



# The Past Through the Present

## 3<sup>rd</sup> Grade

### Duration

Pre-Visit: 30 minutes  
Museum Visit: 40 minutes  
Post Visit: 30 minutes

### Location

Dinosaur Hall

### Supplies

- Pictures of animals in a variety of different habitats
- Worksheet
- Pencil
- Clipboard (optional)

### Standards

#### [NGSS](#)

3-LS1-1, 3-LS3-2, 3-LS4-1,  
3-LS4-3, LS3.A, LS3.B,  
LS2.C, LS4.A, LS4.C

#### [S+E Practices](#)

(1) 2, 3, 6, 7

#### [CCSS ELA](#)

SL.1.b.d

#### [CA State](#)

Life Science 3.b

ELA

Writing Applications 2.2

### Vocabulary

Hypotheses · Environment  
· Observation · Evidence ·  
Terrestrial · Marine

## Concepts

- Life varies depending on the environment it is adapted to.
- Scientists use adaptations to understand ancient animals and their environments.

## Objectives

- Students will make and record observations of terrestrial and marine specimens and environments through drawing and writing.
- Students will hypothesize what an ancient environment and ancient animal was like using observable evidence.

## Outline

1. In one classroom session before visiting the Museum, review how life forms differ depending on environment. Discuss and practice the scientific method of making predictions based on observations, and supporting those hypotheses with evidence.
2. At the Museum, students will observe two specimens in the Dinosaur Hall, and record observations and hypotheses using a worksheet.
3. Back in the classroom, review and reflect on student conclusions and the process.



## Pre-Visit

Using the pictures of animals in a variety of habitats, review the concept that life is diverse in its forms due to adaptations to different environments. Use these pictures to review the scientific process with the class – i.e. observe and make hypotheses about observations. Some questions that might be helpful to ask include:

- What do you notice about this plant/animal?  
*Typically students will point out a physical or behavioral characteristic of the plant or animal in the picture.*
- What might (characteristic) mean for the life of that (plant/animal)?  
*This gives students an opportunity to form a hypothesis about what they see.*
- What do you see that makes you say that?  
*This asks students to support their hypothesis with observable evidence*

You may also ask students to compare and contrast adaptations or environments, to help them get a sense of their relationship to one another. For example, could an animal adapted to the ocean live in a forest? Why or why not?

Finally, show the students a picture of an animal without any environmental context and ask them to hypothesize what they think the environment is based on their observations of the animal. Then do the reverse, show an environment with no animal, and have them describe an animal that might be able to live there.

After this, explain to students that scientists use this approach while observing the fossils of extinct animals. They carefully observe their adaptations to help them come up with where that animal lived, and they also use environmental clues to figure out what adaptations of animals might be. Tell students that during their trip to the Museum, they are going to complete a similar exercise in the Dinosaur Hall.

## Museum Visit

At the Museum distribute the worksheets and walk through expectations with students. Have chaperones assist and encourage students as they explore the exhibit and complete the worksheet.

*Teaching Notes: The best place to complete the first page of the worksheet about land dinosaurs is the section of the hall which is guided by the essential question: What were dinosaurs like as living animals? The second page about aquatic reptiles is in the section of the hall which is guided by the essential question: What was their world like? Students can get an amazing perspective of the hanging aquatic reptiles if they view them from the mezzanine in the first portion of the hall. You will need to climb the stairs at the end of the hall to access this portion of the mezzanine.*

## Post-Visit

Have students share their observations and hypotheses from their trip to the Museum. Did students come up with similar hypotheses? What clues/observations did they use to support their hypotheses? What other information from fossils or the surrounding geology might be helpful to have or look for?

Use this as an opportunity to point out that scientists often look at a set of different data to come up with hypotheses about ancient animals and environments. They also may come to different conclusions, and have lively discussions about their different ideas.

## Dinosaurs: A Terrestrial Environment

First explore the Dinosaur Hall, be sure to observe the murals and displays regarding environments. Then, carefully observe the specimen below and draw what you think is an appropriate environment around it. Below the picture, describe your setting and explain why you included each feature.



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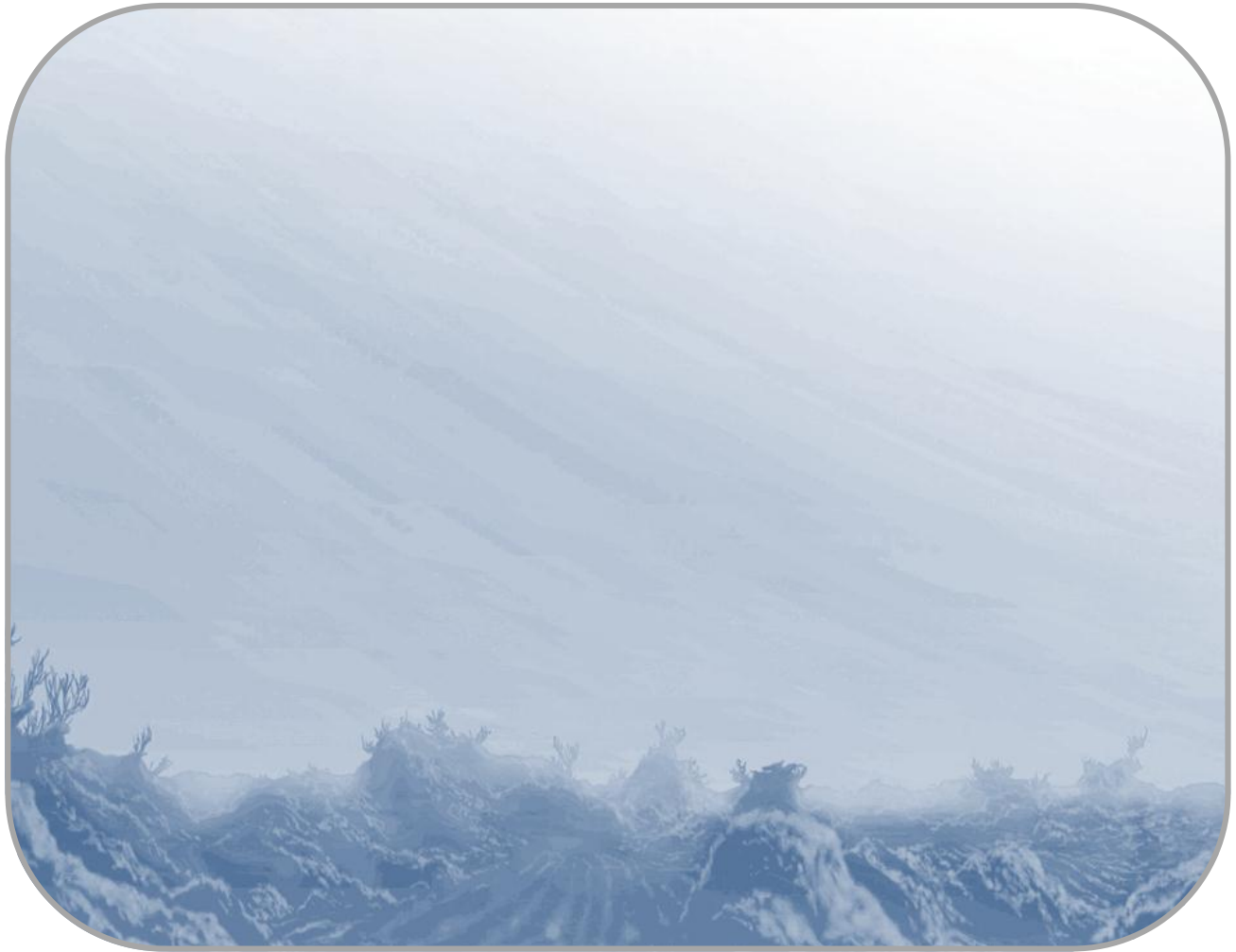
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### Marine Reptiles: An Ocean Environment

Now, carefully observe the environment below and draw what you think is an appropriate marine reptile that would live in it. Below the picture describe adaptations of your marine reptile that allow it to survive in the marine setting. Be sure to explain how you reached that conclusion!



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