

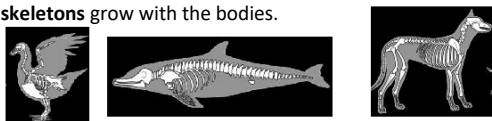
What should I already know?

- 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.



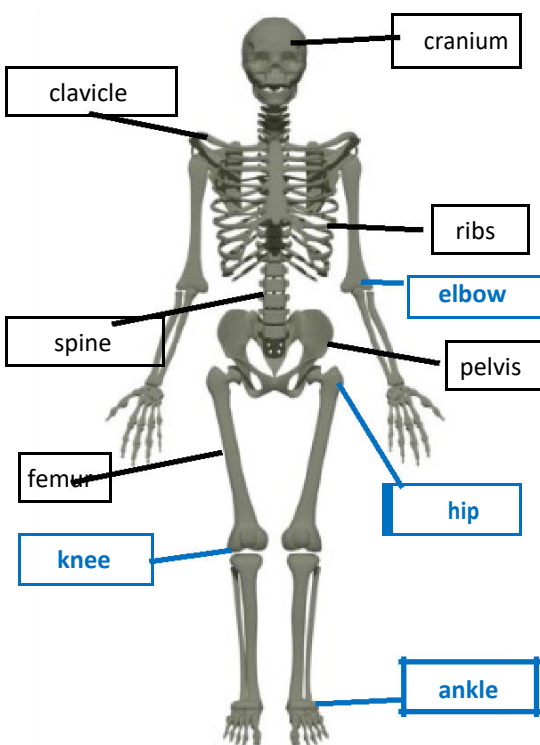
What does an endoskeleton do?

- 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**.

The Human Skeleton



bones

joints

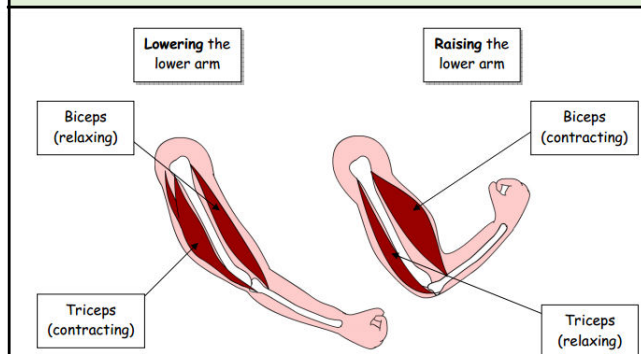
Investigate!

- 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?

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 |
| organs | 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 |

Muscles



Elsecar Holy Trinity - Science

Topic: Animals including humans (Skeletons)

Year 3

Strand: Biology

| Question 1: Match the words to their meanings. | Start of unit: | End of unit: |
|--|----------------|--------------|
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 15%;">skeleton</div> <div style="border: 1px solid black; padding: 5px; width: 45%;">the hard parts inside your body which form your skeleton</div> </div> | | |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 15%;">joint</div> <div style="border: 1px solid black; padding: 5px; width: 45%;">something inside your body which connects two bones and which you use when you make a movement</div> </div> | | |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 15%;">muscle</div> <div style="border: 1px solid black; padding: 5px; width: 45%;">the framework of bones in your body</div> </div> | | |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 15%;">bone</div> <div style="border: 1px solid black; padding: 5px; width: 45%;">the junction between two or more bones</div> </div> | | |

| 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 | | |

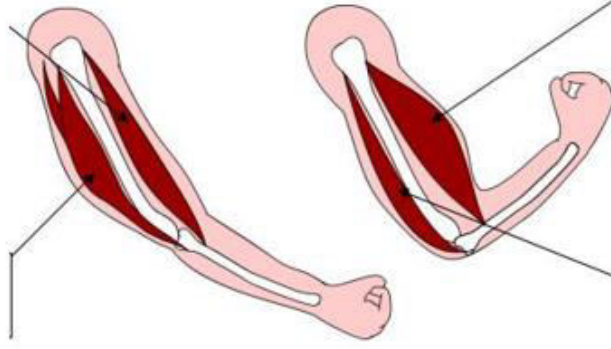
| Question 4: What does the prefix exo- tell us about exoskeletons? | Start of unit: | End of unit: |
|--|----------------|--------------|
| | | |

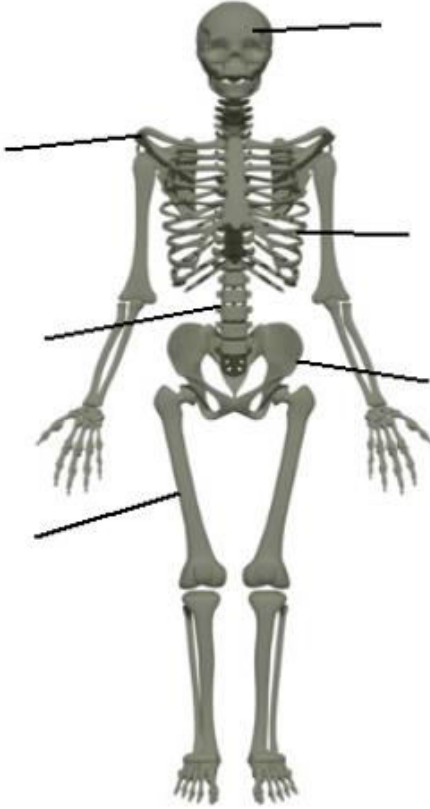
| Question 5: What connects a muscle to a bone? | Start of unit: | End of unit: |
|---|----------------|--------------|
| skeleton | | |
| tendon | | |
| joint | | |
| blood | | |

| 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 8: Describe something that might happen if we did not have a skeleton. | Start of unit: | End of unit: |
|---|----------------|--------------|
| | | |

| | | |
|---|-----------------------|---------------------|
| <p>Question 9: Complete the labels on muscles to show if they are contracting or relaxing. Write a sentence underneath the diagram to explain how our muscles help us move.</p> | <p>Start of unit:</p> | <p>End of unit:</p> |
|  | | |

| | | |
|--|-----------------------|---------------------|
| <p>Question 10: Complete the labels on the skeleton so that they have been named correctly</p> | <p>Start of unit:</p> | <p>End of unit:</p> |
|  | | |

