

Fantastic Fossils

Introduction

How do we know that dinosaurs existed? Have you ever wanted to travel back in time to roam with the dinosaurs? The study of fossils, called paleontology, is like time travel to the distant past, when the earth was a much different place than it is today. When you examine fossils, you learn about the earth's history and the amazing creatures that long ago populated the world, like dinosaurs.

Task

You work as a paleontologist at the Warrior Museum of Natural History. You have just discovered new fossils, but you need more funding to continue to study the area. Your task is to investigate the following question:

What information can we learn from fossils about the past, present, and future?

Throughout your "dig" you will work independently and document your findings. You will do your best to complete all tasks.

1. **Navigator**: Your job is to navigate the Internet through the Webquest for one day.
2. **Reporter**: Your job is to note the questions you have and report them to your teacher in written form. You will also present your grant proposal at the end of the Webquest.

Finally, you will then write a grant requesting funding to a company, giving them some background knowledge, explain what you have found and what you will do with your findings.



Procedure

Day 1: What is a fossil?

Step 1: First, you will find out exactly what fossils are. Visit <http://studyjams.scholastic.com/studyjams/jams/science/rocks-minerals-landforms/fossils.htm> and click through a short slideshow.

Step 2: Next you will visit the website of a fellow museum to see what a fossil is. Go to the following link and read the information on the page labeled **"What are Fossils?"** - <http://www.unmuseum.org/fossil.htm>

Step 3:
Visit <http://imnh.isu.edu/Exhibits/Online/FossilRecord/subm1temp.html>
Read "Digging Into Fossils." Then click on the link that says "Learn More About Fossils."

From all of the websites you've just visited, answer the following questions:

What is a fossil?

How are fossils formed?

1.

2.

3.

4.

THINK!!!

What parts of your body would be most likely to become fossil? Why do you think so?

Why are most fossils found in sedimentary rock?

Day 2: Nature's Preservative

Now you will discover a different type of fossil called AMBER. Amber was the basis of the movie "Jurassic Park!"

Go to <http://fossilsforkids.com/Amber.html> and http://www.fossilmuseum.net/Tree_of_Life/FossilAmber.htm

Read the information about fossils in amber. Then, watch a video about fossils at

<https://www.youtube.com/watch?v=3rkGu0BItKM>



Using these resources, answer the questions below.

•What is amber?

•How is amber formed?

•What kinds of creatures were doomed to become fossils in amber?

•Why is amber important? Give at least 2 reasons.

•Could Jurassic Park really happen? Why or why not?



Now, take a look at some pictures of fossilized amber and the creatures that got stuck inside! Go to

<http://www.fossilmuseum.net/EdResources/Amber-Images.htm>

Day 3: What kinds of information do we learn from fossils?



Go to: <http://www.amnh.org/ology/features/facetofossil/>

Read the interview with Deaana Soris and her guest dinosaur to see what information she gets from interviewing a dinosaur. After you read the introduction, click on

TO THE INTERVIEW

at the bottom of the screen.

You will see the beginning of the interview. Click on the interview questions at the top of the screen to continue. Record the answers to the interview questions below.

1. What were you like when you were alive?

2. What does Protoceratops mean?

3. How did you become a fossil?

4. How did you get to New York City?

5. What do you do at the museum?

6. Do you have any secrets to share?

Day 4: What is a dig really like? Going Gobi!



Today you will go on a real dig in Mongolia. Go to: <http://www.amnh.org/ology/features/gobi/>. You will accompany Mike and Mark, two experienced paleontologists as they hunt for fossils in Mongolia. There are 5 flags. Click on each one to experience life as a paleontologist.

Begin with the



Then go to the first flag. After each section is complete, go back to the top and click on **Going Gobi** to go to the next flag.

Document your experience on the following chart. List the events that sound exciting, those that sound scary, and any questions that you have.

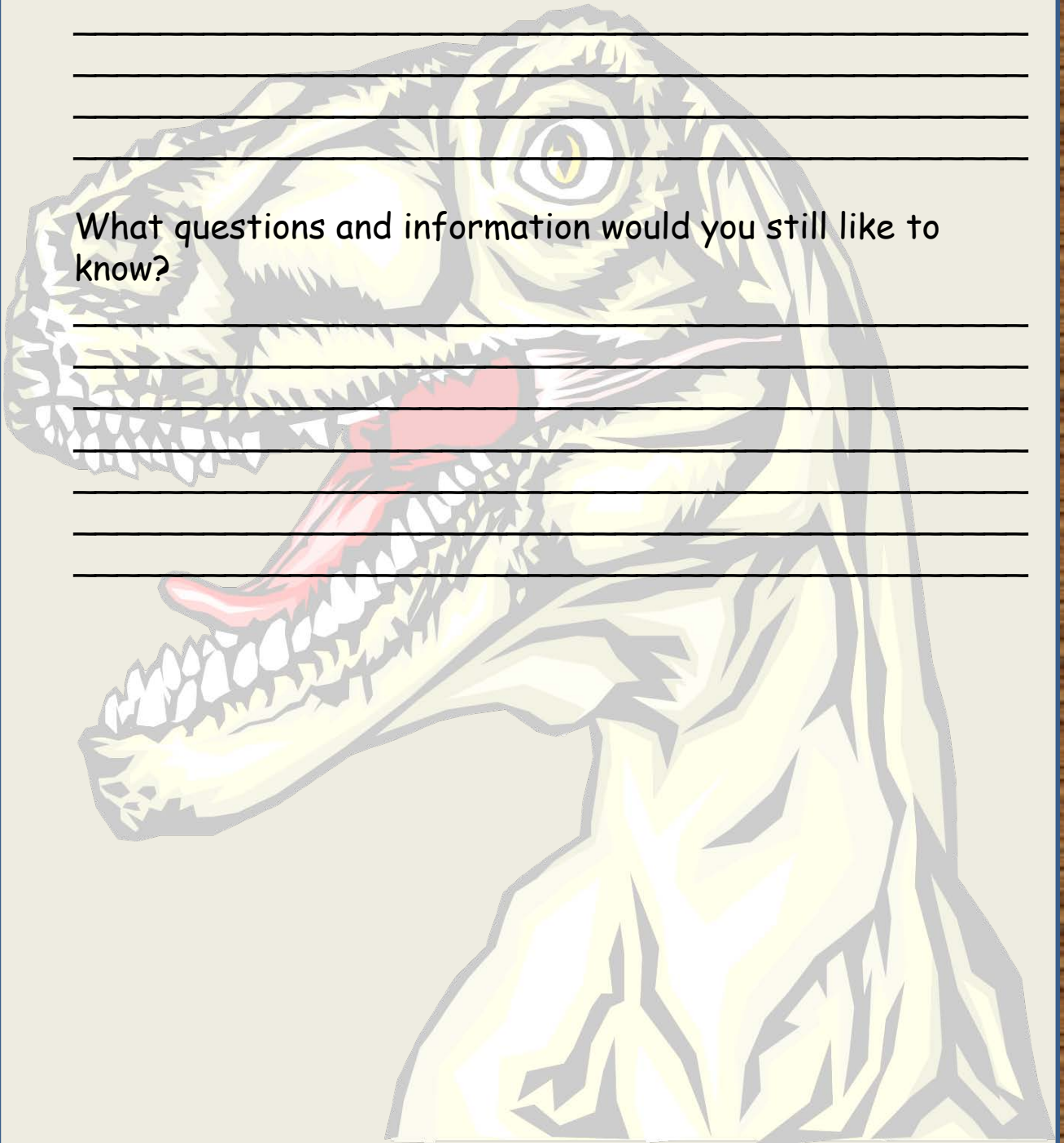
Exciting! 😊	Scary 😬	Questions ❓
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.



Analyze your chart and document your thoughts.

What questions did you have answered so far?

What questions and information would you still like to know?



Day 5: Show What You Know



Can you talk the talk?

Complete the "Puzzled by Fossils" crossword puzzle to see if you have mastered the paleontology lingo.

Go to: <http://imnh.isu.edu/Exhibits/Online/FossilRecord/act3temp.html> .

Explore the clues across and clues down. If you get stuck, go back to "Learn More About Fossils" to find the answers.

Use this page to take any notes on important vocabulary words you've learned.

Bones		Latin	
Buried		Layers	
Crust		Living Things	
Decay		Metamorphic	
Earth		Mud	
Footprints		Paleontologist	
Frozen		Permineralization	
Fossilization		Rocks	
Fossils		Sand	
Greek		Sedimentary	
Hard Parts		Shells	
Igneous		Silt	
Teeth			

What do you know?



Assignment

Your dig is complete and you have found many fossils. Now, you need to convince the museum to fund your next exploration. You will have to make them understand how important your discoveries are in a persuasive essay. First, you will have to explain what fossils are. Then, you will have to give examples of the fossils you found on your dig and how they were formed. Next, you will need to explain what we learn from fossils. Finally, describe what you will do with the fossils you have found.

Along with your report, you should create **3** pictures of your work as paleontologists. Your pictures should show:

1. Your dig
2. Your fossil findings
3. Your fossils on display in a museum.



Finally, you will present your grant proposal to the class. The Navigator will take care of your materials and pictures that you will show. The Reporter will present your persuasive essay to the class.

Your persuasive essay will be graded using the following rubric:

	4	3	2
Introduction	Your first paragraph introduces you as a paleontologist, gives the topic of the paper, and describes the fossil that has been found. It clearly states your position about the need for more funding.	Your first paragraph introduces you as a paleontologist and gives the topic of the paper and describes the fossil you have found, but it does not include a clear position.	Your first paragraph does not include an introduction to the topic or your fossil findings.
Fossil Formation	You reported all the steps of fossil formation and explain the type of rock where they are found and why.	You briefly tell how fossils are formed without giving all of the steps.	Your explanation of how fossils are formed is inaccurate.
Information Learned from Fossils	You persuasively explain why it is important to study fossils. You described how fossils are used to learn about changes in the earth and life on earth over time. You even gave an example of such a change.	You described what kinds of information we learn from fossils and how the earth changes, but you did not include an example of these changes.	Your description of what we learn from fossils and your example is incomplete.
Conclusion	Your conclusion restates the topic and explains what you will do with your findings.	Your conclusion restates the topic of the report.	Your conclusion does not restate the topic or explain what you will do with the findings.
Organization	Information in each paragraph clearly relates to the main topic.	Some information does not follow outline and is misplaced.	Information is hard to understand. Much of the information may have little or nothing to do with the topic.
Mechanics	There are few, if any grammatical or mechanical errors.	There are some grammatical or mechanical errors that can distract the reader from the message.	There are many grammatical or mechanical errors that become very distracting for the reader.
Illustrations	3 detailed and accurate illustrations are included.	2 detailed and accurate illustrations are included.	1 detailed and accurate illustration is included.

The overall webquest will be graded with the following rubric:

	3	2	1
Questions	13-15 questions were answered completely and accurately.	11-12 questions are answered completely and accurately.	Less than 11 of the questions in this webquest were answered completely and accurately.
Going Gobi Chart	5 comments are written in each category.	3-4 comments are written in each category.	Less than 3 comments are written in each category.
Crossword	21-25 of the clues are answered correctly.	18-20 of the clues are answered correctly.	Less than 18 of the clues are answered correctly.
Online Quiz	All questions are answered correctly.	5 questions are answered correctly.	Less than 5 questions are answered correctly.
Mechanics	The final body of work had few or no grammatical or mechanical errors. None of the errors changed the message of the writing.	The final body of work had some errors that may have distracted the reader from the message.	There were many grammatical or mechanical errors that made it difficult to understand.

Conclusion
Congratulations!!!