

# Climate and Mummification

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**TIME:** 2-3 class periods in fall, 1 in spring

**GRADE LEVEL:** 5-8

**PURPOSE:** For students to learn how climate affects history and culture.

## National Geography Standards

*Geography Standard 17: How to Apply Geography to Interpret the Past*

## Indiana's Academic Standards

- 7.1.1 Explain the rise of early civilizations in the river valleys of the Tigris and Euphrates in Mesopotamia and along the Nile in Northeastern Africa, including Egypt and Kush.
- 7.1.2 Describe the achievements of ancient Egypt in art, architecture, religion, and government and the development of the concept of theocracy\*.
- 7.1.16 Recognize the interconnection of historical people, places, events, and developments that have taken place in civilizations of Africa, Asia, and the Southwest Pacific.
- 7.1.17 Recognize historical perspective by identifying the historical context in which events occurred, and avoid evaluating the past solely in terms of present-day norms.
- 7.3.4 Name and locate major regions, mountain ranges, river systems, countries, and cities in Africa, Asia, and the Southwest Pacific.
- 7.3.5 Identify and compare physical and cultural sub-regions of Africa, Asia, and the Southwest Pacific.
- 7.3.6 Locate and map the climate regions of the Eastern Hemisphere and explain how and why they differ.
- 6.3.8 Identify major biomes\* and explain ways in which the natural environment of places in Europe and the Americas relates to their climate, which is influenced by Earth/sun relationships.
- 6.1.19 Analyze cause-and-effect relationships, keeping in mind multiple causation, including the importance of individuals, ideas, human interests, beliefs, and chance in history.
- 6.5.9 Examine artifacts\*, including documents\*, from other cultures to determine their use and significance.
- 6.5.10 Example: A seashell is a natural object, but a seashell that has been made into a necklace is an artifact.

**OBJECTIVES:** Students will be able to

- list the steps in the Egyptian mummification process,
- list three methods of mummification and three places where mummies have been found,
- discuss the relationship between climate and mummification (including references to climate change), and
- explain how events in history take place in an historic context.

## MATERIALS:

- One Cornish game hen (preferably with giblets)
- One plastic empty ½ gallon ice cream container with lid
- Three 4 LB. boxes of Morton Canning and Pickling Salt
- Various spices indigenous to Africa, olive oil, cooking wine
- Scissors
- Natural fiber bed sheet or pillowcase (like cotton or linen so that it decomposes)
- Assorted amulets (have kids bring in broken necklaces and so forth from home)
- Optional: Shoe box or wooden sarcophagus and/or coffin

## PROCEDURE:

Pre-mummification Procedures

1. Go to the British museum website <http://www.ancientegypt.co.uk/> and have students explore the Mummification link. This gives general background on the purpose and rationale of mummification and the procedures used by the ancient Egyptians to mummify their dead. The mummification process of this lesson is designed to imitate the procedures used in ancient Egypt as described in the British Museum website.

2. Have students record their procedures and observations in a journal or worksheet as you prepare the carcass. In Step 15 below, have students make predictions as to the outcome (i.e., will the carcass stay mummified and what will it look like).

#### Preparing the Carcass - Fall

##### Week 1

1. Poke 6-7 holes in the bottom of the ice cream tub.
2. Remove game hen from package, remove giblets, drain fluid, rinse with water (I use "holy" water from the Elkhart River, or, sometimes the boys' bathroom), and dribble with the cooking wine.
3. Fill body cavity with salt, place a small amount of salt in the bottom of container, place the carcass in the tub and fill with salt. If you are saving the internal organs (giblets) also place these in the tub.
4. Place tub on the upside down lid and store in an out-of-the-way place

##### After 1 week (week 2)

5. Remove hen from salt, clean out the body cavity and giblets. There is always more than one student willing to do this. Don't be surprised to find that fluid has collected in the container lid.
6. Re-salt hen and giblets and set aside for 1 week.

##### After another week (week 3)

7. Repeat steps 5 and 6.

##### Week 4

8. Repeat step 5.
9. Rub olive oil on carcass and then sprinkle with spices.
10. Cut linen into approximately 1 inch wide strips and wrap carcass in the linen.
11. As you wrap, place amulets in the wrapping.
12. Place in coffin.
13. Bury in the ground and mark or record location.
14. Have students record predictions on their procedure sheets.

##### In Spring

15. Dig up, unwrap and make observations. I always do this on the last day of social studies class.
16. If you managed not to lose the student journals, have them compare their observations with their predictions last Fall. Discuss factors that contributed to the state (i.e., rottenness) of the Cornish hen.

#### **EXTENTIONS:** Most of these ideas have come from the students -

1. Vary the procedure between classes and compare results. Bury in the bare earth or on a platform inside a brick pyramid, or place in a wooden coffin. You could also find real natron or mix baking soda with the canning salt to approximate more closely the naturally occurring natron in Egypt. Get an extra game hen and use it as a control, i.e., do nothing to it.
2. Have students make canopic jars as either an individual project or in art class. Bury the giblets inside the jars.
3. Mapping exercises: Map locations in the world where mummies have been found and describe the climate or conditions that result in mummification.

#### **WEB RESOURCES:**

<http://www.pbs.org/wgbh/nova/chinamum/mummies101.html>

- Good background on types of mummies and climate

<http://www.pbs.org/wgbh/nova/icemummies/>

- Several articles and lesson plans related to Nova programming

<http://oi.uchicago.edu/OI/MUS/ED/kids.html>

- Various activities for kids to learn about Egypt and Mummies - Interactive

<http://www.ancientegypt.co.uk/>

- My favorite site for supplemental material on ancient Egypt – Interactive
- Also check out Mesopotamia, India, and Mesoamerica sites

<http://www.nationalgeographic.com/xpeditions/lessons/17/g912/goodmummy.html>

- National Geographic Xpeditions: many good lesson plans here. Some of the objectives borrowed from this site.

#### **Other Sources:**

Ancient Egypt GeoKit by National Geographic

- Contains maps, videos and lessons.
- Powerpoint presentation– contact Tim Lehman, [tclehman@bethanycs.net](mailto:tclehman@bethanycs.net) or visit the GENI web site (<http://www.iupui.edu/~geni>)