YEAR 3: ANIMALS, INCLUDING HUMANS

LINKS TO NATIONAL CURRICULUM

- Identify that humans and some other animals have skeletons and muscles for support, protection and movement (Animals, including humans, Year 3).
- Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat (Animals, including humans, Year 3).

LEARNING OBJECTIVES

1. Why do humans, and some animals, have skeletons and muscles?
2. Why is it important that animals, including humans, get the right types and amounts of nutrition?

NOTES TO TEACHERS

- The lesson plans are not intended to be of equal length and can be amalgamated or split to suit timings.
- Activities given are suggestions only. The main purpose of the lesson plans and PowerPoint presentation is to provide key information and visual aids for teachers to adapt to their needs.
- The PowerPoint presentation runs alongside the plans and all slides are referred to in the lesson plans. Please feel free to modify the presentation by adding your own slides or deleting those you don't need.

1. WHY DO HUMANS, AND SOME ANIMALS, HAVE SKELETONS AND MUSCLES?

SUGGESTED STARTER ACTIVITY

Life Sized Body Outline

Make a life-sized outline of a Year 3 child. Or the children could make them in groups, drawing around one of the children on a large sheet of paper and cutting around the outline! Ask them to add and label as many body parts as they can to their outline, trying to put them in the correct positions.

Hopefully someone will mention bones and a skeleton or you may need to prompt them. Ask them why we need a skeleton and what would happen if we didn't have one? Ask the children to hold up their paper outlines and drop them - our bodies would flop like this if we didn't have a skeleton. What do the children already know about skeletons? What bones can they feel on their own bodies?

TEACHER INPUT

Vertebrates

Animals that have a skeleton inside their body with a spine (backbone) and bones are called vertebrates. They include all mammals, birds, reptiles, amphibians and fish.

Slide 4: Our skeletons are made of bones and they grow as we grow. Ask the children to look at the slide of the human skeleton - can they feel these bones on their own bodies?

Slide 5: A skeleton does 3 very important things:

1. Support (**slide 6**) - holds our bodies up.
2. Protection (**slide 7**) - provides a protective cage for the delicate organs inside our bodies.
3. Movement (**slide 8**) - allows us to move. Our skeletons are made up of 206 separate bones; this allows us to move properly. For example, instead of one long rigid backbone, our backbone is made up of lots of smaller bones that are held together but allow us to bend and touch our toes.

Slides 9-10: An x-ray is a special photograph that allows us to see all the bones inside our bodies.

Slide 11: Joints are where 2 or more bones join together and they allow the skeleton to bend e.g. knees and ankles. How many joints can the children find on their own bodies?

Slide 12: Ask the children to think about their feet! How many bones and joints do they think they have in each foot? The answer will appear on the second click.

Slide 13-14: We also have muscles in our bodies, attached to the ends of our bones, that help us move our limbs - ask the children to look at their upper arms and see how their muscles move as they lift their lower arm up and down. Without muscles we would not be able to move our bones or hold up our skeleton.

If possible, use a human skeleton model to show children the bones, point out where the muscles attach and where bones move against one another at joints.

Slides 15-19: Animals have very different bodies and ways of moving around - some walk on four legs, some have no legs etc. Their skeletons are adapted to their lives and the environments they live in. The children could list the different methods animals use to get around. Can they think of an animal for each method of moving?

Invertebrates

Not all animals that move have skeletons inside their bodies - animals without a spine or internal skeleton are called invertebrates and this includes all minibeasts.

Invertebrates with an exoskeleton

Slide 20: Some animals, such as insects, crabs and lobsters have a skeleton outside their body. Such skeletons are called exoskeletons - they are a tough coating or casing worn on the outside of the body. They often look like shells and have 3 uses, just as a vertebrate's skeleton (endoskeleton) does:

- to protect softer insides (like a suit of armour).
- to give structural support to organs and muscles.
- to allow movement of limbs.

Slide 21: Exoskeletons do not grow with the animal (as our skeletons do), so most need to shed their exoskeleton as they grow too large for it. They will then emerge with a new one - rather like a new set of clothes!

Invertebrates with no exoskeleton

Slide 22-23: Some minibeasts are soft and have no exoskeleton e.g. slugs, worms, leeches and jellyfish. They all have muscles on their bodies to help them move, but their movement is limited in comparison with those animals that have a skeleton.

SUGGESTED ACTIVITIES

Sorting Activity (pages 5-7)

Can the children divide the animal cards into 3 groups: vertebrates, invertebrates with an exoskeleton, invertebrates with no exoskeleton.

Body Outline Update

Children could turn their body outlines over and update them with labels and information, using their new knowledge.

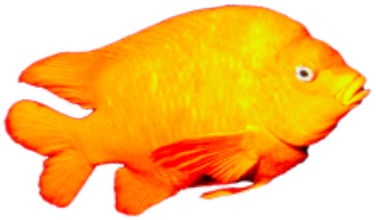
X-ray Experience

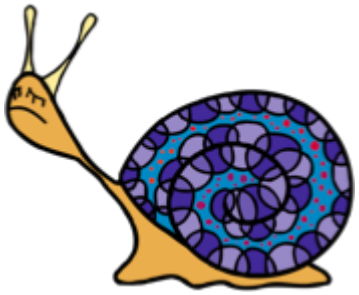
Have any of the children ever broken a bone? Did they have to have an Xray? They could write about their experience or share it with the class.

Imaginative Writing: Life Without a Skeleton (link to Literacy)

Ask the children to imagine that they wake up one morning without their skeleton. What happens and what difficulties do they have e.g. cannot stand straight, no joints to help them move, organs unprotected etc.

ANIMAL SORTING ACTIVITY

2. WHY IS IT IMPORTANT THAT ANIMALS, INCLUDING HUMANS, GET THE RIGHT TYPES & AMOUNTS OF NUTRITION?

SUGGESTED STARTER ACTIVITIES

Animal Eaters Revision Crossword (see page 12)

Children will probably have started to look at animal nutrition and diet at Key Stage 1. Completing this crossword should remind them of what they have already learnt and give an opportunity for a recap.

What Have I Eaten?

Ask the children to write down what they ate for breakfast that morning or for their meal the evening before. Do they know what food groups the different foods they ate belong to? Do they think it was a healthy meal and why?

Pet Nutrition

If children have pets at home, can they make an instruction sheet explaining what and how often their pet needs to be fed.

TEACHER INPUT

Plants can make their own food. But animals, including humans, cannot make their own food, so they get nutrition from what they eat. A healthy diet gives animals energy, enables them to grow and helps them to recover from illness. Different animals eat different types and amounts of food. If an animal eats the wrong type of food or does not get the right amount, it will not get the nutrition it needs and will become unhealthy.

Human Diet

How well we eat will determine how well our bodies work and can affect how long we live. The human body needs a balanced diet to work properly. This means eating the right amount of food from the 4 main food groups, each of which performs a specific function for our bodies:

- Carbohydrates (**slide 25**) - give us energy. They make up about a third of the food we eat and are mainly found in starchy foods such as bread, pasta, rice, potatoes and cereals.
- Proteins (**slide 26**) - help our bodies to repair themselves and build muscles. They are found in foods such as fish, meat, nuts, seeds, beans, eggs and cheese.

- Fats (**slide 27**) - give our bodies energy that can be stored and provide a fat layer under our skin to keep us warm. Found in foods such as butter, cheese, fried foods, cakes, biscuits etc.
- Vitamins and minerals (**slide 28**) - help with many vital jobs around our bodies e.g. healing wounds, building strong bones and teeth, making blood and keeping our brain working. Found in foods such as fruits, vegetables, fish and milk.

It is important that each of these food groups is eaten in the correct proportion, in order to remain healthy. Whilst a small amount of fat is important for health, eating too much fat is unhealthy and can cause some serious health problems.

Slide 29: Most food products we buy now have labels that give us important nutritional information. The traffic light labelling system makes it easier to understand what we are eating. These labels tell you at a glance if a product has high (red), medium (amber) or low (green) amounts of fat, saturates, sugars and salt.

Animal Diets

All animals, whether living in the wild, in captivity (zoos/wildlife parks/farms) or in our homes, need to eat to survive. Just as with humans, animals need nutrition to give them energy to move and to enable them to grow. If an animal doesn't get the right amount or type of food, it can become ill and die.

Different animals need very different diets and can be grouped according to what they eat:

Omnivores **(slide 30)** e.g. pigs, hedgehogs, chickens, humans - get energy and nutrients from eating other animals and plant matter. As there is such a large variety of food options, omnivores hunt and scavenge for food in their environment.

Carnivores **(slide 31)** e.g. lion, toad, snake, owl - eat meat to get calories and energy to survive. Meat is a high energy food source. Carnivores find food through hunting and scavenging. Their bodies are often adapted for hunting with big claws, sharp teeth or beaks and the ability to move at speed (whether on land, in the sea or in the sky).

Herbivores **(slide 32)** e.g. horse, rabbit, zebra, gorilla - only eat plants to get energy and nutrients. Most eat the leaves and fruits of plants as they tend to

be the most nutritious. Herbivores have specialised digestive systems, as plant matter is very hard to break down into energy.
Slide 33: Herbivores often graze for long periods throughout the day, so that they can get as much energy as possible.

Slide 34: By looking at the shape of the jaws and teeth of animals you can often see if they are carnivores, herbivores or omnivores.

Slides 35/36: Animals use a range of techniques to obtain their food and then eat it. Some animals have special skills or body parts to allow them to catch and eat their food. Can the children think of different adaptations that animals have to eat their food?

Slides 37/38 : Discuss the kinds of animals that children have as pets and the kind of foods they eat. Make sure children realise that the animals we keep as pets used to live in the wild. We often feed our pets special pet food designed to ensure they get the correct nutrition, but this is different to the food they would eat in the wild.

SUGGESTED ACTIVITIES

A Balanced Meal (link with Design and Technology)

Ask the children to create a menu for a meal they would like to eat. It must contain foods from each of the main food types and in the correct proportions (e.g. not too much fat). It should include a main course, pudding and a drink. They could then swap menus with a partner and they can score each other's menus according to how balanced and healthy they are.
Extended task: can they prepare a vegetarian menu that is well balanced?

A Healthy Lunch Box (link with Design and Technology)

Can the children plan the contents of a healthy lunch box? Which food groups do the contents come from? Are they from plants or animals?

Research Task

Can the children research the problems caused by humans not having a healthy and balanced diet? This could include the following problems:

- Not enough food
- Too much fat
- Not enough protein
- Not enough vitamins and minerals

Food Packaging

Ask the children to collect food packaging for a range of foods. Look at the food groups listed on the packaging. You may wish to carry out a comparison e.g. the amount of sugars found in different products.

Eating Healthily Poster

Ask children to devise a poster that will help people make their diet healthier. It could include the following suggestions:

- Eat wholegrain varieties of bread, pasta, cereals etc.
- Try to eat 5 portions of fruit and vegetables every day.
- Eat lower fat milk and dairy products
- Cut down on sugary and fatty foods such as cakes, biscuits and sugary soft drinks.

Pets Diet Comparison

The children could compare and contrast the diets of all the pets owned by the class. They will need to think about how they display their results. Can they group the pets into omnivores, carnivores and herbivores?

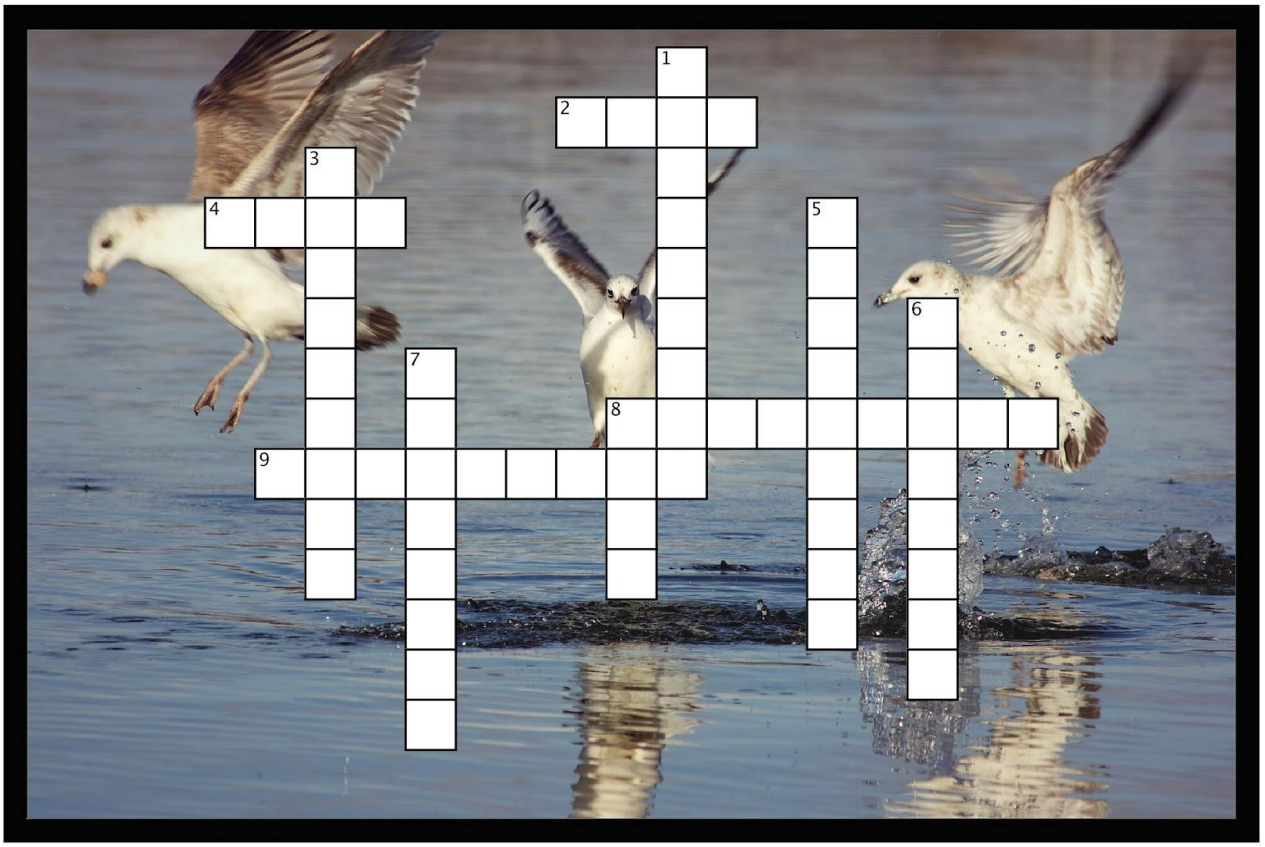
Zoo Study

Using zoo websites, the children could create a factfile of animal diets. The results could be entered into a table (animal, type of animal, diet etc).

We value your feedback!

Let us know what you thought of this lesson plan by completing this Google Form https://forms.gle/cGAwi9AWXfSZgrYa9. Thank you!

ANIMAL EATERS



Across

2. What word do we use to describe what an animal eats?
4. What do all animals need to give them energy?
8. Plants can make their own food, so what are they?
9. What do we call an animal that only eats meat?

Down

1. What do we call an animal that only eats plants?
3. What is the name we give to a diagram that shows how animals eat the plants and other animals around them?
5. Animals cannot make their own food and have to eat plants and other animals, so what are they?
6. What do we call an animal that lives by killing and eating other animals?
7. What do we call an animal that eats both plant matter and other animals?
8. What do we call an animal that is eaten by another animal?