



Science

Animals Including Humans

Types of Skeletons



Aim

- I can sort animals based on their skeletons.

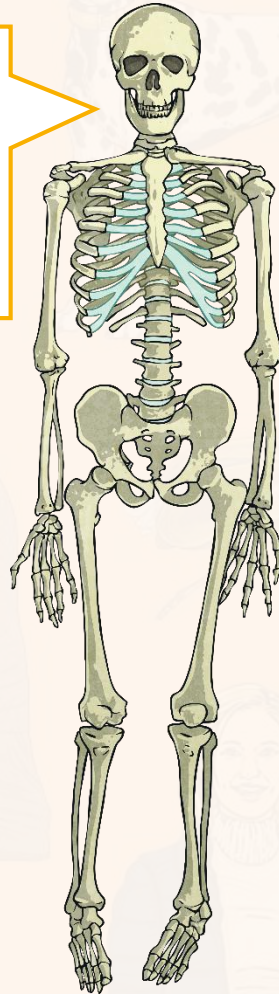
Success Criteria

- I can name the three different types of skeletons.
- I can explain the pros and cons of different types of skeletons.

Skeleton



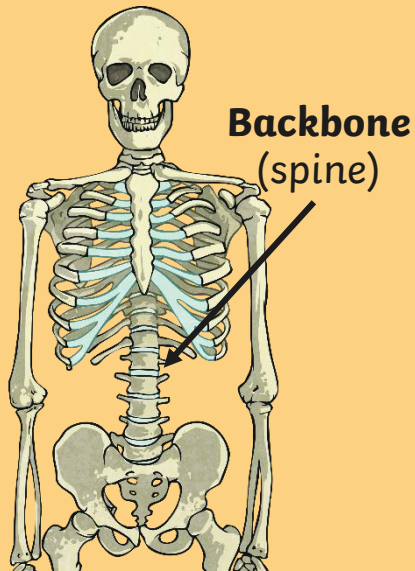
What do you
associate with
the word
skeleton?



Vertebrates and Invertebrates

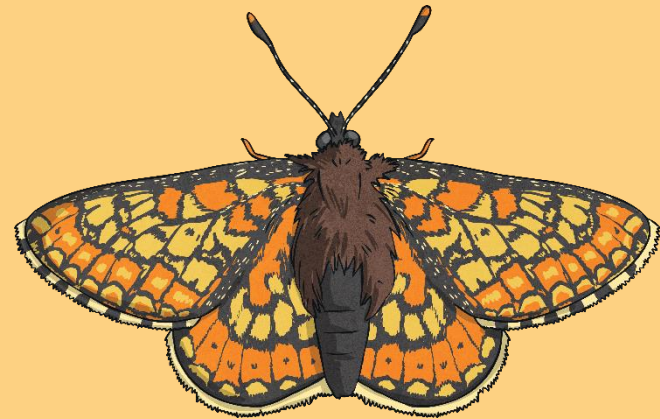
The difference between vertebrates and invertebrates is simple!

Vertebrates have a backbone (spine)...



vertebrate

...and invertebrates don't



invertebrate

Now let's see if you can categorise animals as vertebrates or invertebrates.

Vertebrate or Invertebrate Quiz!



Dog



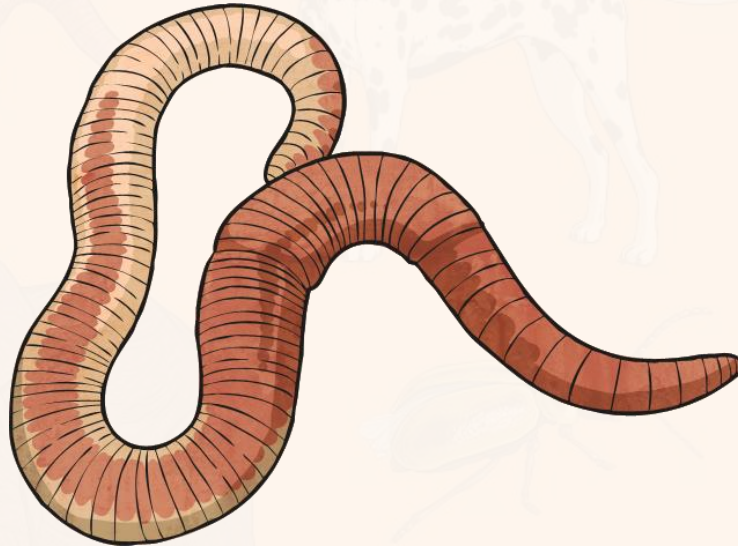
Vertebrate

or



Invertebrate

Worm



Vertebrate

or



Invertebrate

Dinosaur



Vertebrate

or



Invertebrate

Human



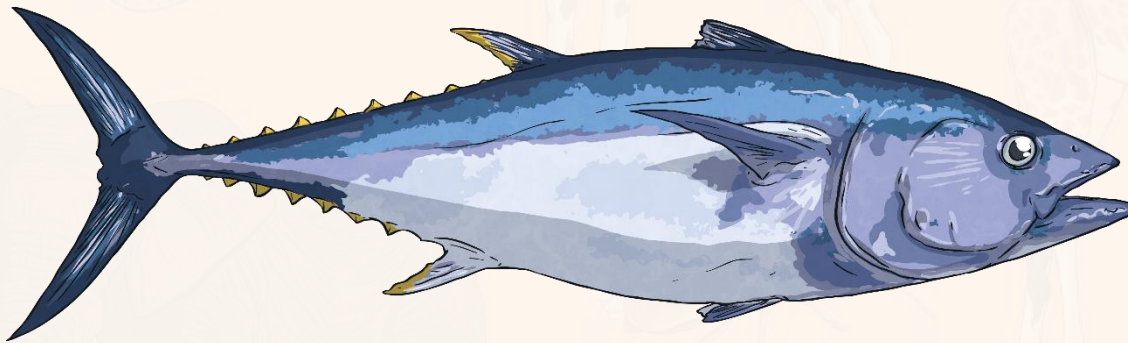
Vertebrate

or



Invertebrate

Fish



Vertebrate

or



Invertebrate

Jellyfish



Vertebrate

or



Invertebrate

Butterfly



Vertebrate

or



Invertebrate

Types of Skeletons



A further classification of skeletons comes from if an animal has a skeleton and where it is.

All vertebrates have an endoskeleton. However invertebrates can be divided again between those with an exoskeleton and those with a hydrostatic skeleton.

vertebrate



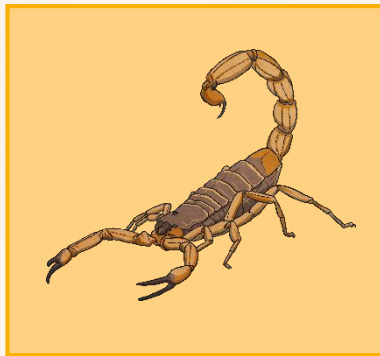
endoskeleton



invertebrate



exoskeleton



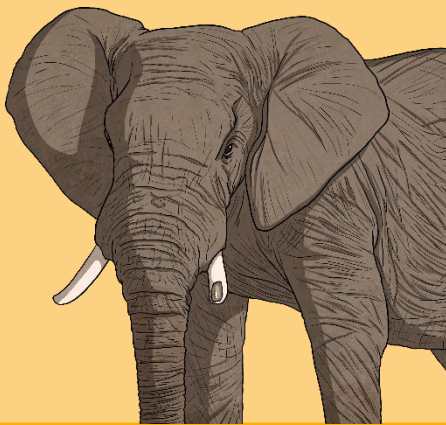
hydrostatic skeleton



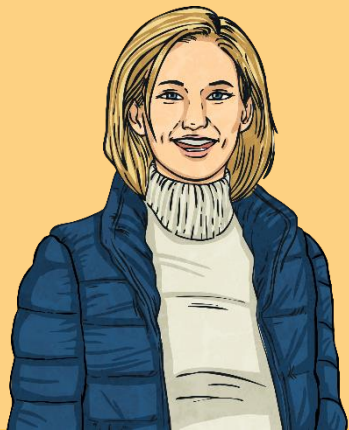
What do you think the words endoskeleton, exoskeleton and hydrostatic skeleton mean?

Endoskeletons

Animals with endoskeletons have skeletons on the inside of their bodies.



Endoskeletons are lighter than exoskeletons.



As the animal grows so does their skeleton.

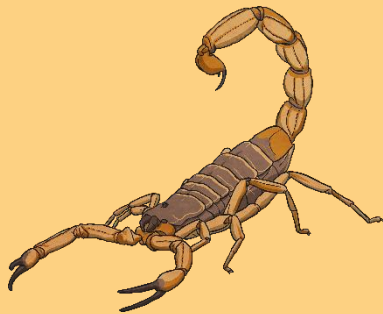


Exoskeletons

Animals with exoskeletons have their skeletons on the outside!



Watch the following clip to see how they shed their skeletons (clip the crab below).



Exoskeletons do not grow with the animal. Therefore the animal has to shed its skeleton and produce a new one!



Hydrostatic Skeletons

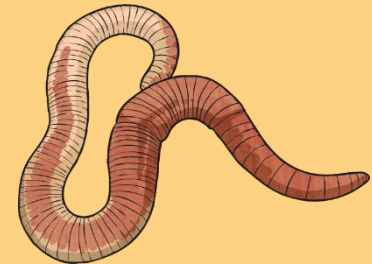
Animals with hydrostatic skeletons don't actually have any bones!



All animals with hydrostatic skeletons are invertebrates.



Instead these animals have a fluid-filled compartment in their body called a coelom.

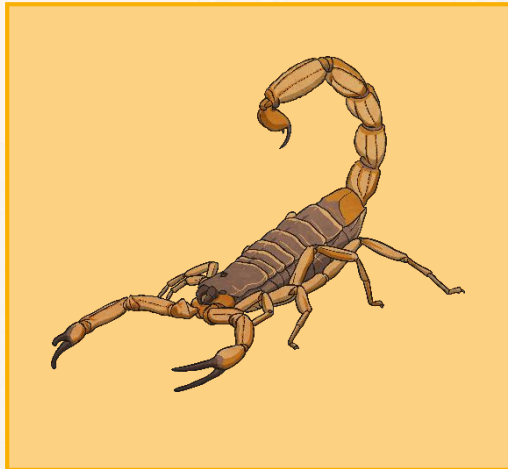


Skeleton Types

endoskeleton



exoskeleton

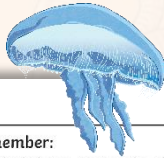


hydrostatic skeleton



Can you think of an example of an animal with an exoskeleton, endoskeleton or hydrostatic skeleton?

Sorting Skeleton Types



Remember:

- Endoskeleton means the skeleton is inside the body.
- Exoskeleton means the skeleton is outside the body.
- Hydrostatic skeleton means the skeleton is made of fluid.



elephant



tortoise



jellyfish



mouse



ant



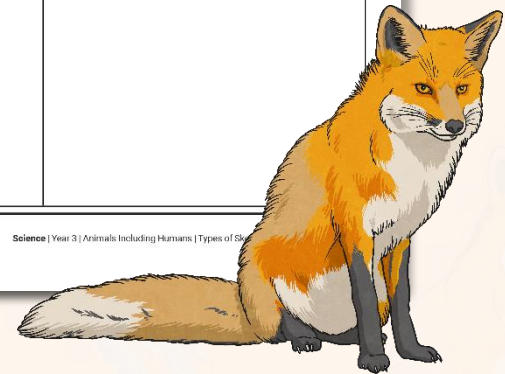
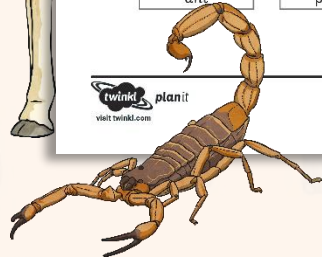
prawn

Sorting Skeleton Types

I can sort animals based on their skeletons.




Cut out and stick the animals based on the type of skeleton they have.

Endoskeleton	Exoskeleton	Hydrostatic Skeleton



Pros and Cons of Different Skeleton Types



Type of Skeleton	Pro	Con
Endoskeleton 		
Exoskeleton 		
Hydrostatic Skeleton 		

Grows with the body
More protection for the body

Does not grow with the body
Body is more flexible

Cannot lift objects
Muscles are less flexible

Aim



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