

This week's issue:

MUMMIES: WHO OWNS THE DEAD?

Mummies are very old dead human bodies that have been preserved with flesh still on their bones. Some cultures have a tradition of making mummies when people die. For example, ancient Egyptians preserved the bodies of dead kings and queens because they believed this would ensure a good afterlife.

In recent years, mummies that were created naturally have been discovered all over the world. One found in the Alps appears to have been accidentally frozen in a glacier. He is known as the Iceman and is **presumed** by scientists to be over 5,000 years old!

There is a **diversity** of perspectives about what to do with mummies when they are discovered. Should they be removed and examined, or should they be left where they are? Many people believe that removing a mummy from its burial place dishonors the dead. They argue that mummies preserved by humans were honored by their culture for religious or other reasons. We should respect these rituals instead of damaging the burial ground and removing the dead. Some people argue that even mummies that were created naturally, like the Iceman, should not be disturbed after death out of respect.

However, other people say it would be irresponsible to give up the chance to learn from mummies. We can discover a lot about human history by studying these ancient human bodies. They can **reveal** clues about what people ate, the tools they made, what they wore,

and how they lived and died. They can also help to **enhance** archaeologists' understanding of human **migration** patterns. For example, scientific tests have revealed information about where the Iceman might have traveled in his lifetime.

Even among people who agree that we should remove and study mummies, there is a range of opinions about where the bodies should be taken. Some think that each mummy belongs to the country where it was first identified. They believe that researchers in its home country have the right to take ownership of the mummy.

Others believe that each mummy should go to the museum or university best equipped to study and protect it, even if it will need to be transported to a different country. They argue that the home country will not always have the ability to properly remove, transport, study, and store the mummy. If it isn't handled carefully, a mummy will deteriorate and will no longer be useful for scientific knowledge at all.

What do you think?



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UNIT 1.11



diversity | enhance | migration | presume | reveal

USE THE FOCUS WORDS

diversity (*noun*) variety; range

➡ **Sample Sentence:** The school newspaper reporters were looking for a **diversity** of opinions, so they made sure to ask boys and girls from all grade levels.

🗣️ **Turn and Talk:** What is a topic among your friends for which there is a **diversity** of beliefs?

enhance (*verb*) to improve

➡ **Sample Sentence:** Heather joined the school dance troupe to **enhance** her dance skills.

🗣️ **Turn and Talk:** Can you think of something that you could do to **enhance** the appearance of your school?

migration (*noun*) movement from one place to another

➡ **Sample Sentence:** During the Great **Migration**, which took place from 1910 to 1970, over six million African Americans moved from the rural South to Northern, Midwestern, and Western cities.

🗣️ **Turn and Talk:** What are some animals that have a yearly **migration**? Bonus points if you can say where they start and where they end up.

presume (*verb*) to suppose; to guess; to assume

➡ **Sample Sentence:** The suspect was **presumed** guilty even before the stolen watch was found in his pocket.

🗣️ **Turn and Talk:** What do you **presume** to be the reason why students don't go to school during the summer?

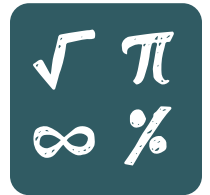
reveal (*verb*) to uncover; to show; to expose

➡ **Sample Sentence:** Magicians rarely **reveal** their secrets to the audience.

🗣️ **Turn and Talk:** How can a person's face or body language **reveal** that they are hiding something?

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DO THE MATH

When hikers first found the Iceman, they **presumed** that the body was fresh. Subsequent scientific study **revealed** that he had died over 5,000 years earlier.


Studies of the Iceman's body and clothing have **enhanced** our idea of what life was like long ago. Researchers learned about the **diversity** of his diet. Inside his stomach they found meat, grain, roots, and fruit. Researchers who study human **migration** were particularly interested in the Iceman's shoes. His shoes were sturdy and good for walking.

Option 1: The Iceman died about 5,300 years ago. Which letter represents the time frame of his death?



1. A
2. B
3. C
4. D

Option 2: Evidence from the Iceman's teeth and bones suggests that he spent his life in a region that measures 37 miles across. An average person can walk at a rate of 3.5 miles per hour. How long would it take to walk from one end of the Iceman's domain to the other?

 **Discussion Question:** Today, when someone dies, we **presume** that the family has rights to the body. Many families want bodies disposed of quickly and respectfully. Some people offer their bodies for scientific study. It is illegal to use a person's body in this way without their consent. When an ancient mummy is discovered, we think about the body very differently. We know that studying ancient remains may **reveal** new information that will **enhance** scientific knowledge. Ancient mummies may tell us new things about the **diversity** of human experience, including where and how people migrated, what they ate, and how they lived. Is treating ancient mummies as scientific objects a form of disrespect? Or is the value to science more important? Or, could we say that scientific study itself is a way of respecting our ancient ancestors?

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THINK SCIENTIFICALLY

The students in Ms. Kahn's class are doing a unit on health, and Marian has become interested in epidemiology, the study of how diseases spread in populations. She is giving a report on a disease called Leishmaniasis (leesh-ma-NY-uh-sis).

"Leishmaniasis is a horrible disease that can cause big open sores on the body. It's caused by a parasite that gets into humans and other mammals through the bite of sandflies. The worst form of the disease can cause fever and swollen livers and spleens. Sometimes it is deadly. The disease kills over 20,000 people a year. The disease is found in a **diversity** of locations, but scientists think it probably started long ago in Nubia, the part of East Africa that is now Sudan. Evidence for that theory is **enhanced** by a study of mummies. The disease is also found—"

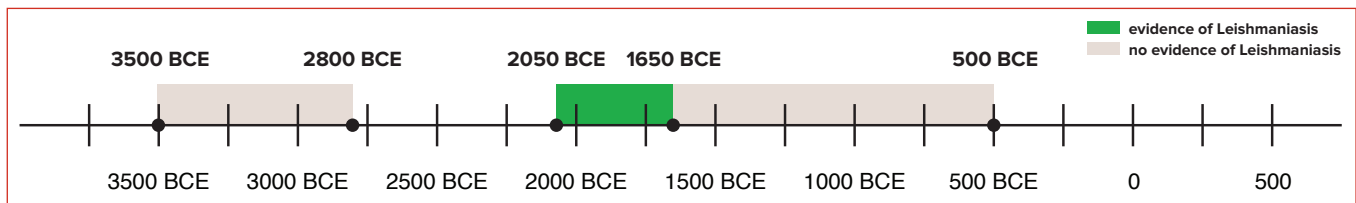
"Hold on," interrupts Ethan. "Mummies?"

"Yeah, mummies," says Marian. "So anyway, one of the best ways to prevent the spread of the disease is to use netting and insect repellant—"

"Back to the mummies," Ethan insists. "How do mummies help scientists figure out where a disease came from?"

"Okay, okay," says Marian. "Let's talk about the mummy angle. It's almost like the mummies are witnesses, and they provide clues that **reveal** where the disease was at different times."

Marian shows her classmates a timeline based on a study she found online. She tells them they are going to think through a question using scientific reasoning.



Data Source: Leishmaniasis in Ancient Egypt and Upper Nubia. (2006). *Emerging Infectious Diseases*.

Scientists studied mummies from three different burial sites in Egypt to learn more about Leishmaniasis donovani, the most dangerous form of the disease. They looked at Egyptian sites dating from 3500 to 2800 BCE; from 2050 to 1650 BCE; and from 2050 to 500 BCE. Interestingly, the scientists found DNA evidence of *L. donovani* *only* in mummies from the second burial site, which was used during the Middle Kingdom time period in Egypt. Since the Middle Kingdom was a time when Egypt and Nubia had lots of contact, and people migrated back and forth, the scientists concluded that the disease was connected to Ancient Nubia, the land south of Egypt.

This raises some questions:

- ⇒ Did Egyptians catch the disease from Nubians?
- ✗ NO. The disease is not contagious from person to person.
- ⇒ Did the sandflies that infect people once live in Egypt?
- ✗ NO. The environment in Egypt was never a good habitat for the sandflies.

SO... How do you **presume** the Egyptians became infected?

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DEBATE THE ISSUE

Pick one of these positions (or create your own).



Mummies should be left where they are.

OR

B

Mummies can be moved as long as they do not leave the country where they were found.

OR



Mummies can be moved to a museum or university where scholars can study them.

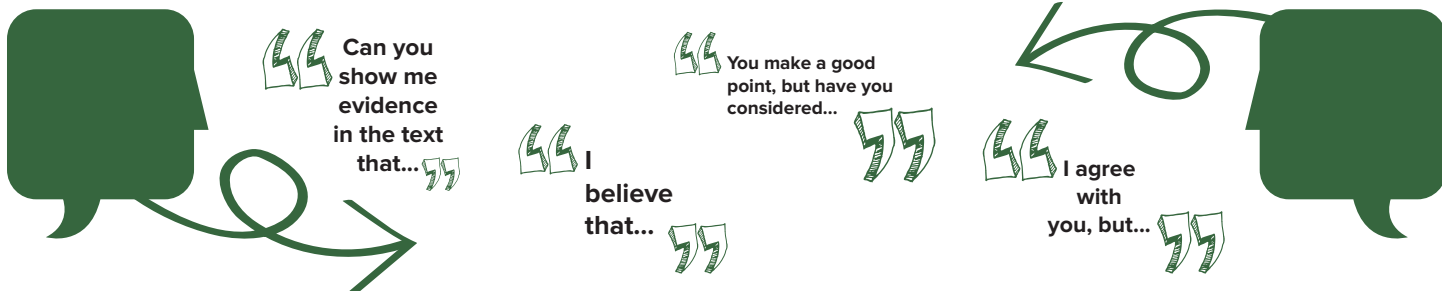
OR

CREATE YOUR OWN

Jot down a few notes on how to support your position during a discussion or debate.

[illegible]

Be a strong participant by using phrases like these:



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TAKE A STAND



Support your position with clear reasons and specific examples. Try to use relevant words from the Word Generation list in your response.

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[illegible]