Session I: Ancient Egypt — Due September 28

1. Read Ancient Egypt: Mummification and Medicine
2. Make your own mini mummy from a toy, stuffed animal, cardboard - whatever you can imagine. Bring it in to share with your table on September 28.
3. Have fun with optional extension activities from Pyramids and Great Monuments

Ancient Egypt: Mummification and Medicine

When most people picture ancient Egypt, they picture mummies — and it turns out that image is rooted in one of the most careful, deliberate scientific processes of the ancient world. Egyptian embalmers followed a detailed 70-day process to preserve a body after death, starting by carefully removing the internal organs and storing them in special containers called canopic jars. The body itself was then packed and covered in natron, a natural salt found in dry lake beds, which drew out moisture and prevented decay. Only after weeks of drying was the body finally wrapped in layers of linen, accompanied by prayers and protective amulets tucked between the wrappings.

This wasn't just a burial custom — it grew directly out of deep religious beliefs about what happens after death. Egyptians believed every person had a ka, a kind of life force, and a ba, often described as the soul, both of which needed the body to remain recognizable and intact in order to reunite with it in the afterlife. If the body decayed away completely, they feared the ka and ba would have nowhere to return to, which is exactly why preserving the body carefully mattered so much to them. This week, students will start their own hands-on science experiment, using ordinary table salt to mummify apple slices, testing the very same chemistry the Egyptians relied on thousands of years ago.

The science behind mummification is something students can understand right in their own kitchens: salt preserves things by pulling water out of cells through a process called osmosis, and without that moisture, the bacteria and mold that cause decay simply can't survive. Natron worked exactly the same way, drawing water out of the body's tissues to prevent them from rotting. By burying one apple slice completely in salt and leaving another slice untouched, students will watch this ancient chemistry play out for themselves over the course of a week.

Beyond mummification, ancient Egyptian medicine itself was remarkably advanced for its time. Egyptian physicians documented over 200 different diseases, performed surgeries that included treating skull and brain injuries, and even used honey as a natural antibiotic to help wounds heal and resist infection. Egyptian doctors were also highly specialized, much like today, with different physicians trained specifically as eye doctors, dentists, or surgeons rather than one person treating every ailment. Remarkably, some of these ancient treatments weren't outdated superstition at all — modern medicine still uses medical-grade honey and even maggot therapy today to help clean and heal certain wounds, showing that "ancient" doesn't always mean primitive.

Studying Egyptian views on death also invites an important comparison to other beliefs about what comes after life ends. The Egyptians hoped that by preserving the body perfectly, a person's ka and ba could be sustained forever in the afterlife — their hope rested on human effort and careful preparation. Christian hope, by contrast, rests not on preserving the body but on the promise of resurrection in Jesus Christ, trusting that God alone has power over life and death regardless of what happens to the body. As students explore both mummification and medicine this week, they'll see how one ancient civilization's careful science and deep beliefs about the

human body still echo forward into medicine, and into big questions many people continue to wrestle with today.

Ancient Egypt: Make your own mini mummy

Make your own mini mummy and bring it to share with your small group. Use items from around your house. You can use toilet paper or scraps of cloth, and wrap it around a stuffed animal, or a doll, or a human model you make from cardboard. Use your creativity and have fun!

Extension Activities for Pyramids and Great Monuments

- Read the following pages in Ancient Egypt (DK Eyewitness) to reinforce concepts from this week: pages 20-21; and 22-23.
- The Pyramids of Egypt and the Giza Plateau: Ancient Egyptian History for Kids (FreeSchool) YouTube video
- Ancient Wonders: Pyramids (National Geographic) YouTube video
- Build another pyramid at home with LEGOs or wooden blocks or anything you want. For grades 4-6, see if you can calculate the slope. Here's how:

What "slope" means for a pyramid

Slope just means how steep something is. A pyramid's slope tells us how quickly the sides lean inward as they go up. To measure it, we compare two things:

- **Rise** — how *tall* the pyramid is (measuring straight up)
- **Run** — how far it is from the *very center* of the base to the *edge* of the base (measuring straight across, along the ground)

Step-by-step instructions

Step 1: Measure the height (the rise) Stand your ruler straight up next to the pyramid, right beside the very tip. Measure from the table up to the top point. Write this number down and label it "Height" or "Rise." (Example: 4 inches)

Step 2: Measure the base Lay your ruler flat along the bottom edge of the pyramid, from one side to the other. Write down that full width. (Example: 6 inches)

Step 3: Cut the base measurement in half This is the trickiest part to explain, so here's a simple way to picture it: imagine slicing your pyramid straight down the middle, right through the tip, like cutting a sandwich in half. Now you only care about *half* of the base — the distance from the very center of the pyramid to one outside edge. To get this number, just divide your base measurement by 2. (Example: 6 inches ÷ 2 = 3 inches — this is your "Run")

Step 4: Write your slope as a comparison (a ratio) Now you compare Rise to Run, like this:

Rise : Run 4 : 3

This tells you that for every 3 inches you move sideways from the center, the pyramid rises 4 inches upward. A bigger rise compared to run means a steeper, taller-looking pyramid. A smaller rise compared to run means a flatter, wider pyramid.

Step 5 (bonus — turn it into a single number) If you want one simple number instead of two, divide Rise by Run:

4 ÷ 3 = 1.33

This is called a slope ratio. The bigger this number is, the steeper the pyramid.

A simple way to explain WHY this works

Picture a playground slide. A steep slide has a rise that's much bigger than its run — you go up high in a short distance. A gentle, low slide has a run that's much longer than its rise. Pyramids work exactly the same way — we're just checking how "steep" the triangle-shaped side of the pyramid is, the same way we'd check how steep a slide or a ramp is.

Connecting it back to Egypt

The ancient Egyptians used this same idea when building real pyramids, except they had their own special unit for it called a *seked*. Instead of using rise and run in inches, they measured how many hand-widths a pyramid's side moved sideways for every one cubit (an Egyptian measuring unit) it rose upward — same idea, just their own units!

The Great Pyramid's real slope works out to an angle of about 51.8 degrees. After you calculate your pyramid’s ratio, compare it - is your pyramid’s slope steeper than the Great Pyramid? Can you build a pyramid that matches the Great Pyramid’s slope?