Jeavons Wood Primary School – Science Knowledge Organiser

Topic: Animals including Humans	**Year: 3**	**Strand: Biology**

Big Question: How do I keep my body healthy?

What should I already know?

- All animals need water, air and food to survive.
- The different ways in which humans can be healthy.
- Examples of healthy and unhealthy food choices

What will I know by the end of the unit?

- Humans cannot make their own food like plants do - we need to eat plants and animals to get our energy.
- Healthy, balanced diets lead to healthy, active people.

What are the different food types?	• Fruit and vegetables • Bread, rice, potatoes, pasta and other starchy foods. • Milk and dairy • Oils and spreads • Meat, fish, eggs, beans and other non-dairy sources of protein.
What are the different types of nutrients?	Protein • help your body to grow and repair itself • examples include red meat, yogurt, beans Carbohydrates • give you energy • examples include bread, potatoes, pasta Fats • give you energy • examples include nuts, oils, avocados Vitamins • keep your body healthy • examples of foods high in vitamins include oranges, carrots and nuts Minerals • keep your body healthy • examples of foods high in vitamins include milk, sweetcorn, spinach Fibre • helps you to digest the food that you have eaten • examples of foods high in fibre include wholegrain bread, cereals and lentils Water • helps to move nutrients in your body and get rid of waste that you don't need • examples of foods high in water include celery, cucumber, tomatoes

Vocabulary

balanced diet	a variety of food that you regularly eat
diet	the type and range of food that you regularly eat
disease	an illness which affects people, animals, or plants
energy	the ability and strength to do physical things
healthy	well and not suffering from any illness
hygiene	keeping yourself and your surroundings clean, especially in order to prevent illness or the spread of diseases
nutrients	substances that help plants and animals to grow
nutrition	the process of taking food into the body and absorbing the nutrients in those foods
starchy	foods that contain a lot of starch (a nutrient which gives you energy)

Investigate!

- Compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat.
- Research how different foods contribute to a varied diet.
- Design meals based on your research.
- Learn about how to prepare food hygienically.
- Prepare a presentation about the benefits of healthy eating.
- Write a persuasive advert for healthy foods.
- Know that some people keep different diets for medical, religious and ethical reasons.
- Describe what happens if one part is missing from a balanced diet and how some groups of people (e.g. vegetarians) may compensate for that.
- Identify and group animals with and without skeletons and compare the ways in which they move.
- Match animals to their skeletons and explain your reasons for this.
- Explore ideas about what would happen if humans did not have skeletons.
- Identify which bones are used for support (e.g. backbone), which are used for protection (e.g. cranium) and which are used for movement (e.g. joints)
- Create a presentation to show how muscles contract and relax.
- Compare the size of straight arms and bent arms. Measure around the top of an arm when it is straight and when it is bent . What do you notice?

Diagrams

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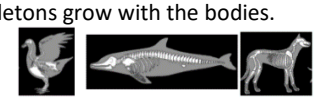
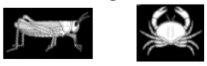
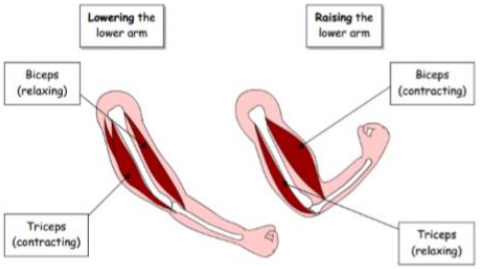
Big Question: How do I keep my body healthy?

What should I already know?

*The parts of the human body and what they do.
*There are five types of vertebrates (mammals, fish, reptiles, amphibians, birds)
*Vertebrates are animals that have a backbone.
*Invertebrates are animals that do not have a backbone.
*All animals need water, air and food to survive.
*The different ways in which humans can be healthy.

What will I know by the end of the unit?

What are the different types of skeletons?	*Vertebrates are animals that have a backbone. These skeletons are called endoskeletons - this means that the skeletons are on the inside of the bodies. These skeletons grow with the bodies.  *When the skeleton exists outside the body, it is called an exoskeleton. An exoskeleton is a covering that supports and protects animals. These have to be shed and a new skeleton is grown 
What does an endoskeleton do?	The three most important things a skeleton does are: *provide support and shape to an animal's body *allow movement through the joints *protect organs (e.g. the skull protects the brain)
How do we move?	*Joints are where bones meet - they allow our bodies to move. *Muscles contract and relax. *If you place an elbow on a desk and lift your arm up, muscles in your upper arm (biceps) contract while muscles behind the upper arm (triceps) relax. The muscles work together and in opposition to allow your arm to move. *Muscles are connected to bones by tendons
Muscles	

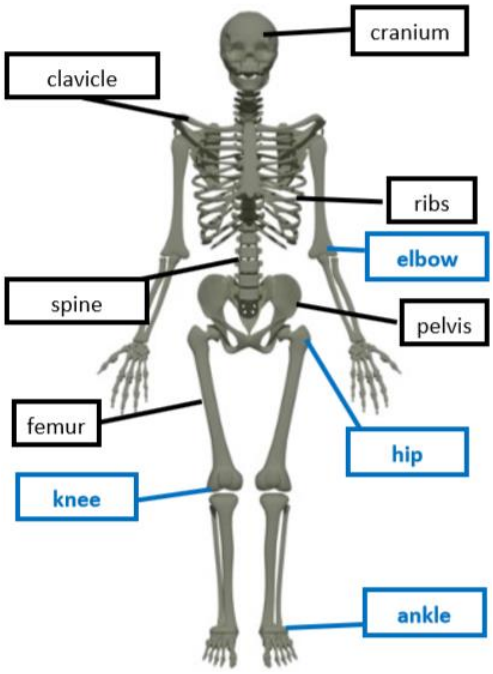
Where will my learning go next?

In Year 4: Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions. Construct and interpret a variety of food chains, identifying producers, predators and prey.

In Year 5: Describe the changes as humans develop to old age.

In Year 6: Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.

Diagrams



Vocabulary

backbone	the column of small linked bones down the middle of your back . Also known as a spine.
bones	the hard parts inside your body which form your skeleton
contract	to make smaller by drawing together; shrink or make tighter.
elbow	the bend or joint between the upper arm and the lower arm
endoskeleton	the internal skeleton of an animal, especially the bony skeleton of vertebrates
exoskeleton	the protective or supporting structure covering the outside of the body of many animals
joints	the junction between two or more bones
muscles	something inside your body which connects two bones and which you use when you make a movement
organ	a part of your body that has a particular purpose
protect	protecting someone or something means to prevent them from being harmed or damaged
relax	When a part of your body relaxes, or when you relax it, it becomes less stiff or firm
skeleton	the framework of bones in your body
support	to hold something up
tendons	a strong cord in a person's or animal's body which joins a muscle to a bone
vertebrate	a creature which has a spine

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Question 2: Which part of the skeleton protects the brain?	Start of unit:	End of unit:
skeleton		
head		
cranium		
ribs		

Question 3: Which part of the skeleton protects the heart and lungs?	Start of unit:	End of unit:
chest		
ribs		
cranium		
spine		

Question 4: What does the prefix **exo-** tell us about exoskeletons?	Start of unit:	End of unit:

Question 5: What connects a muscle to a bone?	Start of unit:	End of unit:
skeleton		
tendon		
joint		
blood		

Question 6: What is the purpose of a skeleton?	Start of unit:	End of unit:
protect our organs		
scare us		
keep us upright		
allows us to move		

Question 7: All animals that have a backbone are called...	Start of unit:	End of unit:
vertebrates		
invertebrates		

Question 1: What is the best for people to help have healthy diets?	Start of unit:	End of unit:
not eat sugary foods		
eat a variety of foods		
not eat foods that contain fat or oil		
eat only fruit		

Question 2: Give one **other** way of keeping healthy other than eating a balanced diet.	Start of unit:	End of unit:

Question 3: Write T or F next to each of these statements to indicate if they are true or false.	Start of unit:	End of unit:
having a balanced diet will help my bones get stronger		
having a balanced diet will help give me the nutrients I need		
having a balanced diet means I do not need to exercise		
I must not eat any sweets if to have a balanced diet.		

Question 4: Give an example of a food high in water.	Start of unit:	End of unit: