals stay the same temperature. Cold-blooded animals change with the weather.)

3. What kind of body covering does it have?
    - Feathers
    - Fur or hair
    - Scales
    - Shell
    - Moist skin
    - None
4. How does it move?
    (Walk, fly, crawl, swim, jump?)
5. How does it have babies?
    (Lays eggs or gives birth to live young?)

Step 3: Fill In Your Table

Animal Name	Backbone	Warm or Cold-blooded?	Body Covering	Movement	Babies

Step 4: Make a Classification Diagram

Draw a branching diagram to show how you grouped the animals based on their features. Start by splitting them into vertebrates/invertebrates, then sort by body covering or temperature.

Extra Challenge:

- Compare your diagram with a friend. Did they sort their animals differently?
- What would happen if you added one more animal to your model?

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Quiz: Vertebrates, Invertebrates & Animal Classification

1. What is an animal?

- [ ] A kind of rock
- [ ] A living thing that can move and eat other organisms
- [ ] A type of tree
- [ ] A non-living thing found in water

2. Which of the following is an invertebrate?

- [ ] Cat
- [ ] Snake
- [ ] Bee
- [ ] Penguin

3. True or False:

All animals with a backbone are called vertebrates.

4. What are the two main groups that scientists use to classify animals?

_____ and _____

5. Which group do these animals belong to?

Write vertebrate or invertebrate next to each:

- Octopus: _____
- Kangaroo: _____
- Snail: _____
- Parrot _____

6. Which feature do all arthropods have?

- [ ] Fur and milk
- [ ] Gills and fins
- [ ] Jointed legs and an exoskeleton
- [ ] Feathers and wings

7. What body covering does a bird have?

- [ ] Fur
- [ ] Scales
- [ ] Feathers
- [ ] Shell

8. Name two cold-blooded animals:

1. _____
2. _____

9. Which group does a platypus belong to?

- [ ] Bird
- [ ] Reptile
- [ ] Amphibian
- [ ] Mammal

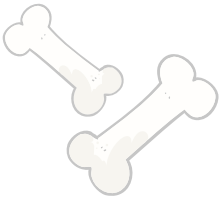
10. Why do scientists use branching diagrams?

_____

_____

Answer sheet

Activity 1 - Sorting Animals

Vertebrates	Invertebrates
 Dog Snake Fish Parrot Frog Turtle Cow	Snail Octopus Crab Bee Spider

Quiz - Vertebrates, Invertebrates & Animal Classification

1. What is an animal?

☑ A living thing that can move and eat other organisms

2. Which of the following is an invertebrate?

☑ Bee

3. True or False?

☑ True – All animals with a backbone are called vertebrates.

4. What are the two main groups that scientists use to classify animals?

☑ Vertebrates and Invertebrates

5. Which group do these animals belong to?

- Octopus: Invertebrate
- Kangaroo: Vertebrate
- Snail: Invertebrate
- Parrot: Vertebrate

6. Which feature do all arthropods have?

☑ Jointed legs and an exoskeleton

7. What body covering does a bird have?

☑ Feathers

8. Name two cold-blooded animals:

Examples include:

- Snake
- Fish
- Lizard
- Frog
- Shark

(Any two correct answers are acceptable)

9. Which group does a platypus belong to?

☑ Mammal

(Even though it lays eggs, it has fur and produces milk)

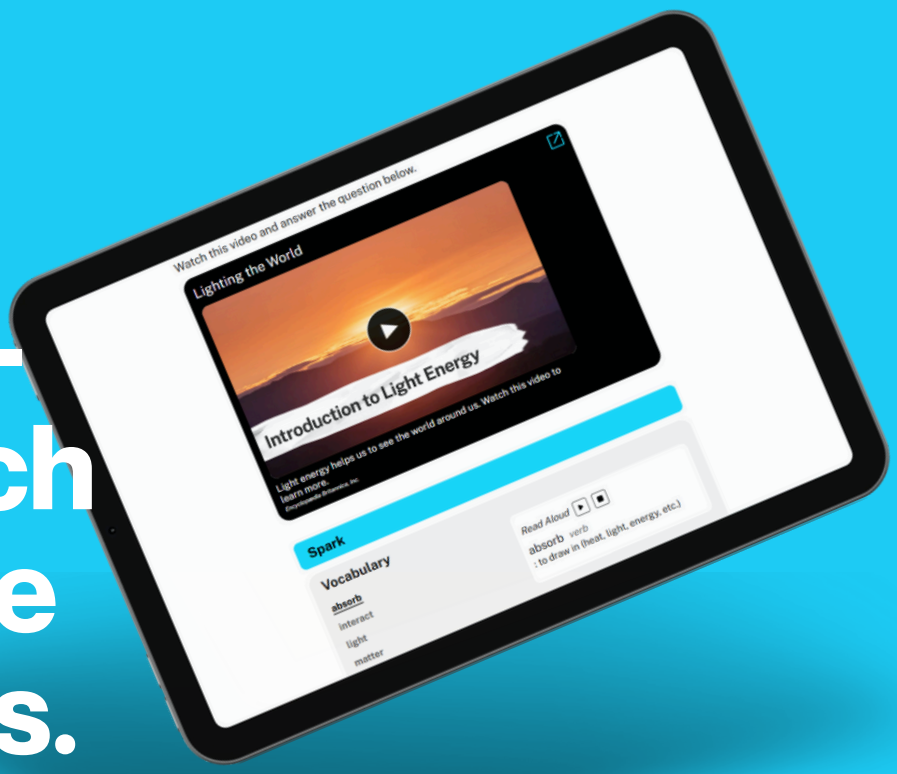
10. Why do scientists use branching diagrams?

☑ To help classify animals by their shared characteristics and to organise them into smaller groups that are easier to understand.

(Accept reasonable variations)

Britannica Expedition:LEARN!

Ready-to-teach science lessons.



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