Science Learning Packet
Grade 8:
Evolutionary History, Lesson 4

science learning activities for SPS students during the COVID-19 school closure.

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While Seattle Public Schools endeavors to only post documents optimized for accessibility, due to the nature and complexity of some documents, an accessible version of the document may not be available. In these limited circumstances, the District will provide equally effective alternate access.

Due to the COVID-19 closure, teachers were asked to provide packets of home activities. This is not intended to take the place of regular classroom instruction but will help supplement student learning and provide opportunities for student learning while they are absent from school. Assignments are not required or graded. Because of the unprecedented nature of this health crisis and the District's swift closure, some home activities may not be accessible.

If you have difficulty accessing the material or have any questions, please contact your student's teacher.

Grade 8 Science

Evolutionary History Unit Instructional Materials

Lesson 4 (Amplify 1.5)

AmplifyScience

If you have access to an internet device at home, you can also watch the accompanying lesson video at https://youtu.be/zEkNJSGNsFM

Student Name: _____

School: _____

Grade Level: _____

Science Teacher: _____

Hello Families,

We hope you and your family are well and safe during this time. During this unprecedented out-of-school time, the SPS middle school science team will be offering instructional opportunities for students that align with the district's adopted middle school science instructional materials.

This investigation packet is part of a series of district-aligned lessons for middle school **science developed by AmplifyScience** and adopted by SPS in 2019. While Amplify Science lessons are designed to be done in the classroom with peers, there are some activities that students can complete at home. In this packet you will find activities to accompany lessons in the unit. **Accompanying lesson videos are posted on the SPS Science webpage under their corresponding grade level.** These lesson videos, developed in collaboration between SPS teachers, Denver Public Schools teachers, and Amplify Science, feature teachers going through the information in the lessons. **The work in this packet is intended to be completed alongside the viewing of the video of the corresponding videos. To find the correct lesson videos** go to **SPS Science webpage,** scroll to your grade level, find the unit you are looking for, and select the video that matches the lesson you are completing that day.

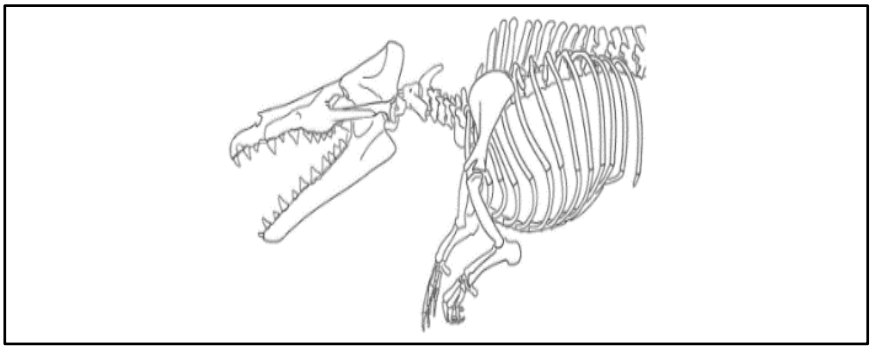
For students who have access to the internet and the following devices and browsers **may wish to log-in to their AmplifyScience account from home are welcome to do so**. Chrome and Safari are the recommended browsers to use for full functionality of the Amplify digital tools and features.

Sincerely,

The Seattle Public Schools Science Department

Unit Question: Why do species, both living and extinct, share similarities and have differences?

Chapter 1 Question: Where in the museum does this fossil belong?



Lesson 4 Investigation Question: What similarities does the Mystery Fossil at the Natural History Museum have with both wolves and whales?

Warm-Up: Read the recent email from the museum and answer the warm-up question below.

From: Andre Mosley, Natural History Museum Director
To: Student Paleontologists
Subject: New Findings About the Mystery Fossil

We have finished putting the bones of the Mystery Fossil back together, and we found something amazing: The Mystery Fossil was pregnant when it died. A smaller fossil with structures just like the Mystery Fossil was found inside of the body of the Mystery Fossil.

I know you are working to decide where to place the Mystery Fossil in the museum and that you are using similar structures to help you decide where to place it. Maybe the fossil we found inside can help you decide what the Mystery Fossil is most similar to: whales, wolves, or crocodiles.

The discovery that the Mystery Fossil was pregnant tells us that the Mystery Fossil came from a species that gave live birth. What do you know about how whales, wolves, or crocodiles carry their babies and give birth ?_____

_____

_____

_____

Special body structures allow organisms to give live birth or lay eggs. (*These structures are not always bones, for example, in the "Blue Whale" article we learned that whales have structures so they can produce milk.)*

1. Which of these animals lay eggs?

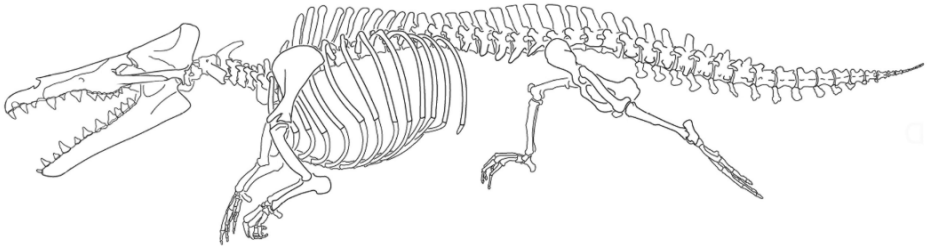
   ____ Whales ____ Wolves ____ Crocodiles

2. Knowing that the Mystery Fossil species gives live birth, with which *two* species is it more likely to share a common ancestor?

   ____ Whales ____ Wolves ____ Crocodiles

3. Compare bone structures between the mystery fossil, whales, and wolves.

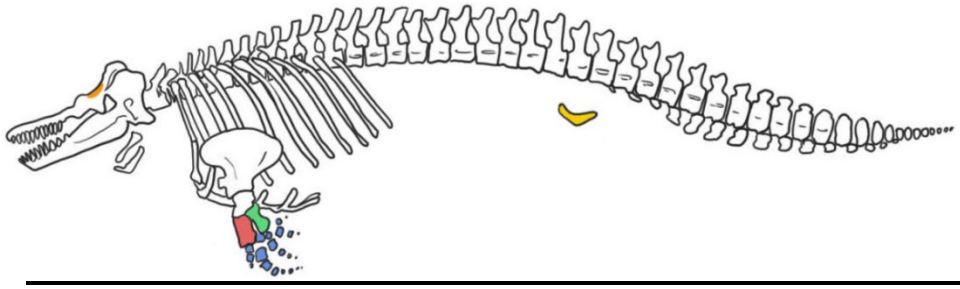
Mystery Fossil



Select all the structures that the **Mystery Fossil** has:

- ☐ skull
- ☐ teeth
- ☐ neck bones
- ☐ "one, two, many" front limb structure
- ☐ rib bones
- ☐ backbone
- ☐ hip bone (pelvis)
- ☐ back limbs (legs)
- ☐ tail

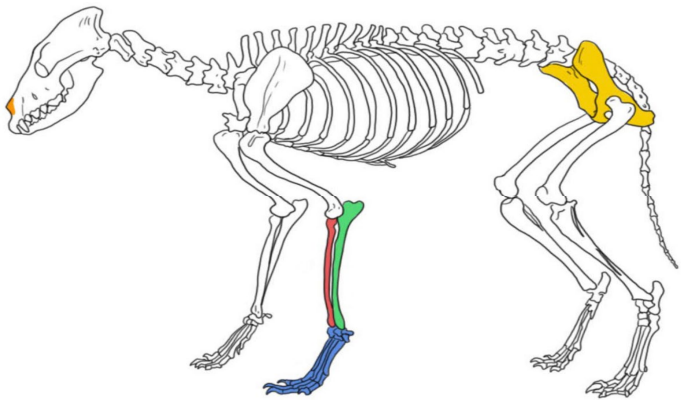
Whale



Select all the structures that the **whale** has:

- ☐ skull
- ☐ teeth
- ☐ neck bones
- ☐ "one, two, many" front limb structure
- ☐ rib bones
- ☐ backbone
- ☐ hip bone (pelvis)
- ☐ back limbs (legs)
- ☐ tail

Wolf



Select all the structures that the **wolf** has:

- ☐ skull
- ☐ teeth
- ☐ neck bones
- ☐ "one, two, many" front limb structure
- ☐ rib bones
- ☐ backbone
- ☐ hip bone (pelvis)
- ☐ back limbs (legs)
- ☐ tail

4. Which bone structures are similar between the mystery fossil, whale, and wolf?

_____

_____

_____

_____

5. Based on your answer to question 5, what structures would a common ancestor of whales, wolves, and the mystery fossil share?

_____

_____

_____

_____

Key Concepts

1. Species inherit their body structures from their ancestor populations.
2. Body structures that are shared between two species are evidence that these two species inherited the shared structures from a common ancestor population.

Check Your Understanding

- **This is a chance for your to reflect on your learning so far. This is not a test. Be open and truthful when your respond.**
- **Scientists investigate in order to figure things out. Are you getting closer to figuring out where to put the Mystery Fossil in the museum?**

1. I understand how the Mystery Fossil can have shared body structures with whales and wolves. (check one)☐ yes ☐ not yet

Explain your answer choice.

_____

_____

_____

2. I understand why the shared body structures between the Mystery Fossil, whales, and wolves also have differences. (check one) ☐ yes ☐ not yet

Explain your answer choice.

_____

_____

_____

3. I understand the process that happened to make the Mystery Fossil, whales, and wolves change from a common ancestor population. (check one) ☐☐yes ☐☐not yet

Explain your answer choice.

_____

_____

_____

4. I understand why the Mystery Fossil, whales, and wolves look *very* different from one another. (check one) ☐☐yes ☐☐not yet

Explain your answer choice.

_____

_____

_____

5. Using the key concepts above, and all the evidence we have collected so far about the Mystery Fossil, explain to the Natural History Museum in which exhibit you think the Mystery Fossil should be placed and why.

Mystery Fossil placement options:

A. …with the whales in the Whale (Cetacia) exhibit.
B. …with the wolves in the Carnivore (Carnivora) exhibit.
C. …with the crocodiles in the Reptile (Reptilia) exhibit.

The Mystery Fossil should be placed with… _____

_____

_____

_____

_____

_____

_____

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