

Name:

Date:

Past Lives:

Evidence:	What it tells us:
Growth rings in fossils or trees	<i>Growth rings tell us the number of years that trees lived</i>
Curled up fossil trilobites	
The contents of fossil nests	
Fossils of many individuals of the same species together	

Biodiversity:

Evidence:	What it tells us:
Fossils of organisms no longer alive today	
Features that are shared by more than one species	
The extinction of many fossil species at the same time	
The extinction of one group of organisms like	

Name of Exhibit/ Time Period:	Drawing
Location in the Museum:	
What things do you think are engaging about this representation?	
What could be done to make this more engaging? List at least three ideas.	<ul style="list-style-type: none"> • • •
Name of Exhibit/ Time Period:	Drawi
Location in the Museum:	
What things do you think are engaging about this representation?	
What could be done to make this more engaging? List at least three ideas.	<ul style="list-style-type: none"> • • •

Name of Exhibit/ Time Period:	Drawing
Location in the Museum:	
What things do you think are engaging about this representation?	
What could be done to make this more engaging? List at least three ideas.	<ul style="list-style-type: none"> • • •
Name of Exhibit/ Time Period:	Drawi
Location in the Museum:	
What things do you think are engaging about this representation?	
What could be done to make this more engaging? List at least three ideas.	<ul style="list-style-type: none"> • • •

Name of Exhibit/ Time Period:	Drawing
Location in the Museum:	
What things do you think are engaging about this representation?	
What could be done to make this more engaging? List at least three ideas.	<ul style="list-style-type: none"> • • •
Name of Exhibit/ Time Period:	Drawi
Location in the Museum:	
What things do you think are engaging about this representation?	
What could be done to make this more engaging? List at least three ideas.	<ul style="list-style-type: none"> • • •

12. Find the Prehistoric Mammal cases.

When did the first hominids evolve, and what trait sets them apart from their ape ancestors?

13. Look at the hominid skulls.

What would you say is the most significant change from *Australopithecus africanus* to *Homo sapiens*?

14. Find the Whale cases.

Why is *Maiacetus* known as 'mother whale' and why is this fossil important?

15. Look up at *Basilosaurus*.

How have its limbs evolved since its ancestor, *Maiacetus*? Suggest a cause of this evolutionary change.

16. Find the Mastodons.

What is the difference between a mastodon and a mammoth?

Why might the male mastodon be missing some toes?

PL

Discovery Guide

Prehistoric Life

for High School

Directions: The answers to this Discovery Guide can be found on the 2nd Floor. Some questions may require further discussion after reading labels. This activity is meant to be completed by the student while walking the exhibit with a chaperone.

1. Find the *Grypania spiralis* specimen.

Why is a "carbon film" considered evidence of life?

Why is *Grypania Spiralis* so important?

2. Find the *Araucarioxylon* trunk, also known as rainbow wood.

How did this fossil form?

Is a fossil a living thing? Explain your answer.

3. Find the Cambrian period diorama in the *Life through the Ages* exhibit.

The Cambrian Explosion refers to the sudden appearance of many body plans, or shapes. Why didn't they all survive?

PL

Fold Here

4. Find the wall of fossilized plant specimens.

Number these photosynthetic groups in the order that they evolved:

- _____ ferns
- _____ morning glory
- _____ algae
- _____ conifers
- _____ lepidodendron

5. Find the Trilobite exhibit.

For how many years did trilobites exist?

Why might the type of trilobite you find in a rock sample tell you how old the rock is?

6. Find *Dunkleosteus* in the Fish exhibit.

What does a cladogram show you?

Why are shark fossils rare?

7. Find the *Trimerorhachi* exhibit.

How many skulls are in the fossil slab?

Why is counting skulls to count individual species a good method?

8. Find the *Phytosaurus*, *Allosaurus* and Sabertooth skulls.

Look closely at each skull's tooth and eye placement. List two similarities between the skulls. Then, for each skull, list one difference.

What can you tell about an animal from its teeth?

9. Find *Archaeopteryx*.

What evidence is there in the fossil that this is the link between dinosaurs and birds?

10. Find the *Edmontosaurus*.

Why are the teeth of *Edmontosaurus* different from *Allosaurus*' teeth?

11. Find the *Sauropod* case.

Sauropod teeth cannot grind up vegetation like *Edmontosaurus* teeth, but *Sauropods* and *Edmontosaurus* had very similar diets. What did *Sauropods* use to help them digest such a large amount of vegetation?

Fold Here

9. Find the sandhill cranes.

Sandhill cranes (*Grus canadensis*) are naturally gray, but use minerals in the mud to stain their feathers. Looking at the display, suggest why.

10. Find the squirrels.

In Ann Arbor, you may see squirrels that are members of the *Sciurus carolinensis* species. What is their common name?

11. Find the gray wolf.

Canis lupus is the scientific name of both the wolf and the domestic dog. What does the fact that they have the same scientific name mean?

12. Find the *How do Fungi Reproduce?* case

What is the difference between a spore and a seed?

Are fungi more closely related to orchids or humans? Give at least two reasons for your answer.

Discovery Guide

Michigan Wildlife

for High School

Directions: The answers to this Discovery Guide can be found on the 3rd Floor. Some questions may require further discussion after reading labels. This activity is meant to be completed by the student while walking the exhibit with a chaperone.

1. Find the songbird cases.

Most bird species exhibit sexual dimorphism (or variation), with the male being more brightly colored than the female. Why? Hint: think about the female's coloring as well as the male's.

Darwin famously studied bird's beaks while developing his theory of evolution. Why are different species of bird's beaks different?

How does different beak shape help maintain biodiversity (the variety of living things) in birds?

2. Find these birds: Greeb, Cormorant and Loon.

These beaks look similar due to 'convergent evolution'. What does this mean?

Fold Here

3. Find the birds of prey case.

Look closely at both the Great Gray Owl and Bald Eagle. How are they similar?

The owl has looser, "frayed" edges to its flight feathers. This reduces air turbulence and noise as it flies. What could be the evolutionary benefit of this?

4. Find the *Musseled Out* case.

Zebra mussels are an invasive species. What is an invasive species?

How might zebra mussels affect a food web?

5. Find the *Alien Invasion!* case.

Sea Lamprey (*Petromyzon marinus*) was introduced into the Great Lakes and is affecting native species. How are their numbers being controlled?

Could there be any issues with this method?

MW

6. Find the fish cases.

How much of the world's fresh water is in the Great Lakes?

How many species of fish are found in the Great Lakes?

7. Go to the *Life in a Michigan Pond* diorama.

Read about these plants and animals on the diorama label, then arrange the species below to show energy flow in the system they are all part of.

Snail Great Blue Heron Algae Pumpkinseed

_____ → _____ → _____ → _____

Read the pond label. What is the role of the producer?

8. Find the *Life in a Single Drop of Pond Water* diorama.

Why is the role of decomposers so important?

What can the numbers of *Oscillitoria* tell us about the water?

MW

Fold Here