Junior Paleontologist: Learning From Fossils

Hints for Teachers

Paleontologists learn about extinct animals by making inferences based on fossils. They can often determine when an animal lived, what it ate, and what environment it lived in. In this activity, students are asked to look closely at fossil animals and think about what clues they can use as a paleontologist to make a hypothesis about the animal's life.

For this activity, students will need to choose three fossil animals from three of the Museum's exhibits.

MUSEUM INFORMATION:

- The museum does **NOT** provide copies of **Junior Paleontologist**. Please prepare copies for your students.
- **Junior Paleontologist** asks students to look for fossils in the Vertebrate Paleontology Hall, the Cenozoic Mammals Hall, and the Arthropods Exhibition. There is one activity page for each of these galleries.
- When your students arrive at the Museum, they will be given a brief greeting by a Museum staff member. After this greeting is a good time for you to talk to your students and chaperones about the **Junior Paleontologist** activity if you have not done so already.

PREPARING AN ACTIVITY:

Please make copies of **Junior Paleontologist** activity for your students. The Museum will **NOT** have copies available.

- The **Junior Paleontologist** activity has three sheets directing students to three different galleries. We suggest having students start in different galleries to avoid crowding.
- The Museum asks students to refrain from leaning on any glass cases. We recommend supplying students with clipboards or notebooks to lean on while writing.
- **Junior Paleontologist** has a brief set of directions printed on the first page for student use. Additional information, including a geologic time scale, is provided on the **Junior Paleontologist** Chaperone Sheet. We recommend photocopying this sheet for chaperones or discussing the tips with them.

IN THE CLASSROOM:

Connecting **Junior Paleontologist** to classroom content

Discuss! Ask students to share their ideas with the class. If two students examined the same fossil, do their hypotheses agree? What evidence do they have to support their ideas? Remember, paleontologists often disagree and these disagreements lead to new and interesting research!

Dig deeper! Have students select one of their fossils to research further. What have paleontologists determined about this animal? Does it agree with what the student hypothesized?

Display! Make a geologic time scale for the classroom (see the HMNH website Teacher Resource page for a printable version). Add the fossils to the timeline to see when the animals lived. Please be aware that the Museum collections show fossils that support the research of Harvard paleontologists. Therefore, they are not representative of the scope of animal life on Earth. Adding them to a timeline will show the relative ages of the animals but will not show evolutionary or diversification trends.

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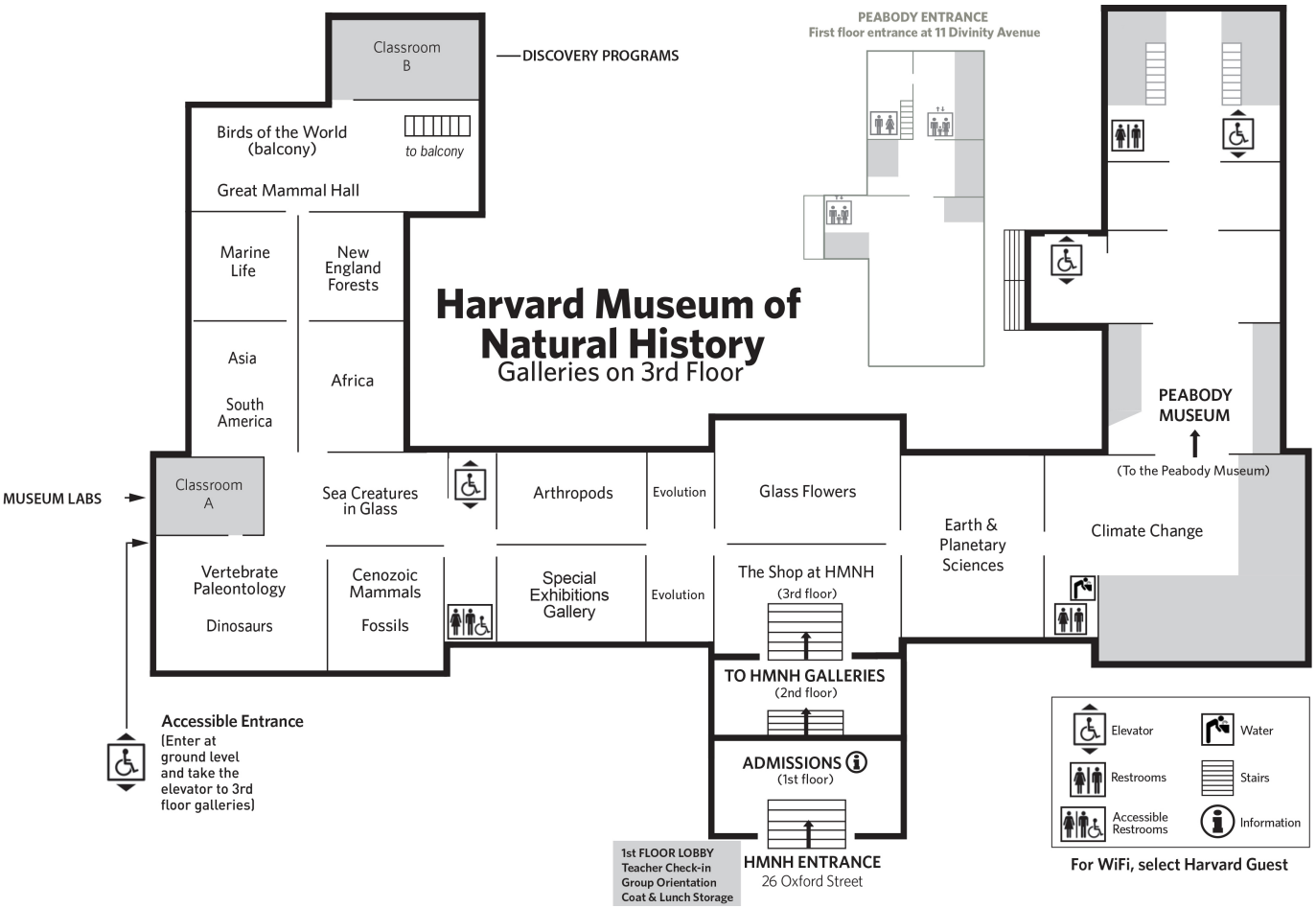
Chaperone Information

By comparing the skeletons and fossil remains of animals from the past, paleontologists can learn how an animal lived, what it ate, and what environment it lived in. This activity asks students to think about what clues they can us, as a paleontologist, (what kind of teeth does it have? Did it have a shell? How long are its legs?) to make a hypothesis about a creature's life from fossils.

DIRECTIONS:

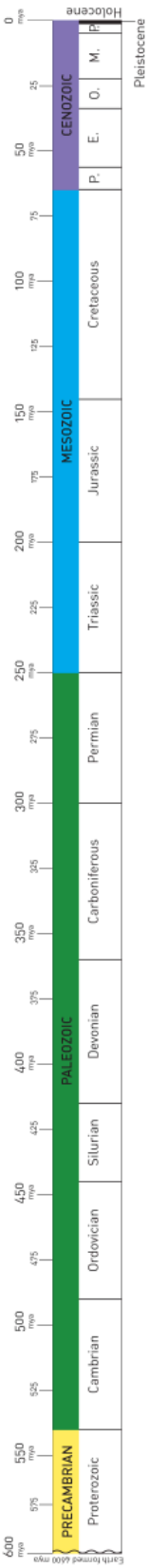
- Junior Paleontologist asks students to look for fossils in the Vertebrate Paleontology Hall, the Cenozoic Mammals Hall, and the Arthropods Exhibition. There is one activity sheet for each exhibit.
- The activity sheets can be completed in any order.
- Geologic time goes back 4.6 billion years (4600 million years) to when the Earth was formed. The timeline to the left only goes back 600 million years, since those are the earliest fossils you will find in the museum, and when most life evolved. Present day is at "0 million years ago (MYA)."



HARVARD MUSEUM of NATURAL HISTORY

Junior Paleontologist: Learning From Fossils

Activity for students



Pick a fossil in the ARTHROPODS EXHIBITION and draw a picture of it below. Look at the timeline along the edge of the paper. Circle on the timeline when this animal lived.

Animal name: _____

Look closely at the fossil.

What do you think it ate? What evidence do you see that makes you think this?

_____

_____

_____

How do you think it moved? What evidence do you see that makes you think this?

_____

_____

_____

What else is unique about this fossil?

_____

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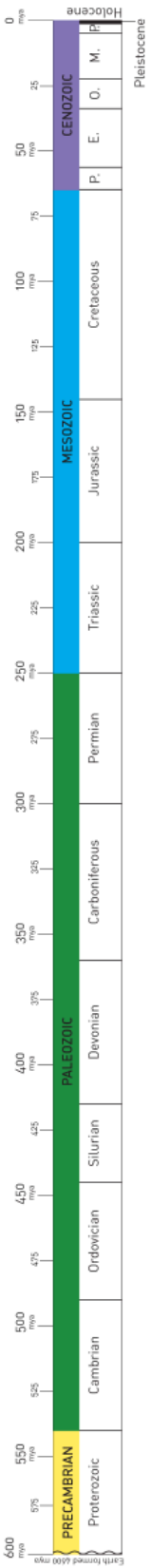
_____

HARVARD MUSEUM of NATURAL HISTORY

Junior Paleontologist: Learning From Fossils

Activity for students



Pick a fossil in the VERTEBRATE PALEONTOLOGY EXHIBIT and draw a picture of it below. Look at the timeline along the edge of the paper. Circle on the timeline when this animal lived.

Animal name: _____

Look closely at the fossil.

What do you think it ate? What evidence do you see that makes you think this?

_____

_____

_____

How do you think it moved? What evidence do you see that makes you think this?

_____

_____

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What else is unique about this fossil?

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HARVARD MUSEUM of NATURAL HISTORY

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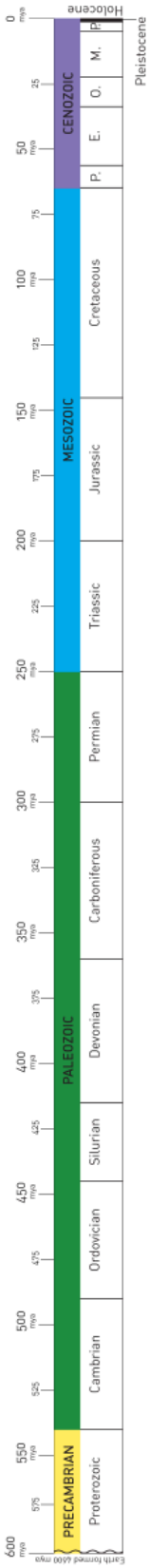

Pick a fossil in the CENOZOIC MAMMALS HALL and draw a picture of it below. Look at the timeline along the edge of the paper. Circle on the timeline when this animal lived.

Animal name: _____

LOOK CLOSELY AT THE FOSSIL

What do you think it ate? What evidence do you see that makes you think this?

_____

_____

_____

How do you think it moved? What evidence do you see that makes you think this?

_____

_____

_____

What else is unique about this fossil?

_____

_____

_____