



Student Worksheets

Art Through Time
Supplemental Materials
Grades 6-8



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Activity 1: Democracy in Greece, Rome and the United States

Before the United States of America became a country, it was a colony of Great Britain. As subjects of the crown, the colonists had to follow laws made by King George III of Great Britain. Yet, because many colonists were frustrated with his laws, the American Colonies declared independence from Great Britain in 1776. The people of the United States wanted a new government. When the founding fathers of the United States—people like James Madison—created the Constitution, they modeled the new government in part on the governments of Ancient Greece and Ancient Rome.

Ancient Greece was made up of different **city-states**, three of which were Corinth, Athens and Sparta. Each city-state had its own government. A **monarchy** is a government in which a king (or queen) rules; Corinth had a monarchy. An **oligarchy** is where a small group rules; Sparta had an oligarchy. Athens, however, had a **direct democracy**. This means that the **citizens** voted to make their own rules. Greece is called the “birthplace of democracy.”¹

Ancient Rome had a **representative democracy**. In a representative democracy, citizens vote for a smaller group of citizens to make rules for everyone.

The United States Government was set up so that citizens elect a smaller group of citizens to Congress. Congress is made up of the Senate and the House of Representatives. These Senators and Representatives make the laws and rules that everyone follows. In local governments, citizens will sometimes all vote to make a decision. For example, the county might want to build a new recreation center and everyone in the county might vote whether to build it or not.

Questions:

1. What kind of government did Athens have?
2. What kind of government did the Ancient Romans have?
3. In what ways is the United States government like Ancient Athens?

¹ <http://greece.mrdonn.org/government.html>

4. In what ways in the United States government like Ancient Rome?

5. Think about the activity the class did exploring different forms of government. Did you prefer one form of government over another? Why?

6. Use the chart below to list at least one advantage and disadvantage to each form of government.

Type of Government	Advantages	Disadvantages
Monarchy (like Corinth or Great Britain)		
Direct Democracy (like Athens)		
Representative Democracy (like Ancient Rome)		



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Activity 2: Classical and Neoclassical Architecture

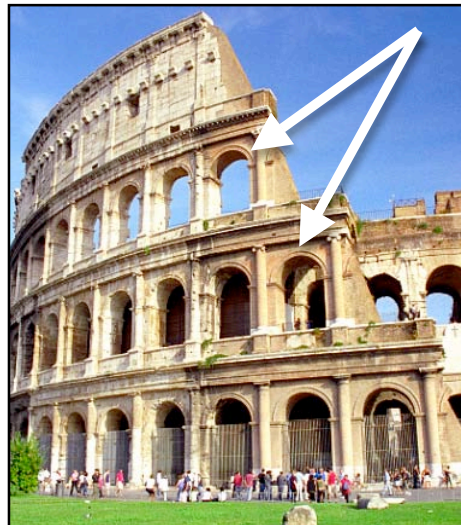
In the early years of the United States, people like George Washington copied elements of Greek and Roman art and architecture. Ancient Greek and Roman art and architecture are described as **classical**.

George Washington's step-granddaughter, Martha Custis Peter and her husband, Thomas Peter also liked the **classical** style. Over two hundred years ago, they built a house in Georgetown and called it Tudor Place. Tudor Place was built in the **neoclassical**, or "new classical," style.

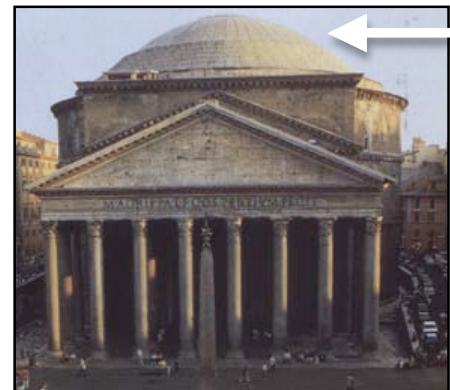
Look at the diagrams below showing elements of Greek and Roman architecture. Draw each element in the box provided. Then, look at the picture of Tudor Place on the back of the page. What similarities do you see?



Columns at the Parthenon in Athens, Greece.

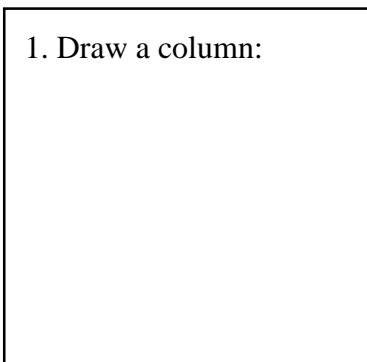


Arches at the Colosseum in Rome, Italy

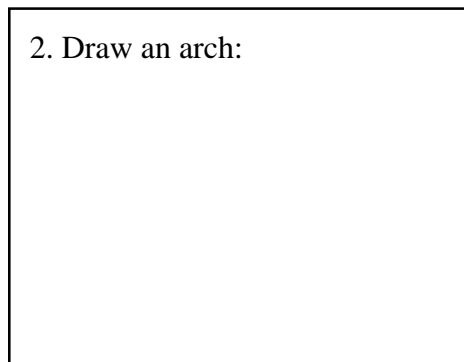


Dome atop the Pantheon in Rome, Italy

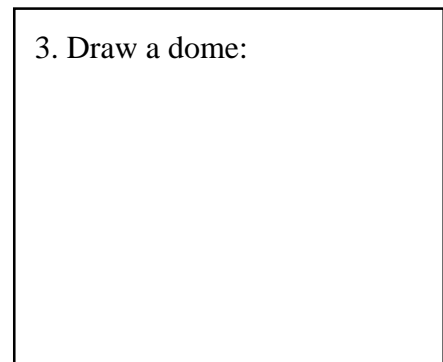
1. Draw a column:

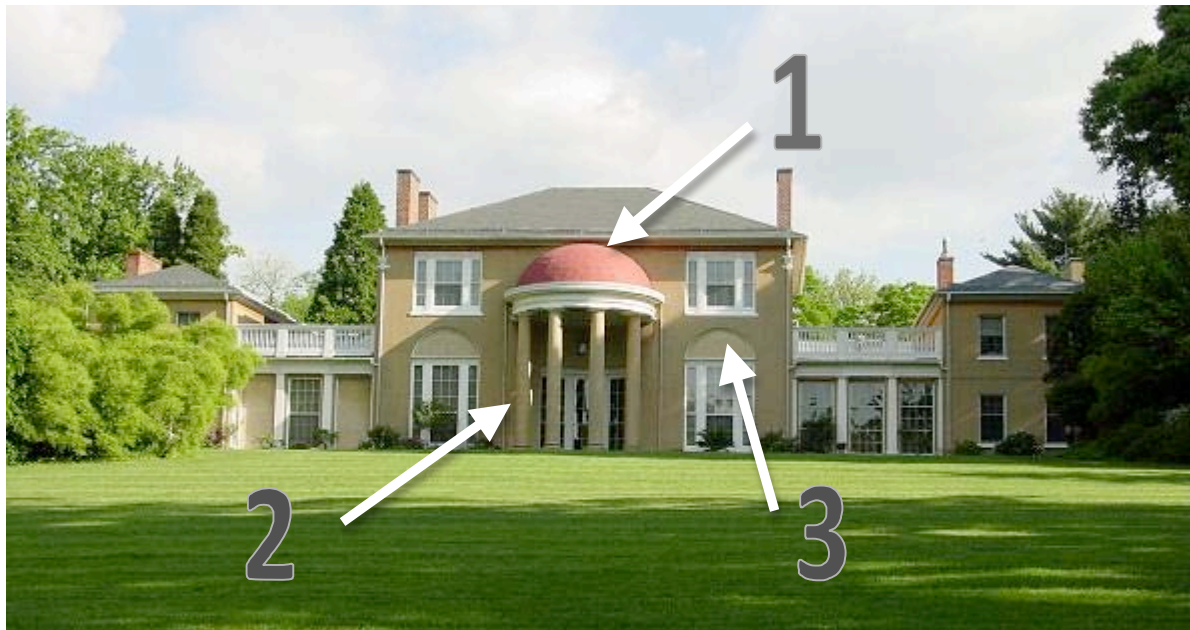


2. Draw an arch:

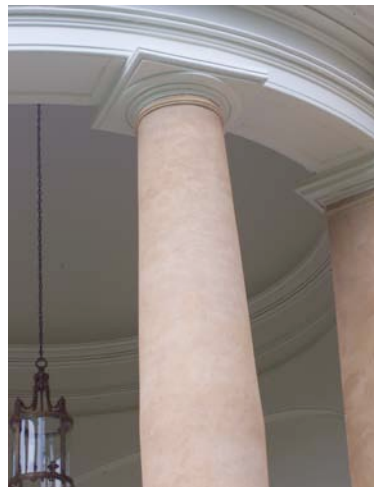


3. Draw a dome:





Directions: Compare the architecture of Tudor Place in this picture to the architecture on the previous page. Label each architectural element in the space provided.



4. _____

5. _____

6. _____

7. Circle the culture or cultures that used arches in their buildings.

Ancient Greece / Ancient Rome / Early 19th-Century United States

8. Circle the culture or cultures that used columns in their buildings.

Ancient Greece / Ancient Rome / Early 19th-Century United States

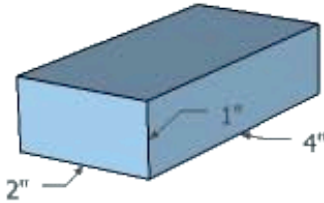


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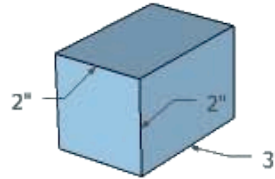
Surface Area and Volume

Volume = $length \times width \times height$
 Area = $length \times width$
 Surface area of a rectangular prism = the sum of the Area of all sides

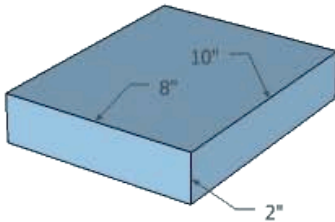
Calculate the **Volume** in cubic inches (in^3) for numbers 1-4. Show your work.



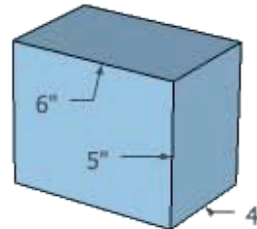
1. Volume = _____



2. Volume = _____

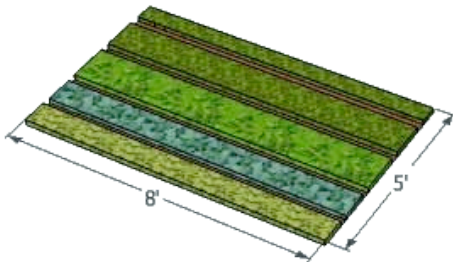


3. Volume = _____

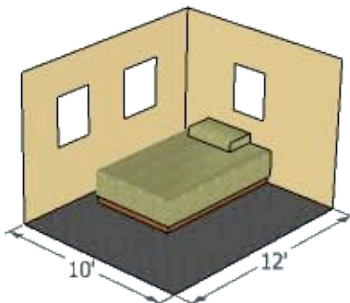


4. Volume = _____

Calculate the **Area** in square feet (ft^2) for numbers 5-6. Show your work.

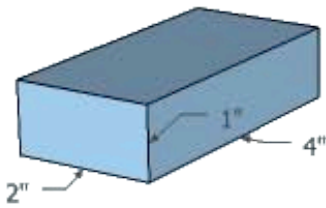


5. Area of a 5 ft. by 8 ft. garden = _____

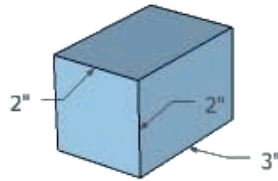


6. Area of a 10 ft. by 12 ft. bedroom = _____

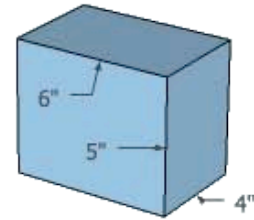
Calculate the **Surface Area** in square inches (in^2) for numbers 7-9. Show your work.



7. Surface Area = _____

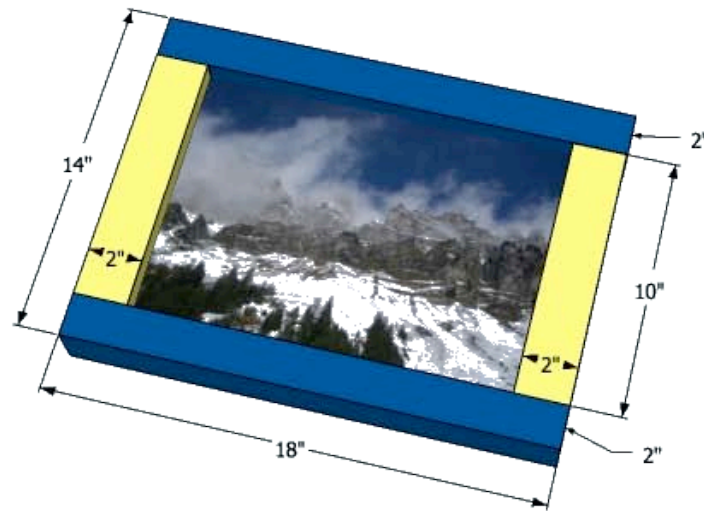


8. Surface Area = _____



9. Surface Area = _____

10. Raul painted a picture that he would like to frame. The painting measures 10 inches by 14 inches. He has two blocks of wood that are each 10 inches long, 2 inches wide and 2 inches tall and two blocks of wood that are each 18 inches long, 2 inches wide and 2 inches tall. The picture below shows how Raul combined these blocks to make a frame for his picture. Raul wants to gild only the front face of his picture frame, but he needs your help to figure out if he has enough gold. Using the measurements and picture below, answer the following questions on a separate sheet of paper and show your work:



- Calculate the **Area** of the front (top) side of the two shorter blocks combined.
- Calculate the **Area** of the front (top) side of the two longer blocks combined.
- What is the total **Area** of the top side of the frame? (Hint: use your calculations from a. and b. to calculate this).
- Raul has 120 in^2 of gold leaf. Does he have enough gold leaf to cover the front side of his picture frame?

Bonus: How many square inches of gold leaf would Raul need if he wanted to cover the 4 edges of the picture frame in addition to the front side?



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Activity 3: From Gold Nuggets to Gold Frames



Gilding is the name for the process of applying gold leaf to an object to decorate it. To gild a picture frame like the one shown here from Tudor Place, the gold must first be flattened into very, very thin sheets.

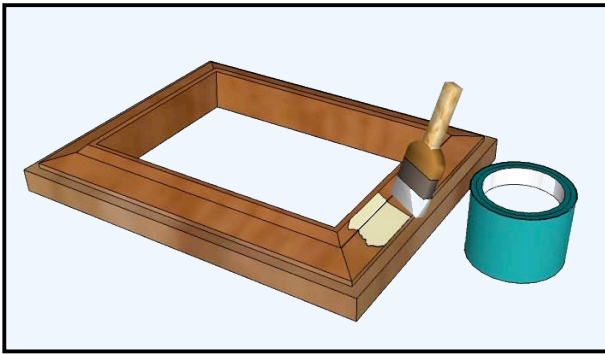
Flattening gold begins with a small lump of gold and a mallet. The lump is beaten over and over again to flatten it into gold sheet. Then, the gold sheet is cut into smaller squares, and each square is then put onto a thick goldbeater's skin so that it can be flattened further. Each gold square is approximately 2" x 2" and the goldbeater's skin is approximately 4" x 4". These are layered to make a packet with as many as 400 sheets of gold sandwiched between 400 sheets of goldbeater's skin. This packet gets wrapped in strong paper and is beaten again until the gold gets even thinner, expanding to the edge of the goldbeater's skin. Then, the packet is opened and each layer of gold is cut into four quarters; then it is stacked again between goldbeater's skin. The goldbeater will again wrap the stack with sturdy paper and beat it, repeating this process until the gold is thin

enough—about 1/1000 the thickness of a piece of paper.

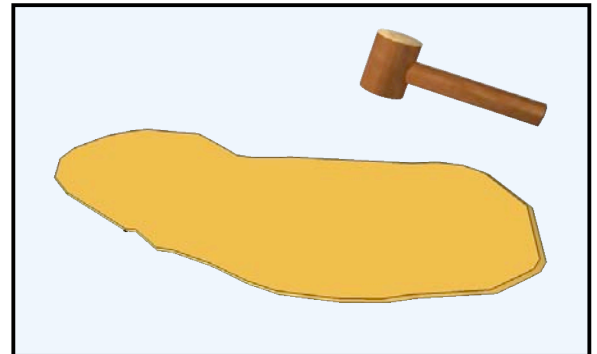
A gilder will use a few of these thin, thin sheets to cover a picture frame like the one in the picture. In order to make the gold leaf stick to the wooden surface, the gilder must first coat the wood with a special adhesive. The gilder will then use a clean brush called a gilder's tip to gently lift the gold leaf and place it on the frame. The gilder then uses tools to gently push the gold leaf down onto the surface. Finally, the gilder rubs the gold onto the surface with a tool called a **burnisher**.

The drawings on the back of this page illustrate the process by which gold is made into thin sheets for gilding. Number the drawings in the correct order from flattening a gold nugget to gilding a picture frame.

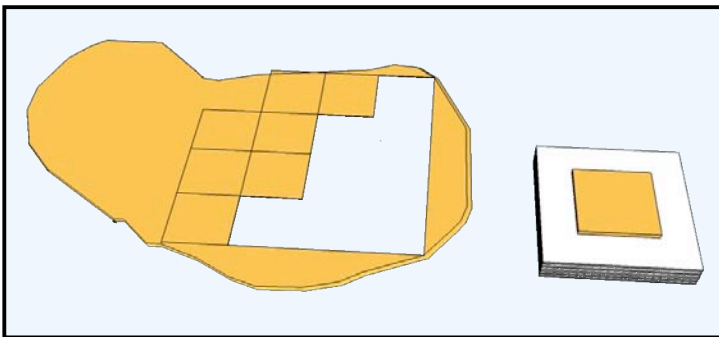
Using the description from the other side of the page, number these drawings in order.



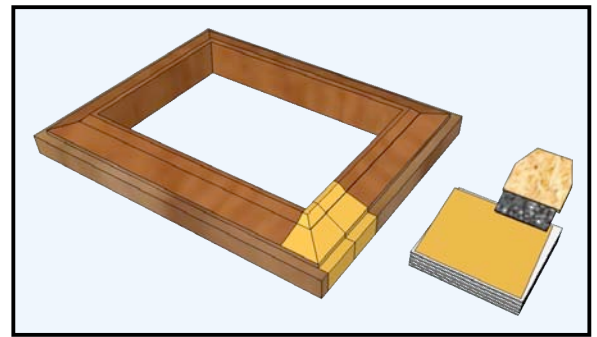
Step ___ Applying glue to frame



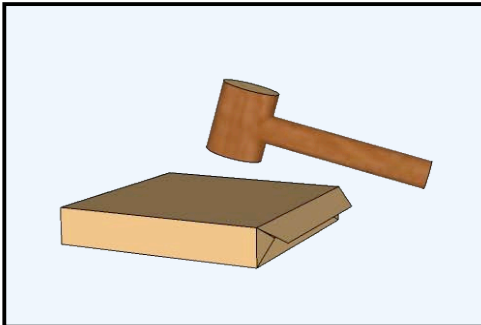
Step ___ Hammering gold sheet



Step ___ Cutting gold sheet to make a packet



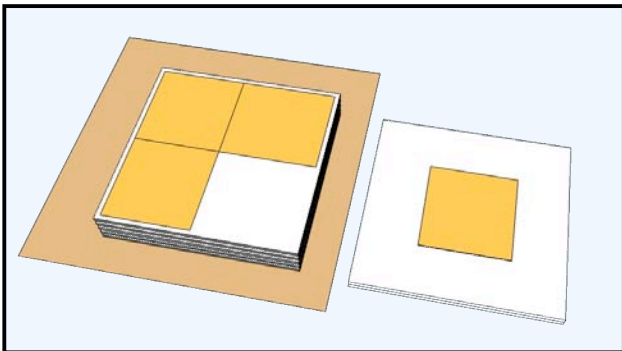
Step ___ Using gilder's tip to lift gold leaf



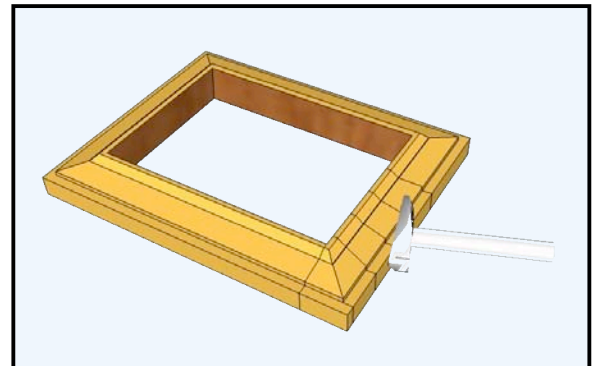
Step ___ Hammering packet of gold to make thinner



Step ___ Flattening gold nugget



Step ___ Cutting flattened sheet to flatten again



Step ___ Burnishing gold leaf to make smooth



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Activity 1: Art Description and Comparison



National Archeological Museum, Athens



Tudor Place



Comparison 1

1. The picture on the left is a relief sculpture of the Three Muses. It was carved in Greece around 350 BC and decorated the base of a statue of the goddess Artemis. In the space below, describe what you see in the picture. Who can you see? What are they doing? What are they wearing? What kind of material do you think this artwork was made from?

2. Look at the object from Tudor Place on the right, with a closer picture of the painting below it. This vase was made around 1810 AD. In the space below, write a few sentences describing this vase. Describe the decoration that you can see. What materials might have been used to make this vase? Why might the owner of Tudor Place have wanted this vase?

3. How do these two scenes compare? How are they different?

Comparison 2



National Archeological Museum, Athens



Tudor Place

- A. The object on the left is a hydria vase from Greece made around 440-430 BC. Describe what you see. Pay close attention to the chair the woman is sitting in. Describe it. Does it look similar or different to the chair you are sitting in? How?
- B. The object on the right is a chair in the drawing room at Tudor Place. It was made in the early 19th century after archaeologist had uncovered Greek and Roman artifacts. This chair was made in France. Describe the chair. What decorations can you see in both the wood and the fabric? Does it look similar or different to the chair you are sitting in? How?
- C. How do the chair on the vase and the chair from Tudor Place compare? How are they different?



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Activity 5: Creative Projects: Myths

At Tudor Place, you saw some objects with paintings of Greek and Roman stories, or **myths**. Myths are stories that people create to help explain why things happen the way they do, or even why the world was created. Different cultures have different myths.

The Greeks had not made the kind of scientific discoveries that we now know about weather. Instead, they believed that different gods affected what happened on earth. For example, the god Zeus was responsible for weather events, like lightning. They told stories to help answer questions they had, like why the sun moves across the sky every day or why the seasons change.

Research different Greek myths. Find two myths (other than the story of Demeter and Persephone) and write a one (1) paragraph summary for each myth. Hint: Edith Hamilton's *Mythology* is a good source for some of these stories.

After researching myths and summarizing two of them, then pick one of the following projects to do:

1. Pretend you are an ancient Greek citizen. Write a creative myth explaining why something happens. Maybe you want to invent an explanation for why the sky is blue or what makes fog. Or perhaps you want to explain why platypuses or armadillos look the way they do, or anything else you might want to write a myth to try to explain. Read the myth about Persephone and Demeter for an example.
2. Create a visual artwork (painting, sculpture, collage, drawing, film etc.) that tells the story of a Greek myth.
3. Write a poem about a myth or retelling a myth that you researched.
4. Take the perspective of one of the characters in a Greek myth and write a creative first-person narrative of the story.
5. Take a myth explaining a natural phenomenon and research the scientific explanation for why it happens. Then, write a brief essay discussing the differences.

When you are writing, you might want to include some of the gods that the ancient Greeks believed in. Below is a list of some of the Greek gods.

- **Zeus** was the most powerful of the gods. He was the god of lightening and was married to Hera.
- **Hera** was married to Zeus and was the Queen of the gods. Hera was the goddess of marriage, children, and the home.
- **Poseidon** was the god of the sea.
- **Hades** was the lord of the underworld and thus the god of death and the dead. **Cerberus**, a three-headed dog, guarded the entrance to the underworld.
- **Ares** was the god of war.
- **Hermes** was very fast and served as the messenger of the gods.
- **Apollo**, son of Zeus and brother to Artemis, was the sun god, making it rise each day. He is also associated with music, poetry, archery and medicine.
- **Artemis** was the goddess of the hunt and sister to Apollo.
- **Athena** was the goddess of wisdom, handicrafts and warfare.
- **Demeter** was the goddess of the harvest; Persephone was her daughter.
- **Aphrodite** was the goddess of love and Eros (called Cupid by the Romans) was her son.
- **Hephaestus** was the god of fire.



Demeter and Persephone²

The gods on Mt. Olympus were a moody lot and the mortals in ancient Greece did whatever they could to keep them happy, offering sacrifices and making temples like the Parthenon.

Demeter, one of Zeus's sisters, was the goddess of the harvest; this means she controlled the crops. If Demeter was unhappy, the crops would die and the mortals would have no food. Thus, it was important to everyone that Demeter be happy. The thing that made Demeter most happy in the world was spending time with her beautiful daughter, Persephone.

One day, Persephone was out in the fields picking flowers and she caught the attention of Hades, the god of the underworld. He fell completely in love with her and immediately kidnapped her, taking her down to the underworld. When Demeter learned this, she was very, very unhappy.

Persephone was beside herself with grief. She had heard a legend that if you ate anything in the underworld, you would never be able to leave again, so she refused to eat and hoped each day that she would be rescued. After a week, she was so hungry that she gave up and ate six pomegranate seeds.

Back on earth, Zeus began to fear for the crops, knowing that Demeter's grief would cause all the crops to die. If the crops died, there would be no food for the mortals and then they would die as well and no longer offer sacrifices and build pretty temples. To fix the problem, Zeus sent Hermes (the messenger of the gods) down to Hades in the underworld to try to make a deal.

Hermes wanted to return Persephone to earth so that she could live again with her mother. However, he learned that Persephone had eaten six pomegranate seeds in the underworld and he knew it meant she could never leave. But, he was able to compromise with Hades: if Persephone would marry Hades, Hades would allow her to leave the underworld for six months out of the year. Hades, Zeus, and Persephone all agreed. Demeter was not pleased, but she understood and finally agreed as well. Thus, when Persephone returns to earth in the spring, the happy Demeter makes the flowers bloom and the crops grow. But, when Persephone leaves her and returns to be Queen of the underworld in the fall, the sad and lonely Demeter cries and lets all the crops die until her daughter returns the next spring.



² Adapted from <http://greece.mrdonn.org/greekgods/demeter>



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Activity 4: Classical to Neoclassical

Americans during the early Federal period (when the country was just founded) looked to Ancient Greek and Roman culture, from government to clothing to art. How did they know what ancient Greek and Roman life was like? In part, some of the stories and writings from Ancient Greece and Rome had been handed down and republished throughout history. Also, many ancient buildings were still standing or at least partially existed as ruins in the eighteenth century. Artwork like vases and statues also exist today in museums.

One of the greatest insights into life in the ancient Roman Empire came when people discovered the ruins of the ancient cities Pompeii and Herculaneum. The treasures and archaeological findings in these cities encouraged much neoclassical art and architecture.

Research task: Using books and museum websites (like that of the National Gallery, www.nga.gov) find out more information about Pompeii and Herculaneum. When were they discovered? Why had they been buried and when? What kinds of things did people find there? Write a one (1)-page report of your findings.



Glossary

Adhesive- n. A substance used to stick two materials together; like glue.

Burnisher- n. A tool with a hard, smooth tip, made from metal or stone that is used to polish and smooth metal. Gilders will use a burnisher with an agate (a stone) tip.

Citizen- n. A person who lives in a country, state or commonwealth who has legal rights and responsibilities to the country, state or commonwealth.

City-state- n. A city, and its nearby territory, that combine to make a state. Ancient Greece was made up of many city-states like Athens, Sparta and Corinth.

Classical- adj. A word to describe ancient Greek or Roman culture or artwork, thought or writing related to ancient Greek or Roman culture.

Colony- n. A country or area governed by another country. Often a colony is geographically separate from the governing country. The United States first began as 13 colonies owned and governed by Great Britain.

Direct democracy- n. A type of government in which all citizens have an equal vote.

Monarchy- n. A type of government ruled by a king or queen.

Myth- n. A traditional story told by a culture that may explain its early history or explain a natural or social phenomenon (thing that happens). Often myths will have supernatural beings as characters.

Neoclassical- adj. Meaning “new classical.” It describes when culture, artwork or thought returns to Classical art and culture in some way. Women’s dresses in the early 19th century that tried to look like ancient Greek garments were neoclassical.

Oligarchy- n. A type of government ruled by a small group of people.

Representative democracy- n. A type of government in which citizens vote for other people to represent them in government, to make laws for all citizens.

Tudor Place
Historic House and Garden
1644 31st Street, NW
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www.tudorplace.org