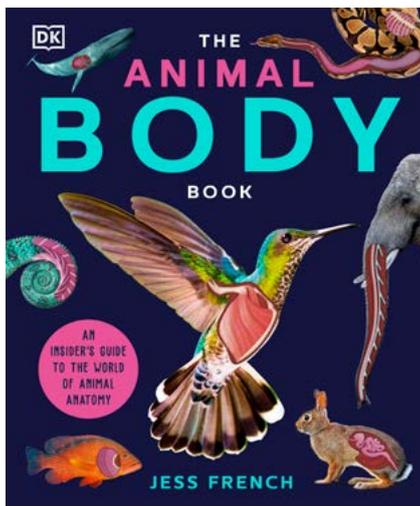


The animal body book

This is one of a series of activity sheets to use alongside the books which have been shortlisted for the Royal Society Young People's Book Prize 2025.



Each activity sheet contains ideas for activities to do with your pupils, provides information relating to careers, and has a maths focus to help pupils understand the importance of mathematics education across the curriculum.

Working with scientists

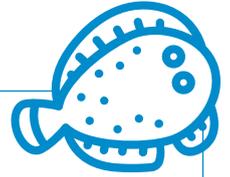
These investigations can be done as standalone activities or carried out as an in-depth sequence to develop pupils' disciplinary and substantive knowledge. The deeper learning and science capital development of your pupils could be made more memorable through collaboration with a scientist such as a biologist or an ecologist. You could do this by applying for a Royal Society Partnership Grant of up to £3,000. For more information, visit: royalsociety.org/grants

Museum of teeth

When we think of teeth, we typically think about chewing food with our pearly white incisors, molars, and canines so we can begin to digest food. However, pages 88 – 89 present us with a fascinating array of teeth with wildly different functions from across the animal kingdom, from venom-injecting snake fangs and orange-hued beaver teeth to prey-stunning narwhal tusks and the conveyor belt of serrated teeth inside a shark's monstrous mouth.

Challenge pupils to explore how teeth can have different jobs by researching animals with 'unusual' teeth to find out how their teeth are configured and what they are used for. Using coloured modelling clay or salt dough, pupils will then create a scaled model of an animal's distinctive teeth or tusks, shaping them to show special functions such as piercing, gripping, slicing, injecting or grinding. Pupils label the key features and write a short explanation of how the shape links to the animal's lifestyle and diet. Task a couple of pupils with modelling human teeth for comparison purposes. Finish with pupils comparing models to identify patterns between tooth shape and behaviour. The models would make an excellent 'Museum of Teeth' to showcase what they have discovered.





Digestive differences

The digestion section (starting on page 76) introduces us to some weird and wonderful digestive differences. Ask pupils to explore how some animals have strange stomachs or intriguing intestines by creating and comparing simple fact cards about a range of species. Working in groups, pupils sort the animals into categories based on features like number of stomach chambers or length of intestines. There are some suggestions in the list below of animals that will spark intrigue. Animals that pupils are more familiar with, such as cats and dogs, should also be included for comparison. Ensure pupils are familiar with the terminology carnivore, herbivore, and omnivore to support their scientific discussions and explanations.

Labelled diagrams or models can be created showing how an animal's digestive system is specially adapted to what it eats and how it lives. After sharing their work, pupils compare the animals to find patterns between digestive design and diet, for example, herbivores needing longer or more complex systems. Finally, they discuss how these adaptations help each animal survive in its particular environment.

Animals: rabbits • cows • snakes • whales • seahorses • hibernating bears • sea urchin • koalas • platypus • owls • chickens • sea anemone • coral • flamingos

Digestive differences: teeth • length of time to digest • feeding regularity • number of stomach chambers • length of intestines • specialised diets • gastrovascular cavity • crops and gizzards

Imbalanced bodies

On page 8 we learn most animals appear symmetrical on the outside, but this is not true for all animals. Some animals we may think are symmetrical at first glance, but closer observation reveals subtle differences; for example, a snail's shell spirals to one side, and some honey badgers have one more tooth on their left side than their right.

Provide images of symmetrical and asymmetrical animals for pupils to sort. They can decide their own initial sorting criteria before being asked to sort based on symmetry, identifying key features that make each example unusual. Include animals with bilateral (reflective) and radial (rotational) symmetry, to spark a more nuanced discussion.

Once images are sorted and discussed, pupils choose one asymmetrical animal and create a simple model or annotated drawing showing how its uneven body shape helps it survive. Ask pupils to compare their selected species to explore why asymmetry can be an advantage in certain environments but not in others and what this tells us about adaptation.

Some possible examples to explore:

- **fiddler crabs**—one oversized claw;
- **narwhals**—a single tusk on the left side;
- **flatfish**—both eyes on one side of the head;
- **owls**—one ear larger and higher than the other;
- **crossbill finches**—the tips of the upper and lower beaks cross over.

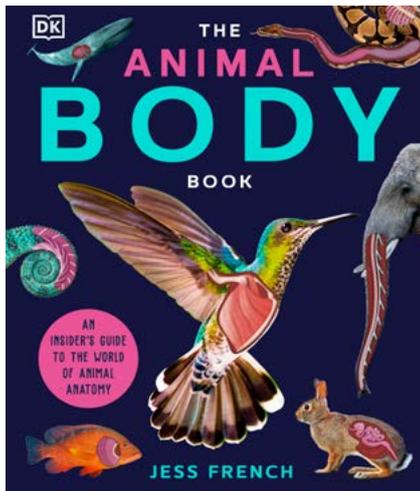
Career links

- **Anatomists** study the insides of living things, like bones, muscles, and organs. They learn how bodies are built and how all the parts work together. This helps doctors and scientists understand and take care of people and animals.
- **Veterinary surgeons**, or vets, take care of sick or injured animals. They give medicine, carry out operations, and help keep animals healthy. They also give advice to people on how to care for their pets or farm animals.
- **Zoologists** study animals and how they live in the wild or in captivity. They observe what animals eat, where they live, and how they behave. Their work helps protect animals and their habitats.



The animal body book

This is one of a series of activity sheets to use alongside the books which have been shortlisted for the Royal Society Young People's Book Prize 2025.



The animal body book is a fascinating journey inside the bodies of animals, revealing how skeletons, teeth, and digestion work. Packed with amazing facts, incredible illustrations, and stunning photographs, it shows how different creatures are perfectly designed for their lives. If you love discovering how animals live, eat, and move, this book will surprise and inspire you.

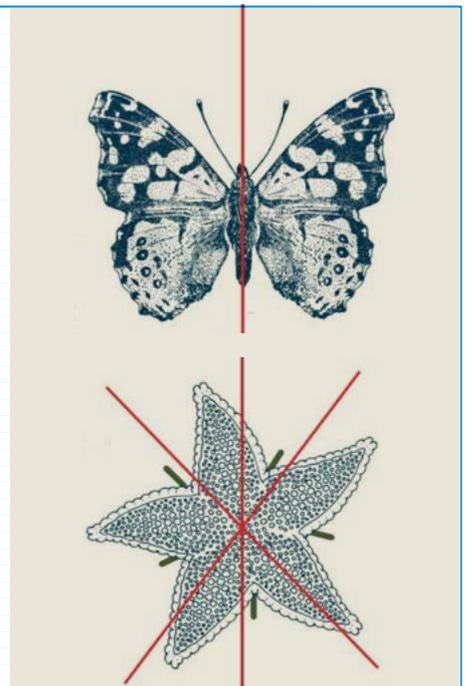
“I have been fascinated by animal bodies for as long as I can remember, from collecting dry, dusty bones I found on walks in the countryside to peering intently into my pets' mouths and ears to learn more about the way they worked.”

Mathematics challenge: Symmetry in nature

Following your Imbalanced bodies activity exploring asymmetrical animals in school, choose six animals to research at home. Your inspiration might be pets or wildlife, TV shows, reliable websites, library books, or your teacher might provide a photograph with a short fact file.

Fold a hand-drawn or printed picture of each animal down the middle to check if both sides match. If they do, this is an animal with bilateral (or reflected) symmetry. Can you find two or more animals with radial (or rotational) symmetry, such as starfish, sea anemones, or jellyfish? Draw them and mark the lines where they can be divided into matching sections.

Make a mini booklet showing all your examples clearly labelled with a few sentences about each to explain how each type of symmetry might help the animal survive. Add one question you're still curious about to share at school.





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Skeleton models

The skeletons chapter starting on page 18 showcases an incredible variety of vertebrate structures whose shapes are defined by their internal (and sometimes external) bone and cartilage frames. Choose an animal that captures your interest and build your own skeleton model using whatever materials you have. Pasta shapes, paper straws, rolled-up paper tubes, card, or modelling clay all work brilliantly. Your model can stand upright or lay flat, and you should aim to keep it accurate but simple.

Label the main bones, including the skull, spine, ribs, and limb bones, and add any special features your animal has, like wings, fins, or an extra-long backbone. Use books, safe online sources, or ask your teacher to print you a fact file to research a second animal and sketch its skeleton so you can compare it with your model. Make a short comparison table to show what is similar and what is different between the two skeletons. Explain how each skeleton helps the animal move and survive in its environment.

Tooth test

Choose three safe kitchen utensils, such as a fork, a blunt butter knife, and a potato masher, to represent different types of teeth (incisors, canines and molars). Pick three soft foods that you're allowed at home like apple slices, banana, and bread to test each 'mock tooth'. Try each utensil with each food and note whether it works best for piercing, slicing, tearing, or grinding. Record your results in a simple table and decide which animal tooth type each utensil behaves most like. Write a few sentences to explain which utensil was the best 'tooth' overall and what this tells you about how different animals eat. Include at least one example of a carnivore, a herbivore, and an omnivore.



Scientist profile

Jess French is a vet, naturalist, wildlife presenter, and award-winning author. She trained in veterinary medicine and spent years caring for animals of every shape and size, giving her a close-up view of how bodies work and why each species is uniquely designed for its environment. She loves sharing her knowledge about animals, from tiny insects to giant mammals.

Jess's passion is protecting wildlife and helping us understand the amazing biology behind the creatures we love. Her books help children explore how animals live, eat, and survive. She has a special interest in conservation and inspires young readers to observe, care for, and protect the natural world. Through her books and TV work, she shows that science isn't just facts, it's a way of exploring the world with curiosity and respect.

