

Mistaken Identities: Ancient Interpretations of Fossils

Tynessa Craft

The FOSSIL Project Fossils for Teachers Professional Development Workshop 2017



Introduction

Paleomythology, or geomythology, is an emerging interdisciplinary field relating paleontology, anthropology, and geography among other disciplines.

Ancient civilizations, much like today, found paleontological specimens through natural processes, such as weathering of rocks.

The geological sciences, of which paleontology is a subdiscipline, suffers from a lack of diversity for a multitude of reasons. This exercise is intended to appeal to students of various learning preferences and demonstrate that there are opportunities beyond fieldwork.

Materials and Methods

	1	2	3	4	5
Full scientific name					
Period of existence					
Description of habitat					
Are there any modern analogs					
Quality of research					
Written composition					

Results

Teachers will begin the lesson with an assortment of fossils whose identification is known only to the teacher.

Students will either select, or be given, a specimen to observe. ¹

Teachers will allow students to engage in exploration of the specimens in groups or individually.

Students will then record observations and hypotheses in their science journals relating to the origins of their specimen based on a grade appropriate interpretation of the following prompt:

Imagine that you are a member of an ancient civilization and have just encountered the specimen that you have been provided. Disregarding your schema, or personal background knowledge, how would you reconcile this specimen with the ancient world? Would you view this specimen as a natural resource, and if so, how would you utilize it?

When students have completed a draft of their initial prompt, teachers will provide identification information related to their specimens and direct students to complete the second half of the assignment based on the rubric provided in the Materials and Methods section. Teachers are free to adapt the rubric to their specific needs.

Students will next be required to research their specimen. An additional lesson on valid scientific sources may be included as deemed appropriate by the teacher. Suggested criteria may include a depiction of the Linnean taxonomy of their specimen if appropriate for the grade level standards.

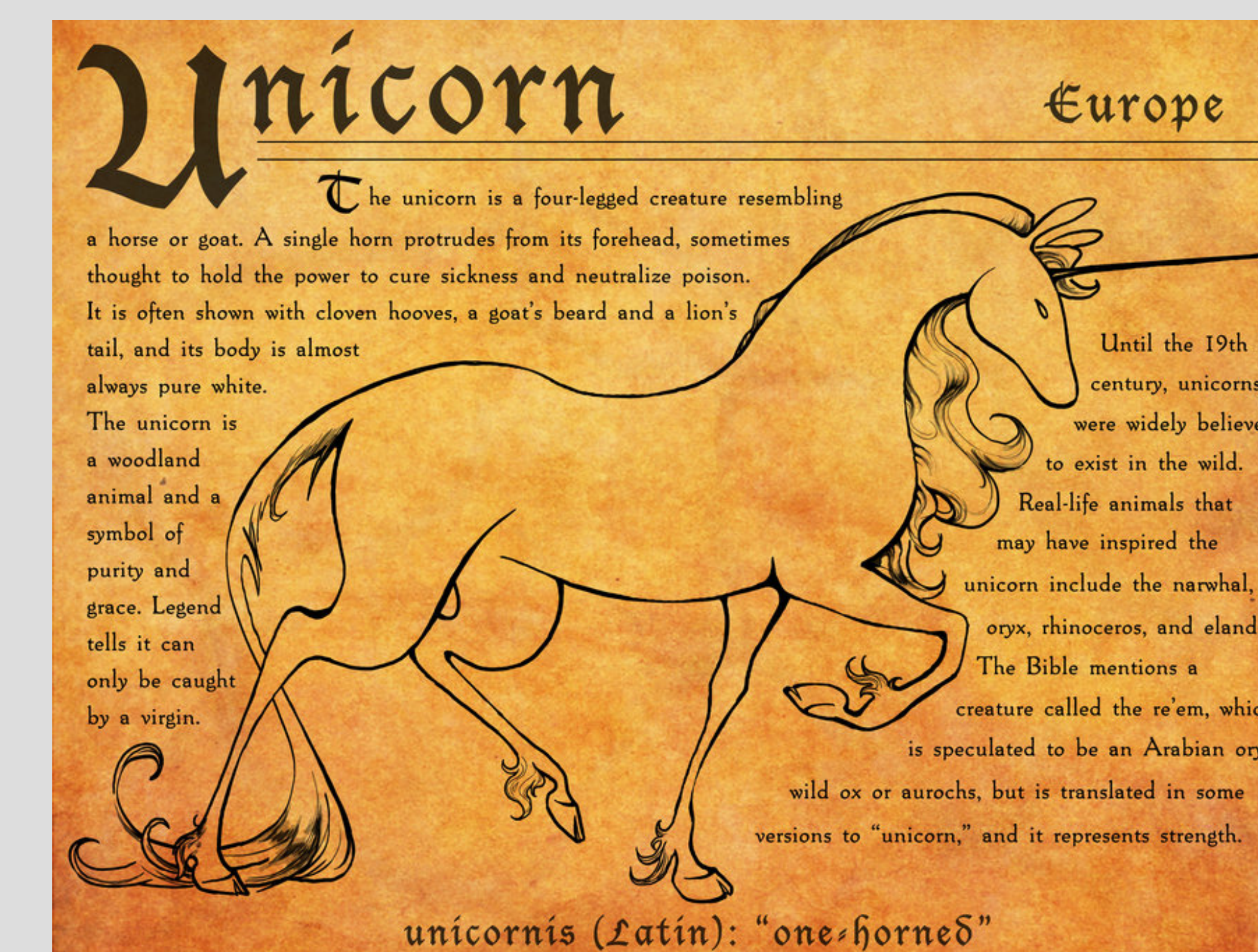
Further extensions could include presentation, as this reaches one of the desired goals of fostering scientific communication skills in the K-12 educational setting.

Expected Outcomes

An integration of various disciplines aimed at drawing students into scientific communication within paleontology

Introduce students to research in an age appropriate manner, including the vetting of scientific information

Encourage discussions of alternative career paths within paleontology based on student interest and learning preferences



Literature cited

Mayell, Hillary. 2003. Cyclops Myth Spurred by "One-Eyed" Fossils? *National Geographic News*
http://news.nationalgeographic.com/news/2003/02/0205_030205_cyclops.html accessed August 4, 2017

Mayor, Adrienne. Dinosaurs, Mammoths, and Myth in the Greek and Roman World: Tracing the History of Human Curiosity about Fossils.(2011) *The First Fossil Hunters*

Nikos Solounias and Adrienne Mayor (2004) Ancient References to the Fossils from the Land of Pythagoras. *Earth Sciences History*: 2004, Vol. 23, No. 2, pp. 283-296.

Acknowledgments

I would like to express a deep gratitude to The FOSSIL Project, Dr. Bruce MacFadden, Jeanette Pirlo, Aaron Woodruff, and Tricia Lynn Grosser

Further information

© Copyright Tynessa Craft

¹ This project is ideally suited to be conducted with authentic specimens to maintain the integrity of tactile observations. In situations where this is not possible, 3D printing or photographs may be substituted.