

P1

Today we are going to help conservators at the Carlos Museum solve the case of the Slumping Pot!

P2

One day, conservators at the Carlos Museum were walking through the Egyptian Gallery and noticed something strange. An Egyptian vessel had slumped over in its display case! Look around this image of the Egyptian Gallery at the Museum. What do you see that could affect the objects on display? (Students should be able to point out the lights and maybe air in the case. Students should record responses on their individual worksheets.)

P3

Here are some close-ups of the slumping vessel.

P4

Before we dive into this mystery, let's get some background information. This vessel comes from the continent of Africa (show on globe).

P5

This vessel was made in the country of Egypt.

- a. Egypt is in Northern Africa and has a desert climate. This means it is very dry and hot in the summer and cooler (but not cold!) in the winter. The areas near the ocean also get some rain in the wintertime.
- b. Some of the main natural resources of Egypt are petroleum, natural gas, iron, different kinds of minerals, lead, zinc, and rare earth elements.
- c. There are approximately 104 million people in Egypt with 95% of the population living near the Nile River.

P6

In ancient Egypt, many materials were used to make vessels for ceremonial and daily use. Among those materials were unfired clay, ceramic, stone, and wax. Each of these materials could be found locally in Egypt. Clay could be sourced from the Nile, stone could be dug out of the ground nearby, and wax was taken from beehives. As you can see from these objects in the Near East and Egyptian collection at the Carlos Museum, unfired clay, ceramic, stone, and wax were also used to make sculptures, paintings, buildings, and tablets.

P7

To solve the mystery of what happened to this pot, let's investigate the properties of the materials used by Ancient Egyptians. In front of you, you have a piece of wax, a lump of wet clay, a piece of ceramic, and a piece of stone. On your worksheet, write down observations for each material (#2). What does it look like? Does it have a texture? What is its color? What does it feel like? Is it soft at room temperature? Is it sticky?

In your groups, you will test each material under hot lights, hot air, and cold air. Record your observations in the appropriate table. You should only be filling out numbers 3 and 4. You will have 5 minutes at each station.

P8

This week we will be returning to the Case of the Slumping Pot and discussing how climate can change materials.

P9

Since Egypt has a very dry climate, water can affect objects made in Egypt. In the gallery, this water can appear in the form of humidity or flooding. What would happen to these raw materials if the humidity was high or if there was a flood in the Museum? Drop one material at a time into your bucket of water. Write down in table 5 your observations.

P10

Based on your experimental results, what material or materials do you think caused the vessel to slump? (Hopefully students will recognize that wax will behave this way.) What caused this to happen in the display case? Is the whole vessel made of wax? (Answer: no)

P11

Wax can also be used by conservators to protect objects, like metals, or restore objects, like this stone vessel from Egypt. Wax can be mixed with resins or pigments to fill areas of loss in an object. On the left you can see conservation staff from the Museum applying wax to an outdoor metal sculpture to protect it from the elements. You can see on the right a fill made from wax. Wax is a great material for some stones, like calcite or alabaster, because it allows light to pass through just like the stone. This property is called translucency.

P12

Surprisingly, this vessel is not entirely made of wax! This is a broken calcite (stone) vessel that was repaired by conservators at the Museum. Calcite is a very soft and translucent stone that was used a lot by Egyptians to make vessels and decorative objects. It was used so much by Egyptians that it is often called Egyptian alabaster. The term alabaster might have come from the Egyptian goddess Bastet, a goddess in the form of a cat. A large piece was missing from the side and so wax was used to fill this area. Wax was chosen because it has a similar appearance to the translucent calcite stone. Under the hot lights of the display case, the wax started to soften, and the vessel started to lean. To fix this problem, conservators added supports inside the wax fill and changed the hot lightbulbs in the display case to LED bulbs, which don't get as hot.

P14

This session we will be learning about the origin of Egyptian Osiris figure masks. We will then use what we learned from the Case of the Slumping Pot to make our own wax masks.

P15

Has anyone ever had a chia pet? The concept of a chia pet is to grow seeds from a fun decorative planter as you can see in the top images. Way before chia pets existed, Egyptians were doing almost the same thing! During the New Kingdom era (ca. 1550-1070 BCE), Egyptians began burying Osiris figures filled with mud and grain in tombs and sacred sites. These would then sprout from the ground, representing Osiris's role in bringing life from the earth. An example of one of these figures can be found on display in the Egyptian Galleries at the Carlos Museum.

P16

In order to make these figures, sand, soil, and grains were wrapped in linen and shaped into an Osiris figure (click to wrap with linen). A wax mask was then made to place on the face of the figure (click for mask to appear). Wax was thought to have magical properties of transformation. These masks were gilded with gold, to represent the god's skin, and painted. These figures were then placed inside of a wooden coffin to be buried (click to place coffin lid).

P17

In front of you is a ball of wax. You need to soften your wax and press it into the silicone face molds. To remove it from the mold safely, you will then need to harden the wax. Use what you learned about the properties of wax to do this successfully. Once your mask is out, you can paint and decorate your mask.