

# Science 4:4 - Act. 4: Bone Identification

## Summary

Activity will help students compare the bones found in a fossil dig to the bone structure of living organisms.

## Group Size

Small Groups

## Materials

bones taken from the fossil dig boxes

- ["Locomotor Skeleton chart"](#) (pdf)
- ["Rodent Skeleton chart"](#) (pdf)

## Background for Teachers

Once students have dug the "fossil" bones, mapped and labeled them, they have the opportunity to do another part of the objectives for this standard. They may now compare the bones to the bone structure of living organisms. Students will identify what part of the animal the bones that they found came from by comparing them with bone structure charts for mammals, reptiles, and rodents. As they identify ribs, femurs, skulls, etc., they need to be able to explain why they identified them as they did. What is it about the appearance of the bone that made them identify it as they did? (The bones are from modern animals and the identification should be fairly easy, but they will have to make good observations and be able to explain them.)

## Intended Learning Outcomes

1. Use a Science Process and Thinking Skills
4. Communicate Effectively Using Science Language and Reasoning

## Instructional Procedures

### Invitation to Learn

You have collected bones from your fossil dig box. What kind of animal do you think they came from? Can you tell what part of the animal your bones came from?

### Instructional Procedures

Have the same teams that worked together on the Digging for Fossils activity work together on bone identification.

Give each team a mammal, reptile, and rodent bone structure chart. The team will work together to identify the type of bones and what part of the animal they came from.

The team will write a one-sentence explanation for each of the bones that they identify and give the reasons for their identification.

## Extensions

Place copies of the book *Fossils* by Walker and Ward on a table with some real fossils. Have the students use the pictures in the book to identify the fossils. The book contains a fossil identification key and a visual guide (photographs) to more than 500 species of fossils from around the world.

### Additional Resources

#### Books

*Rockhounding Utah: a Falcon Guide* by William Kappeler. Falcon Press Publishing Co., Inc.. Helena,

MT, 1996. ISBN: 1-56044-446-0. (A good source for fossil sites in Utah where amateur fossil hunters may legally collect fossils.)

*Fossils for Amateurs* by Russell P. McFall and Jay C. Wollin. Van Nostrand Reinhold Co., New York, 1983. ISBN: 0-442-26350-3.

*Dinosaurs and How They Lived* by Steve Parker. Dorling Kindersley, Inc., New York, 1991. ISBN: 1-879431-13-0.

*Visual Dictionary of Dinosaurs* Dorling Kindersley, Inc., New York, 1993. ISBN: 1-56458-188-8.

*Visual Dictionary of Prehistoric Life* Dorling Kindersley, Inc., New York, 1995. ISBN: 1-56458-859-9.

*Fossils: an Eyewitness Handbook* by Cyril Walker and David Ward. Dorling Kindersley, Inc., New York, 1992. ISBN: 1-56458-071-7. (A personal favorite for easy-to-understand information about fossils and how they were formed.)

### Assessment Plan

Read the identification sentences and check for thinking that went into making the identifications.

Were the reasons for making the identification valid?

Set up a matching test - have students match pictures of bones with bones shown on bone identification charts.

### Authors

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