Skeletal and muscular systems. Compare human skeletons to other animals (birds, fish, mammals).

Compare the skeletal and muscular systems of humans, birds, fish, and mammals

SCIENCE · YEAR 6 · 45 MIN

TODAY

What we will do

Compare the skeletal and muscular systems of humans, birds, fish, and mammals

1. I can name the main bones and muscles in the human skeleton.
2. I can describe how a bird's skeleton is different from a human's skeleton.
3. I can explain how a fish's skeleton helps it move through water.
4. I can identify at least one way skeletons and muscles help animals survive in their habitat.

LOOK CLOSELY

What animal is this bone from?

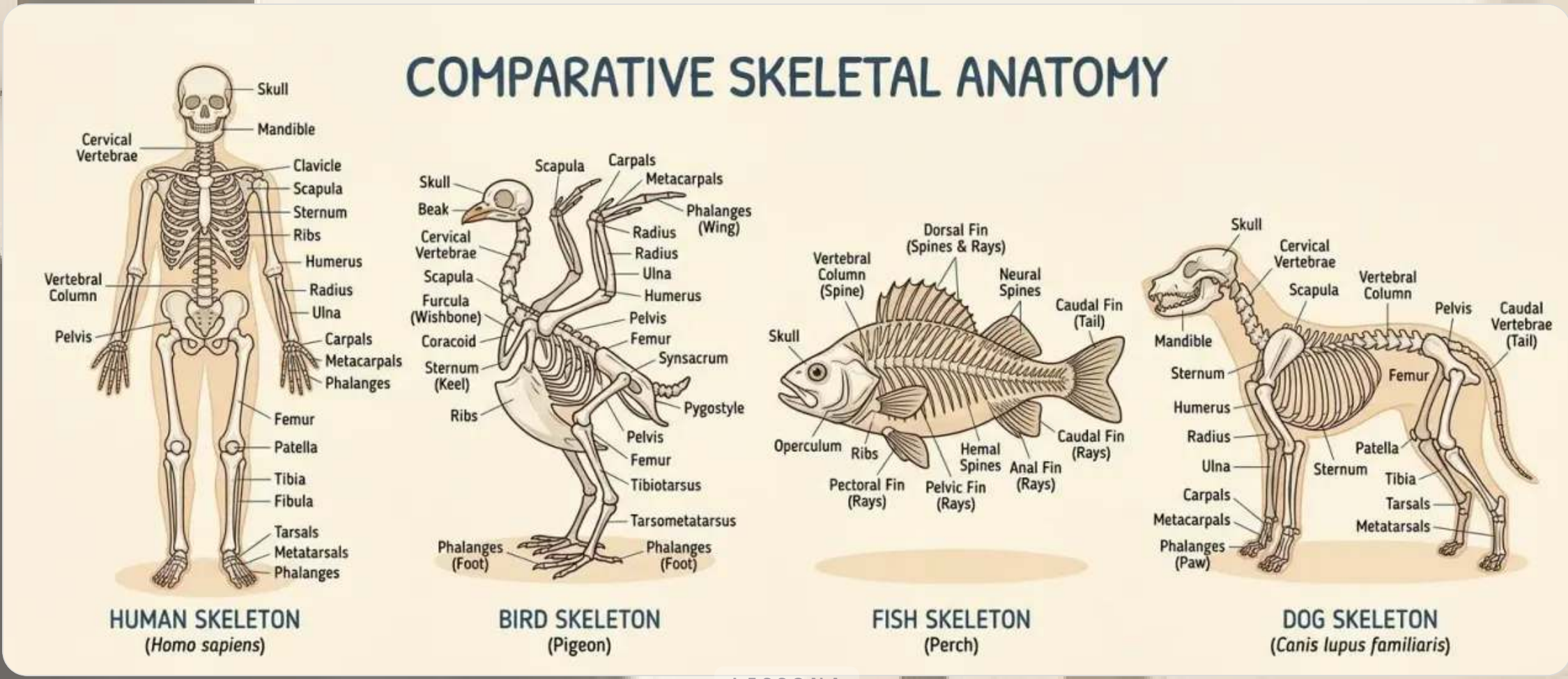
Study the shape and size. What clues can you spot?

TALK *Tell your partner your best guess.*

THE BIG PICTURE

Four skeletons, side by side

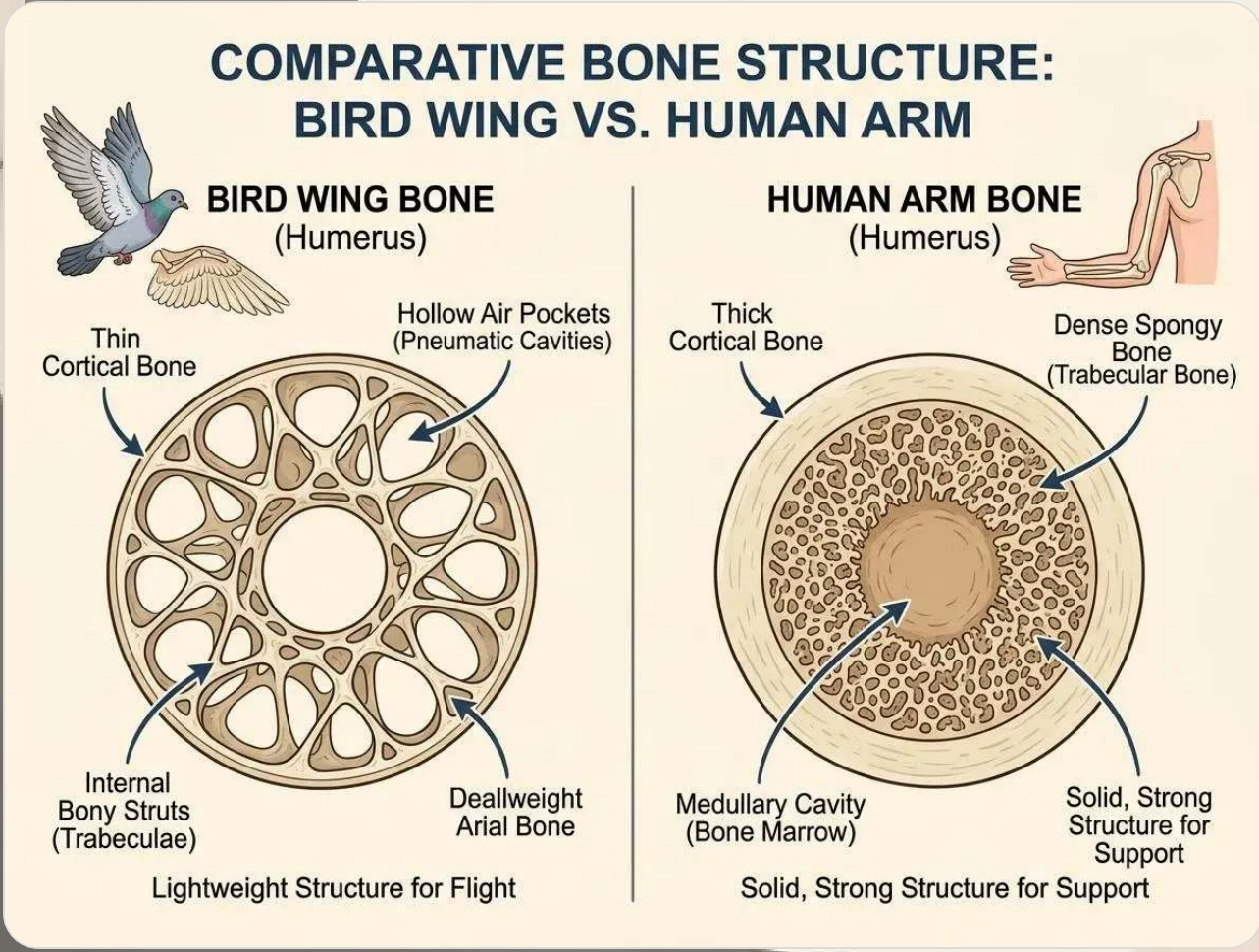
Human, bird, fish, and dog skeletons share some bones but look very different.



KEY IDEA

Bird bones are hollow to help flight

Hollow bones reduce a bird's weight so its muscles can lift it into the air.



COMPARE

A human arm bone is solid. A bird's wing bone has air pockets inside.

WATCH OUT

Not all bird bones are hollow. Leg bones are denser to handle landing impact.

THREE SKELETONS

Each skeleton suits its habitat

Structure matches function in every animal.

FISH

Spine, ribs, fins. No limbs

A flexible spine lets fish bend and push through water to swim.

BIRD

Hollow bones, fused clavicle

Light bones and a keeled breastbone anchor powerful flight muscles.

DOG (MAMMAL)

Spine, ribs, four limbs

Four legs built like human arms and legs allow running and jumping.

Humans and dogs share many of the same bones, just in different shapes.

MATCH THE CLUE

Which animal does each feature belong to?

Match each bone clue to the correct animal.

BONE CLUE	ANIMAL
1 Hollow wing bones	a Fish
2 Spine with no limbs	b Dog
3 Keeled breastbone	c Bird
4 Four limbs like humans	d Bird

ANSWERS

Check your matches

Each feature is a clue to how that animal lives and moves.

BONE CLUE	ANIMAL
1 Hollow wing bones	c Bird
2 Spine with no limbs	a Fish
3 Keeled breastbone	d Bird
4 Four limbs like humans	b Dog

Skeleton sorting activity

Emerging

picture-match

Label 6 bones on the human skeleton. Match each animal to one key feature.

This is the ___ bone.

MATERIALS

labelled skeleton sheet
animal picture cards
word bank

Circle the hollow bone on the bird card.

Developing

label-and-write

Label a blank human skeleton. Write one sentence each for bird and fish.

The ___ skeleton is different because ___.

MATERIALS

blank skeleton outline
word bank card
reference sheet

Add a second difference for one animal.

Extending

comparison-table

Compare two animals: same bones, different features. Explain how each survives.

Both animals have ___, but ___.

MATERIALS

skeleton reference cards
comparison table
NZ animal fact cards

Which animal has the most specialised skeleton, and why?

Work in your group. Use science words when you share your answers.

DISCUSS

Share what you found out

Name one bone humans and birds both have.

How does a fish skeleton help it survive?

Which skeleton difference surprised you most?

Why do you think hollow bones matter for birds?

THUMBS UP *Thumbs up if you can explain one skeleton difference.*

TODAY WE LEARNED

Three things to remember

I can name the main bones in the human skeleton.

I can describe how a bird's hollow bones help it fly.

I can explain how a fish skeleton is built for moving through water.