

Willerby Carr Lane Primary School - Science

Topic: Animals including Humans

Year: 3

Strand: Biology

What should I already know?

- What people need to be healthy (including food, water and sleep)
- The names of the body parts (including head, arms, hands, legs etc)
- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
- Identify, name, draw and label the parts of the human body (including ear lobe, nostril, armpit etc) and say which part of the body is associated with each sense
- Identify how animals, including humans, have offspring which grow into adults
- The basic needs of animals, including humans, for survival (water, food and air)
- The importance for humans of exercise, eating the right amounts of different types of food, and hygiene

What will I know by the end of the unit?

<p>What are nutrients and why do we need them?</p>	<ul style="list-style-type: none"> • Animals get nutrition from what they eat • There are 6 essential nutrients that the body needs to function properly: carbohydrates, fats, proteins, vitamins, minerals, water • Nutrients are compounds in foods essential to life and health, providing us with energy and the building blocks for repair and growth. • Animals cannot make their own food • Animals need a balance of the right type of nutrients • Animals can be grouped by their diet
<p>Why do some animals and humans have skeletons and how do they move?</p>	<ul style="list-style-type: none"> • Skeletons provide support and protection • Muscles enable us to move. Muscles work by pulling. • Humans and some other animals have endoskeletons • Some animals have exoskeletons for protection • Ball and socket, hinge and gliding joints allow bones to move in different ways

Vocabulary

ball and socket joints	ball and socket joints allow the most freedom of movement
bicep	the large muscle at the front of the upper arm that bends the elbow.
carbohydrates	foods that give you energy, ie bread, pasta, potatoes
clavicle	(collarbone) bones joining the breastbone and the shoulder blades; collarbone
contract	to make smaller by making tighter
cranium	the bony structure that forms the head the cranium and mandible are part of the skull
endoskeleton	skeletons that are in the interior of the body; as the animal grows, so does their skeleton vertebrates have endoskeletons examples include humans, elephants and dogs
exoskeleton	skeletons are on the exterior of the body; exoskeletons do not grow with the animal therefore the animal has to shed its skeleton to produce a new one. Invertebrates have exoskeletons examples include spiders, lobsters and crabs
fats	foods that give you energy however should be eaten in moderation, ie butter, nuts, oils
femur	the thigh bone. The femur is the strongest bone in the human body
fibre	foods that help you to digest foods that have been eaten, ie cereal, apples, wholegrain breads
gliding joints	gliding joints are also known as 'plane' joints the bones are shaped to glide over one another and allow for small limited movements in different directions
hinge joints	hinge joints allow flex and extend movements
humerus	upper arm bone
hydrostatic skeleton	animals with hydrostatic skeletons don't actually have skeletons instead, they have a fluid-filled compartment in the body called a coelom examples include starfish, jellyfish and slugs
mandible	scientific name for the jaw bone (the largest and strongest bone in the face) the cranium and mandible are part of the skull
minerals	foods that help to keep your body healthy, ie milk, spinach, sweetcorn

muscle	muscles are made up of the different types of cells within a body that form to make muscle tissue
nutrients	substances that provide nourishments (foods) with the essentials for the maintenance of life and growth there are seven types of nutrients however most foods contain more than one type, ie cereal is high in fibre, carbohydrates and vitamins
obesity	the state of being highly overweight
pelvis	structure formed by the hipbones and other bones near the base of the spinal column
protein	foods that help your body to grow and repair itself, ie red meat, fish, beans
radius and ulna	the two bones that make up the lower arm
ribs	one of the set of bones that curve from the spine around the chest
saturated fat	foods that eaten in small amounts, can help keep parts of the body, such as the

	brain, liver and lungs, healthy however, too much can cause health problems, such as obesity and heart problems
skeleton	the structure of bones within animals, including humans
sternum	the flat bone to which most of the ribs are attached in the front of the chest
tibia and fibula	the two bones that make up the lower leg
tricep	a large muscle on the back of the upper arm that straightens the elbow
unsaturated fat	the 'better' fats that help give you energy, vitamins and minerals and help to keep your heart healthy
vitamins	foods that help to keep your body healthy, ie oranges, carrots, beef
water	water helps to move nutrients in your body and get rid of waste that is not needed water also includes foods that are high in water, ie tomatoes, cucumber, lettuce

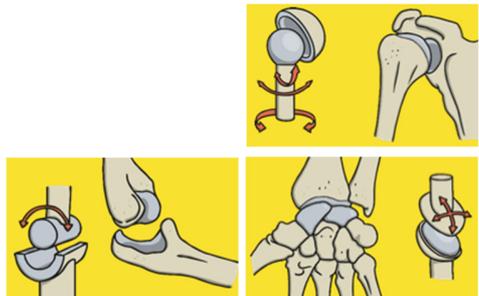
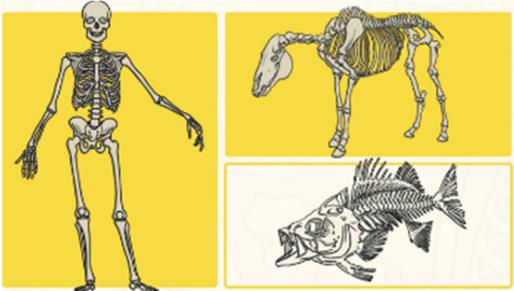
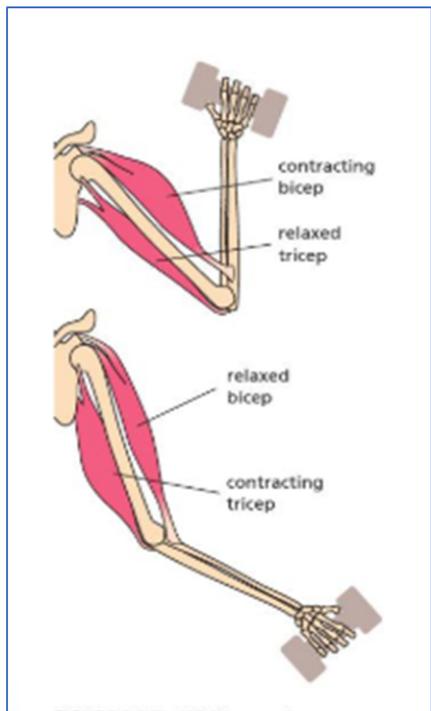
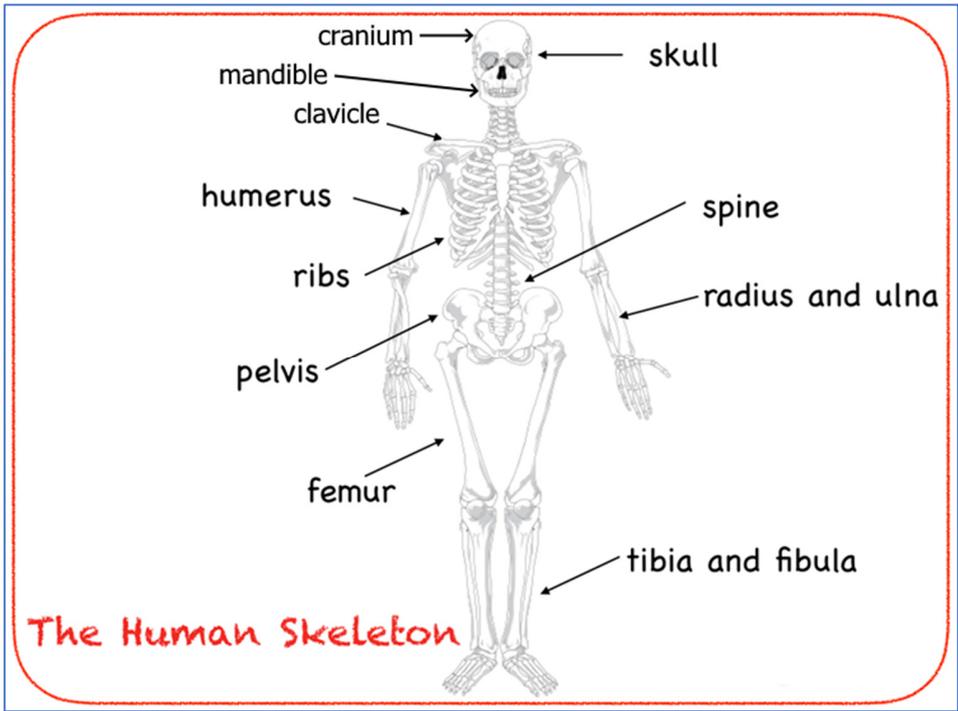
Investigate!

- Feel, touch and describe the bones within our own bodies, including investigating the replica of a skeleton
- Examine x-rays
- Make models of levers with 'muscles' to move them
- Explore how muscles work by exercising correcting on the outdoor gym equipment/by using resistance bands

Common misconceptions

Some children may think:

- certain whole food groups like fats are 'bad' for you
- certain specific foods, like cheese are also 'bad' for you
- diet and fruit drinks are 'good' for you
- snakes are similar to worms, so they must also be invertebrates
- invertebrates have no form of skeleton.



The Food Pyramid

For adults, teenagers and children aged five and over

Not needed for good health

Foods and drinks high in fat, sugar and salt



NOT every day

Most people consume snacks high in fat, sugar and salt and sugar sweetened drinks up to 6 times a day (Healthy Ireland Survey 2016). There are no recommended servings for Top Shelf foods and drinks because they are not needed for good health.

Needed for good health. Enjoy a variety every day.

Fats, spreads and oils



In very small amounts

Use as little as possible. Choose mono or polyunsaturated reduced-fat or light spreads. Choose rapeseed, olive, canola, sunflower or corn oils. Limit mayonnaise, coleslaw and salad dressings as they also contain oil. Always cook with as little fat or oil as possible – grilling, oven-baking, steaming, boiling or stir-frying.

Meat, poultry, fish, eggs, beans and nuts



2 Servings a day

Choose lean meat, poultry (without skin) and fish. Eat oily fish up to twice a week. Choose eggs, beans and nuts. Limit processed salty meats such as sausages, bacon and ham.

Milk, yogurt and cheese



3 Servings a day

Choose reduced-fat or low-fat varieties. Choose low-fat milk and yogurt more often than cheese. Enjoy cheese in small amounts. Women who are pregnant or breastfeeding need 3 servings a day.

Wholemeal cereals and breads, potatoes, pasta and rice



3-5 Servings a day

Up to 7* for teenage boys and men age 19-50. Wholemeal and wholegrain cereals are best. Enjoy at each meal. The number of servings depends on age, size, if you are a man or a woman and on activity levels. Watch your serving size and use the Daily Servings Guide below.*

Vegetables, salad and fruit



5-7 Servings a day

Base your meals on these and enjoy a variety of colours. More is better. Limit fruit juice to unsweetened, once a day.

*Daily Servings Guide – wholemeal cereals and breads, potatoes, pasta and rice

Active	Child (5-12)	Teenager (13-18)	Adult (19-50)	Adult (51+)	Inactive	Teenager (13-18)	Adult (19-50)	Adult (51+)
♂	3-4	4	4-5	3-4	♂	3	3-4	3
♀	3-5	5-7	5-7	4-5	♀	4-5	4-6	4

There is no guideline for inactive children as it is essential that all children are active.

Serving size guide

- Cereals, cooked rice and pasta, and vegetables, salad and fruit**
Use a 200ml disposable plastic cup to guide serving size.
- Cheese**
Use two thumbs, width and depth to guide serving size.
- Meat, poultry, fish**
The palm of the hand, width and depth without fingers and thumbs, shows how much you need in a day.
- Reduced-fat spread**
Portion packs found in cafes can guide the amount you use. One pack should be enough for two slices of bread.
- Oils**
Use one teaspoon of oil per person when cooking or in salads.

Average daily calorie needs for all foods and drinks for adults

♂ Active	2000kcal	♂ Inactive	1800kcal	♀ Active	2500kcal	♀ Inactive	2000kcal
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Source: Department of Health, December 2016.



Eatwell Guide

Check the label on packaged foods. Each serving (100g) contains: Energy 250, Fat 10g, Carbohydrate 35g, Protein 10g. Typical values for adults per 100g (kcal/100kcal). Choose foods lower in fat, salt and sugars.

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Water, lower fat milk, lower-sugar drinks including tea and coffee all count. Limit fruit juice and other sweetened drinks to a total of 150ml a day.

Per day: 2000kcal (♂), 2500kcal (♀) = ALL FOOD + ALL DRINKS