LESSON PLAN

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

Science · Year 6 · 45 min

CURRICULUM ALIGNMENT

Aligns to The New Zealand Curriculum. Science, Level 3 (Years 5 to 6), strand: Living World. Achievement objective: understand that living things are grouped by their structure and function, and that animals have structures that help them survive. (Refreshed Te Mātaiaho version available 2026; mandatory 2027.)

Te Mātaiaho: Science

LEARNING INTENTION

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

SUCCESS CRITERIA

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

Lesson Structure

HOOK

• Real or replica bone (or a clear photo). What animal is this from?
• Pass the image around. What clues helped you guess?
• One student shares. Others agree, disagree, or add a new idea.

TEACHING

• Side-by-side diagrams: human, bird, fish, and dog skeletons.
• Bird bones are hollow. That is why birds can fly.
• Fish have a spine and ribs, but no arms or legs at all.
• I notice the human and dog skeletons share many of the same bones.

PRACTICE

• Skeleton sorting cards on the mat. Match each bone clue to its animal.
• Partners justify their match using one science word.
• Which card was hardest to place, and why?

CLOSURE

• Name one bone humans and birds both have.
• How does a fish skeleton help it survive?
• Thumbs up: can you explain one animal skeleton difference?

Differentiated Groups

EMERGING

TASK

• Labelled diagram: human skeleton with 6 bones named.
• Match picture cards: bird, fish, human to one key feature each.
• Circle the hollow bone on the bird card.

MATERIALS

Pre-labelled human skeleton diagram (1 per student), animal picture cards with written feature clues (1 set per pair), pencils, word bank card listing: spine, ribs, hollow bones, fins, skull

TEACHER ROLE

• Sit with this group for first 10 minutes. Read clues aloud.
• Point to diagram. Name one bone together first.
• Check each pair matched bird to hollow bones.

DEVELOPING

TASK

• Label a blank human skeleton using the word bank.
• Write one sentence: how is a bird skeleton different from a human's?
• Write one sentence: how does a fish skeleton help it survive?

MATERIALS

Blank human skeleton outline (1 per student), word bank card listing 8 bones and muscles, animal skeleton reference sheet (bird, fish, dog), lined writing space, pencils

TEACHER ROLE

• Check in at 5 minutes. Prompt with: what do you notice?
• Visit again at 15 minutes. Read one sentence per student.
• Redirect any student stuck on the fish survival sentence.

EXTENDING

TASK

• Choose two animals. Write a comparison: same bones, different features.
• Explain how each skeleton helps that animal survive in its habitat.
• Challenge: which animal has the most specialised skeleton, and why?

MATERIALS

Animal skeleton reference cards (bird, fish, dog, human) 1 set per student, blank comparison table (1 per student), pencils, optional: NZ animal fact cards (kiwi, hector's dolphin)

TEACHER ROLE

• Brief check-in at 5 minutes. Confirm they are comparing, not listing.
• Leave group to work independently for remainder of task.
• Ask one student to share their challenge response at closure.

ASSESSMENT NOTES

• Criterion 1: student labels at least 5 correct bones on the human skeleton.
• Criterion 2: student names hollow bones or lighter frame as bird difference.
• Criterion 3: student links fish spine or fins to movement through water.
• Criterion 4: student states one habitat survival link for any animal.

RESOURCES

YouTube skeletal muscular systems video

Pinterest skeletal muscular systems activities

RELIEF TEACHER NOTES

• All materials are sorted into three labelled trays: Emerging, Developing, Extending.
• Emerging group needs the most adult support. Sit with them first.
• Groups work at their own tables after the whole-class sorting activity.
• Closure: gather on the mat, ask one student to share a skeleton difference.