

THE ACHIEVEMENTS OF

**ANCIENT**

**GREECE**

- Essential Question:
  - What were the important contributions of Hellenistic Greece?
  
- Warm-Up Question:
  - How did geography affect the development of ancient Greece?

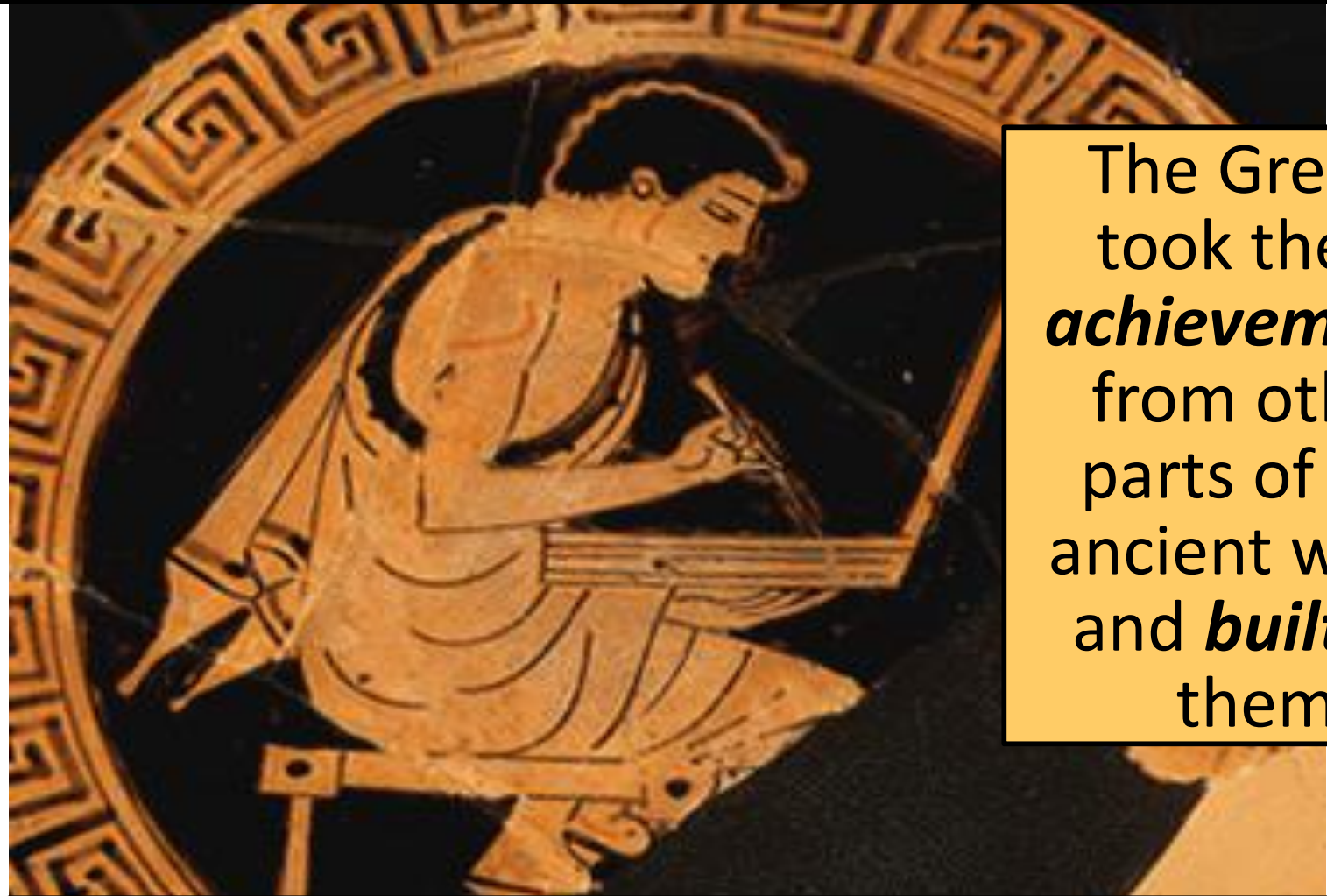
# GREEK EDUCATION



The Greeks made contributions in many fields of *learning*; they developed many *innovations* that influenced education today (such as having primary and secondary levels)

Greece's location on the Mediterranean allowed for *trade* with other countries, not just of products but of *diverse ideas*

# GREEK EDUCATION



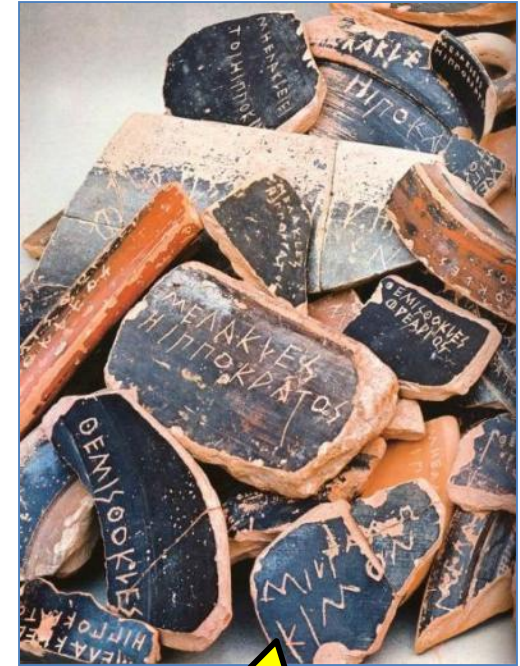
The Greeks took these *achievements* from other parts of the ancient world and *built* on them

Because of the prosperity from trade, many Greeks could afford to support *academies* of education

# GREEK DEMOCRACY

The foundation of *America's* democratic republic began with *Athens'* direct democracy

*Ancient Greek ballots*



Athenian citizens participated in government decisions by *voting*

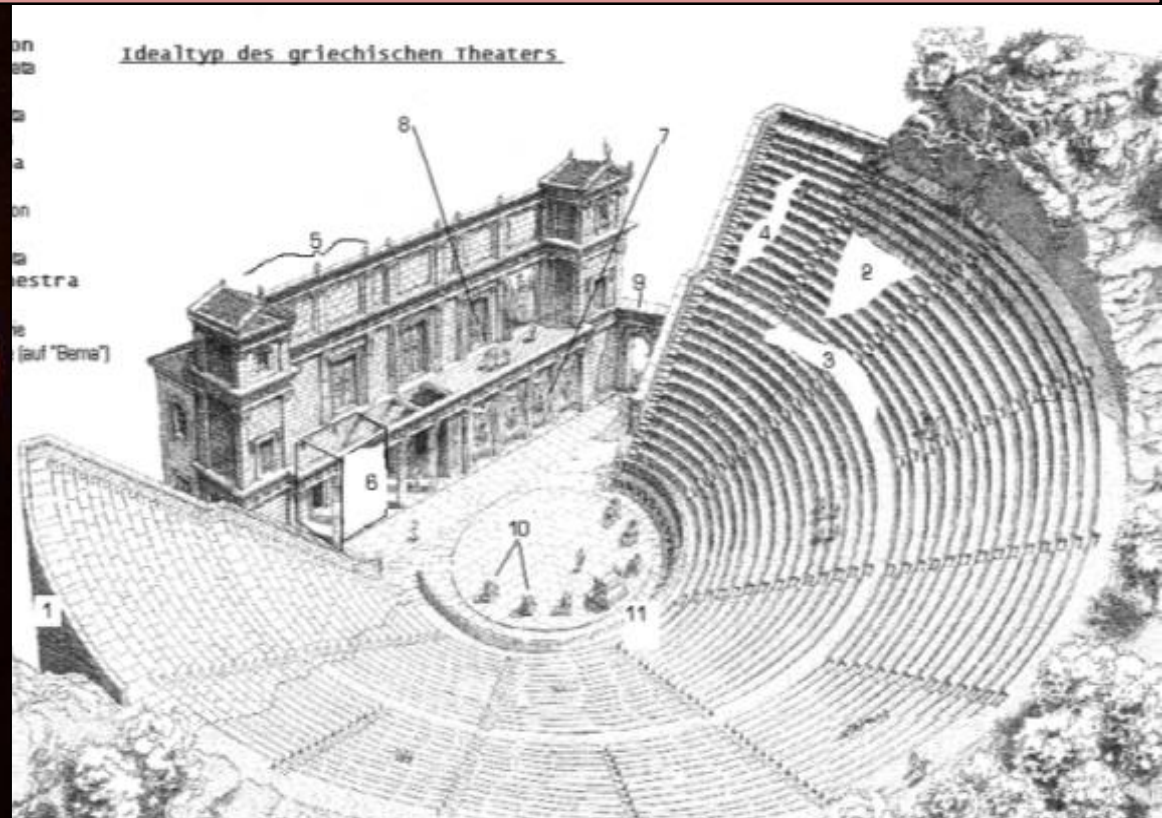


# GREEK DEMOCRACY



A council would propose laws; Greek men over **18 years old** could vote on them; approved proposals became **laws**

# GREEK LITERATURE and DRAMA



Dramatic *plays* with actors and actresses in theaters were popular *entertainment* for the ancient Greeks; they were the first to develop comedies and tragedies

*Modern* entertainment such as television shows, *movies*, and concerts have their roots here

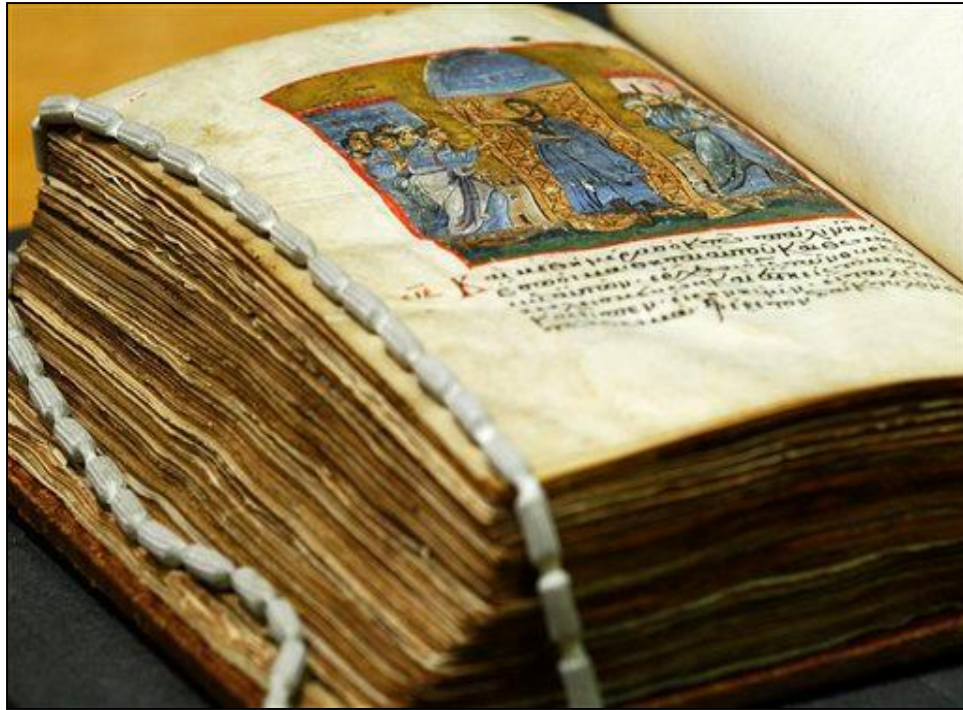
# GREEK LITERATURE and DRAMA



Open-air *theaters* were built in such a way that everyone attending the dramas in the audience could *see* and *hear* the action



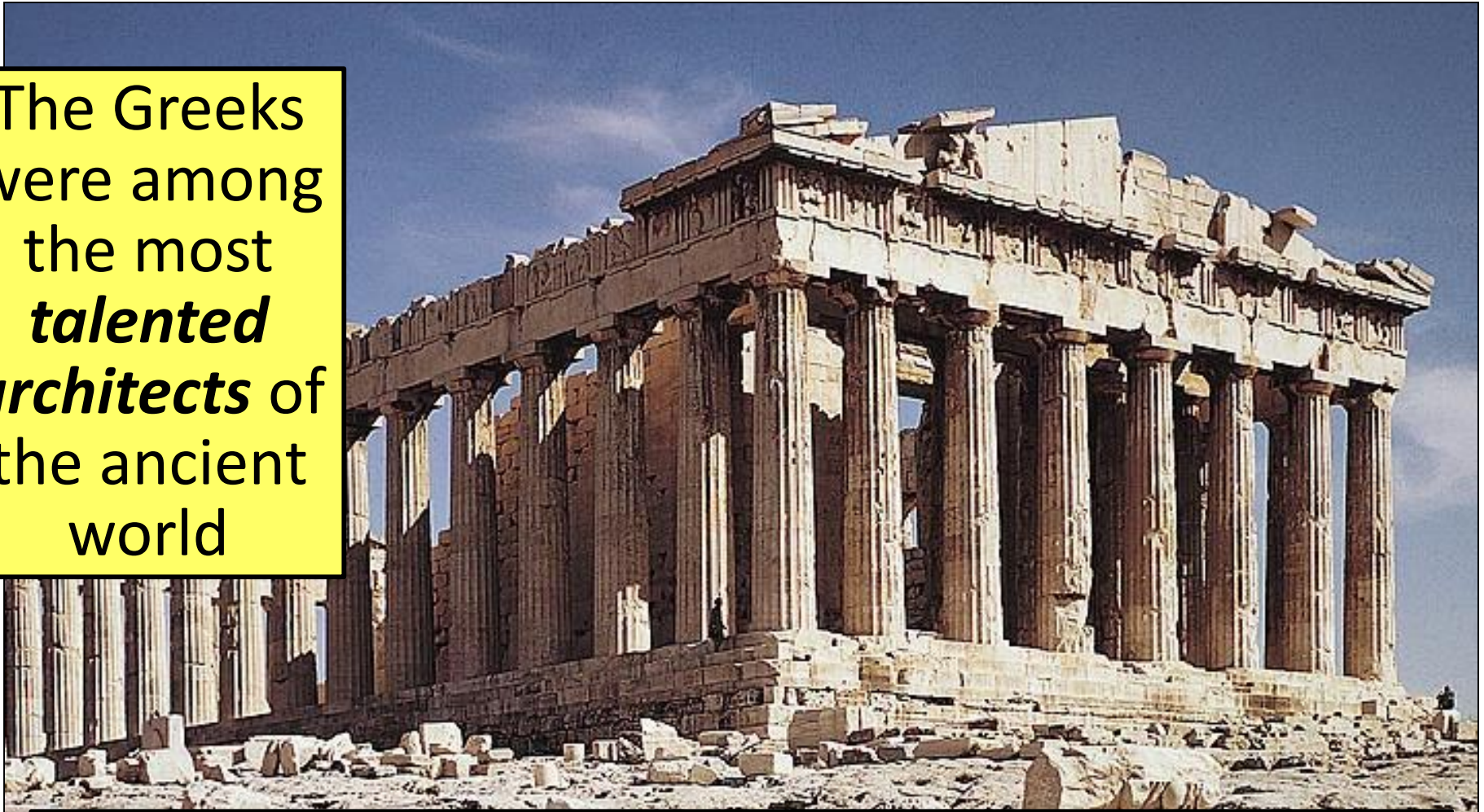
# GREEK LITERATURE and DRAMA



The poet ***Homer*** wrote the famous stories *The Odyssey* and *The Iliad* (which are read in Language Arts classes worldwide!)

# GREEK ARCHITECTURE

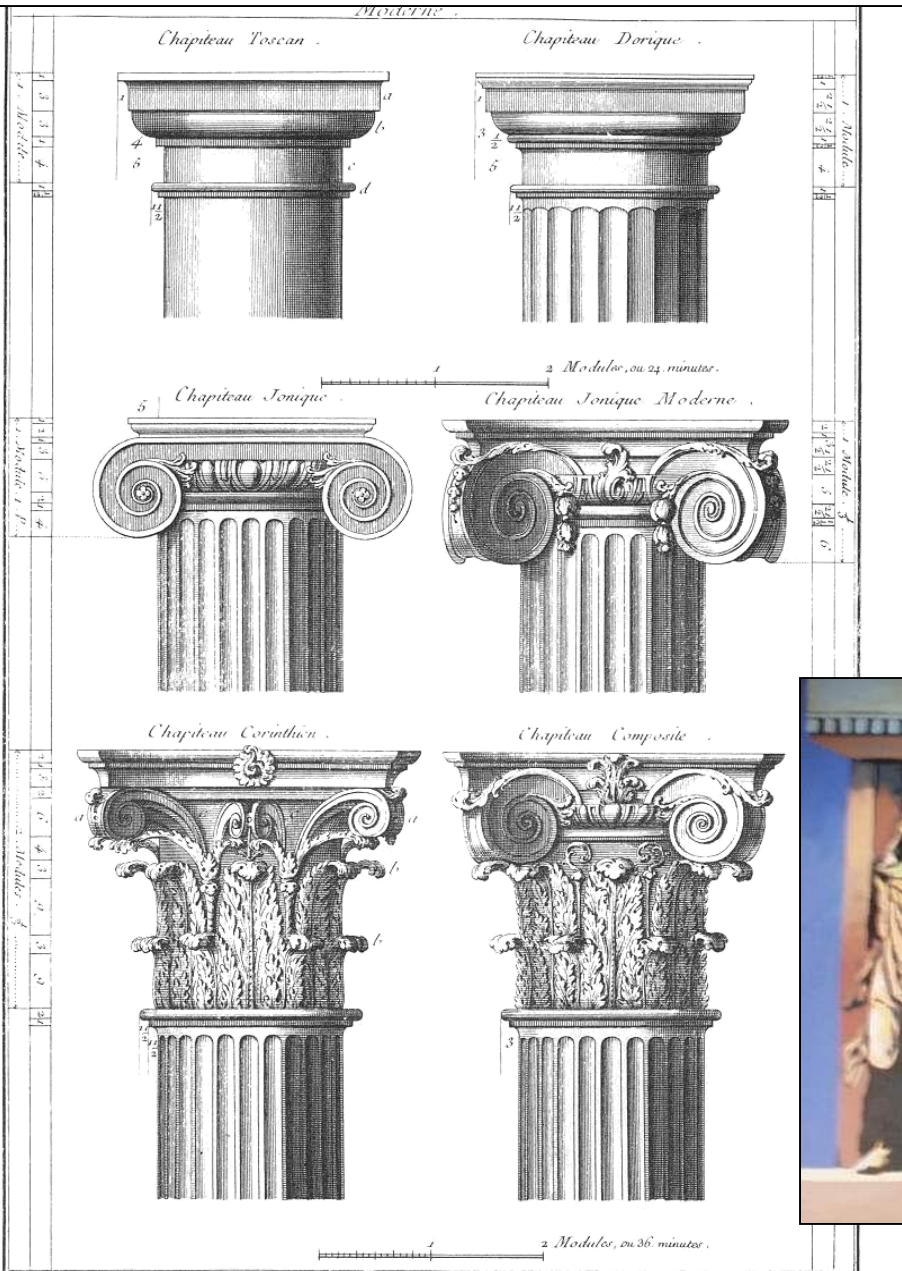
The Greeks were among the most *talented architects* of the ancient world



The *Parthenon*, a temple of *marble* made to honor the goddess Athena, is the most famous example of Greek architecture

# GREEK ARCHITECTURE

The Greeks made *columns* in various styles (Doric, Ionic, and Corinthian) and displayed *murals* of mythological scenes in their buildings

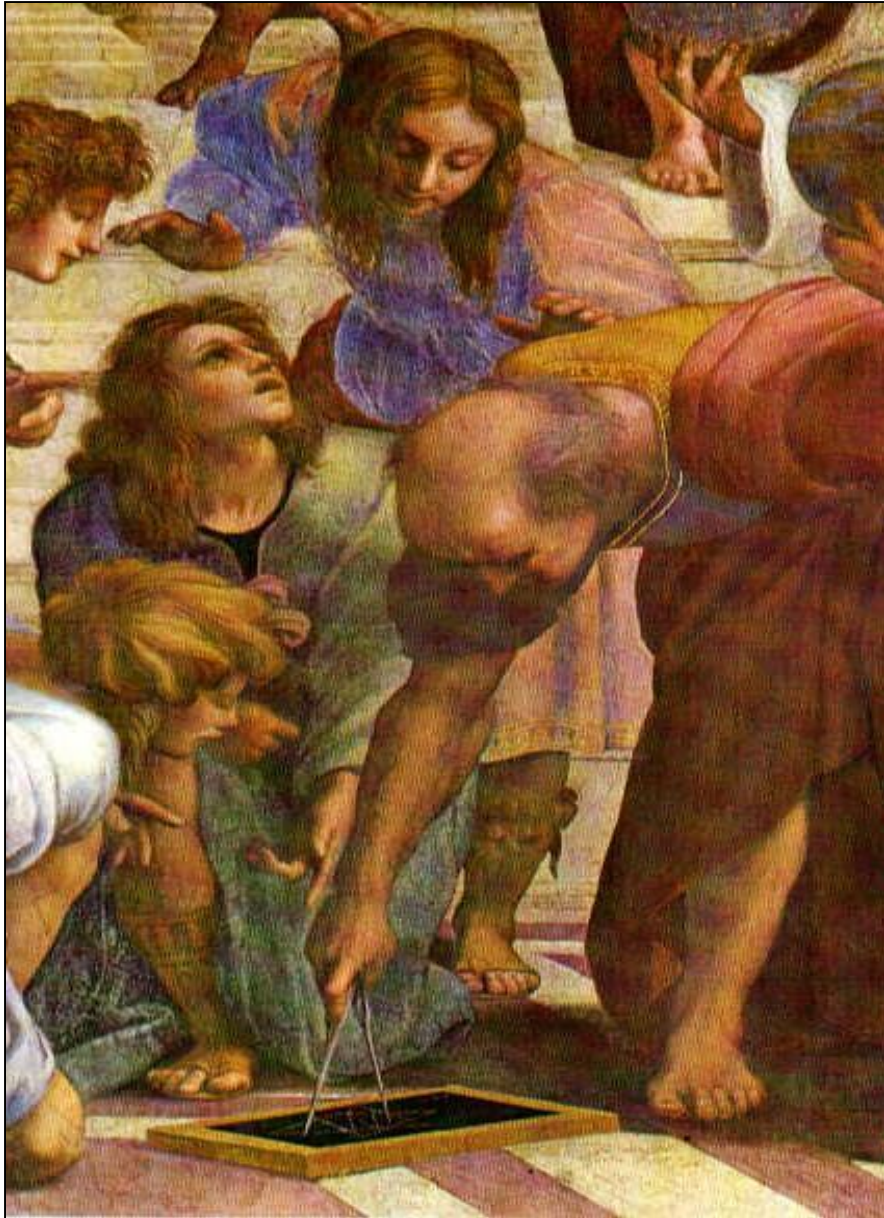


# GREEK ARCHITECTURE



Greek architecture's *influence* can be found in many buildings around the world, including the U.S.

# GREEK MATHEMATICS



Ancient Greek *mathematicians* developed important math concepts that are still used today

Scientists use *pi* to find the circumference of *circles*

Euclid developed proofs that became the basis for modern *geometry*

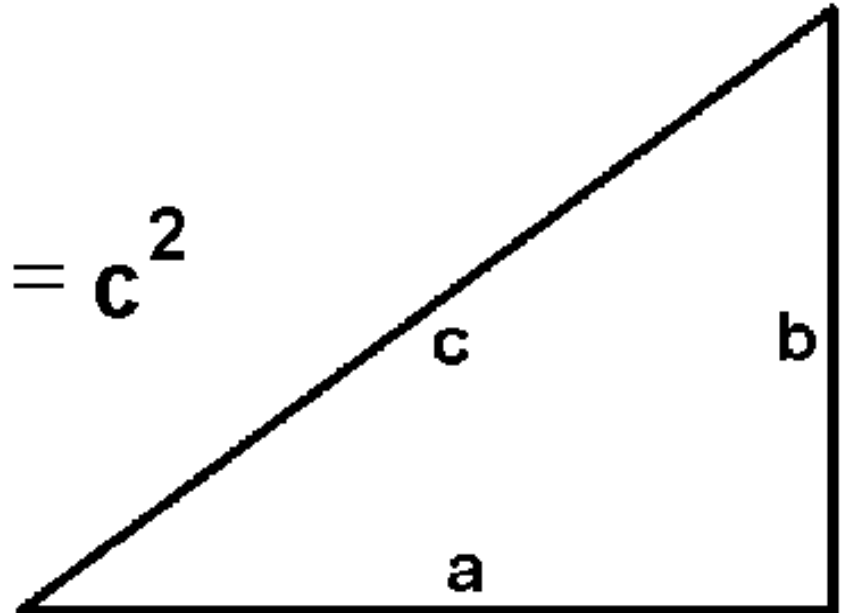
# GREEK MATHEMATICS

*Pythagoras* tried to explain everything in mathematical terms

The Theorem is still used all over the *world*

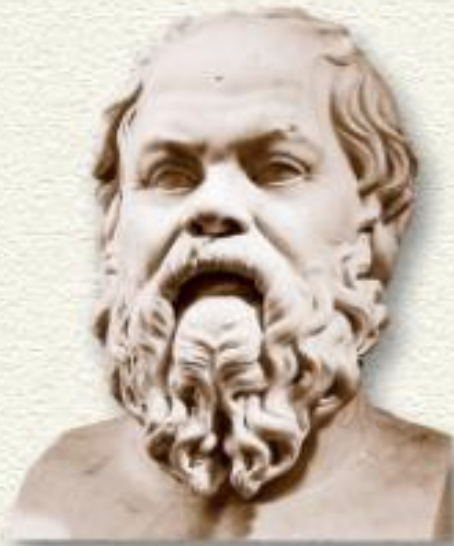
He created a theorem about the relationships between the sides of a *triangle* called the Pythagorean Theorem

$$a^2 + b^2 = c^2$$



Use the Pythagorean Theorem to solve for "c".  
The value of "a" is 3 and "b" is 6

# GREEK PHILOSOPHY



**Socrates**  
**470–399 B.C.**

Socrates encouraged his students to examine their beliefs. He asked them a series of leading

questions to show that people hold many contradictory opinions. This question-and-answer approach to teaching is known as the Socratic method. Socrates devoted his life to gaining self-knowledge and once said, "There is only one good, knowledge, and one evil, ignorance."

Philosophy means  
***"love of wisdom"***

Socrates taught his students to ***challenge*** accepted values in Greece

He thought people must ***think for themselves*** to understand the truth

# GREEK PHILOSOPHY



Plato was a *student* of Socrates; he was a philosopher and mathematician

He also created the *Academy of Athens*, the first center of higher learning in the Western world

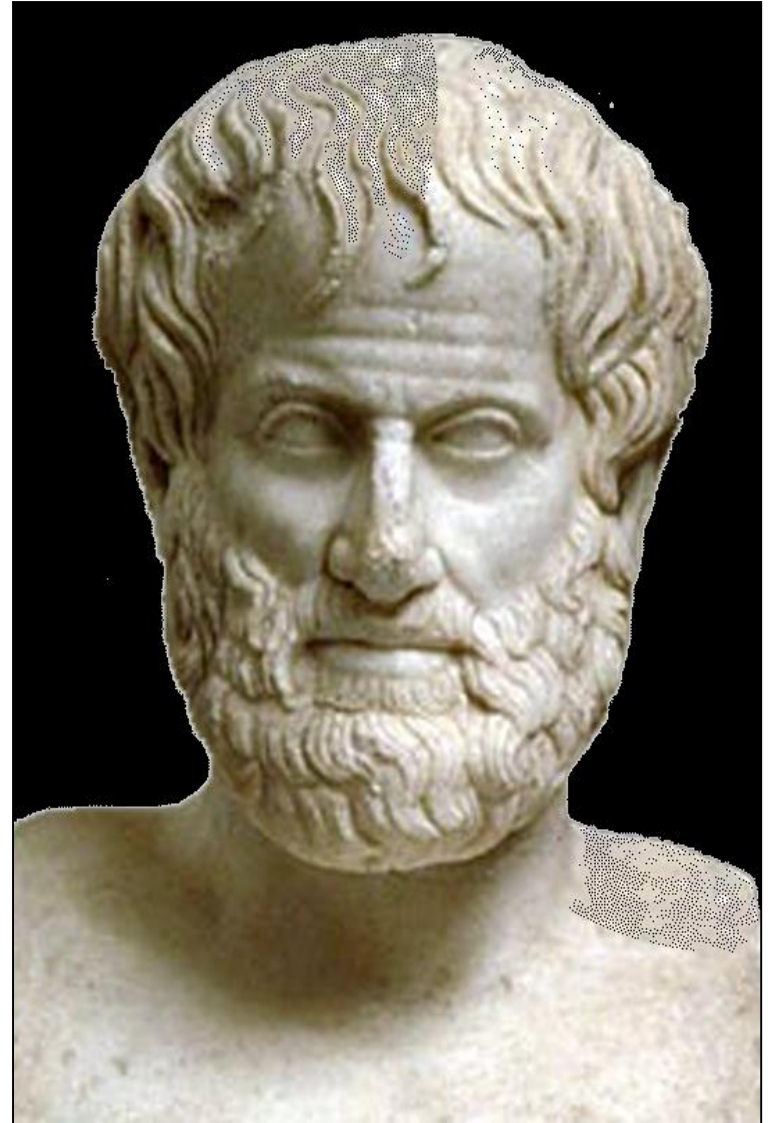


# GREEK PHILOSOPHY

Aristotle was a student of Plato and became a brilliant teacher of the *sciences*

Aristotle created the basis for the *scientific method*: every truth is followed by other logical truth

Together with the work of Socrates and Plato, Aristotle's work provided a basis of *Western civilization*



# GREEK ASTRONOMY & GEOGRAPHY

## Greek Astronomy

### Earth

Eratosthenes' estimate of the circumference—between 28,000 and 29,000 miles



actual circumference—24,860 miles

### The Sun

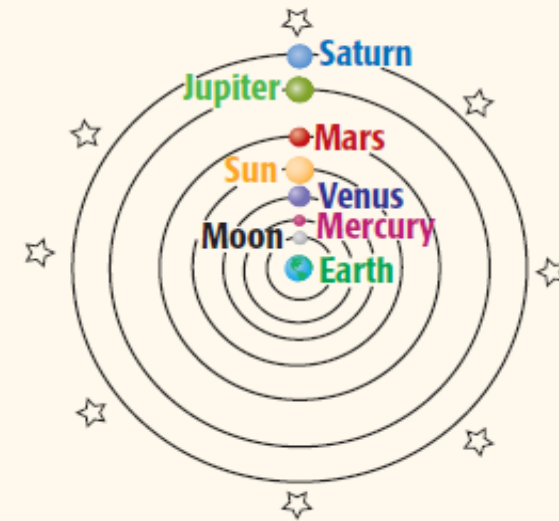


Aristarchus' estimate—300 times the size of Earth

The Sun is actually 1.3 million times the size of Earth.

### The Solar System

Ptolemy's view of the universe



The Greeks took the first steps into ***astronomy*** (study of planets and stars)

Some of their conclusions were wrong, but provided ***ideas*** for later astronomers to build and improve on

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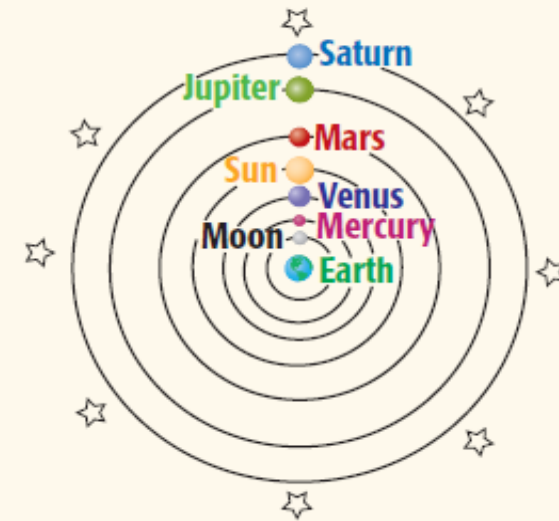


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### The Solar System

Ptolemy's view of the universe



The Greeks realized that the Sun was **larger** than Earth (originally, they thought the Sun was smaller than Greece)

A Greek scientist was able to determine the Earth's **true size**

# GREEK ASTRONOMY & GEOGRAPHY

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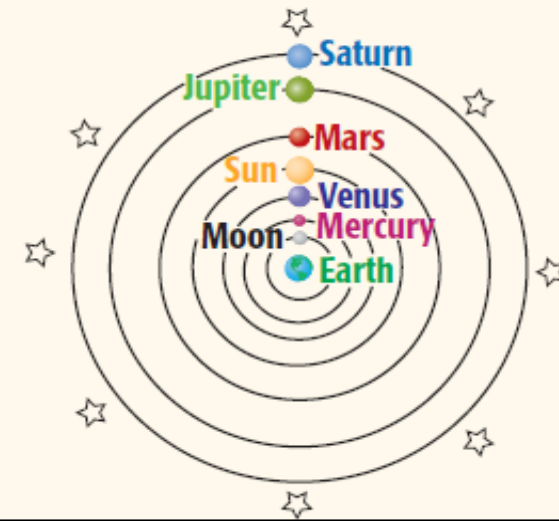


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### The Solar System

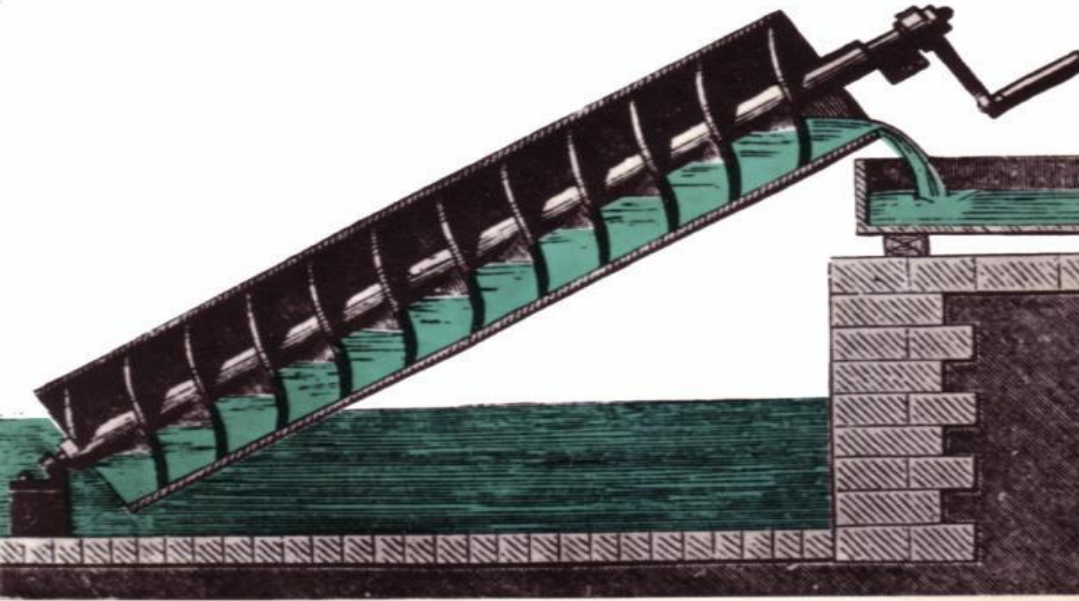
Ptolemy's view of the universe



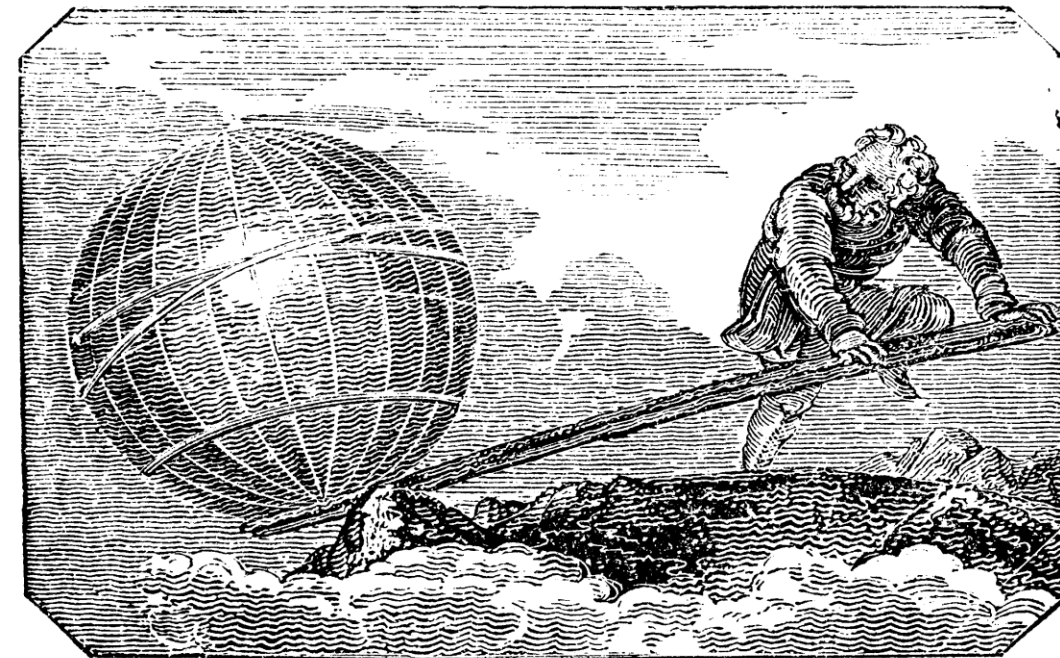
The Greeks debated over whether the Sun or the Earth was the *center* of the *Universe*

They settled on the belief of Ptolemy: he thought that *Earth* was the center; this would be believed for **14 more centuries**

# GREEK ENGINEERING



Archimedes was a brilliant scientist and *engineer* from the Greek territory of Syracuse (modern day Sicily)



He designed *levers* that could lift heavy objects; he designed a screw that *pumped water* from the ground

# GREEK ENGINEERING



Archimedes also built *war machines*, such as catapults that threw rocks and launched arrows

He made a machine that had reflective metal; he would *reflect* the Sun's rays at enemy ships and set them on *fire*

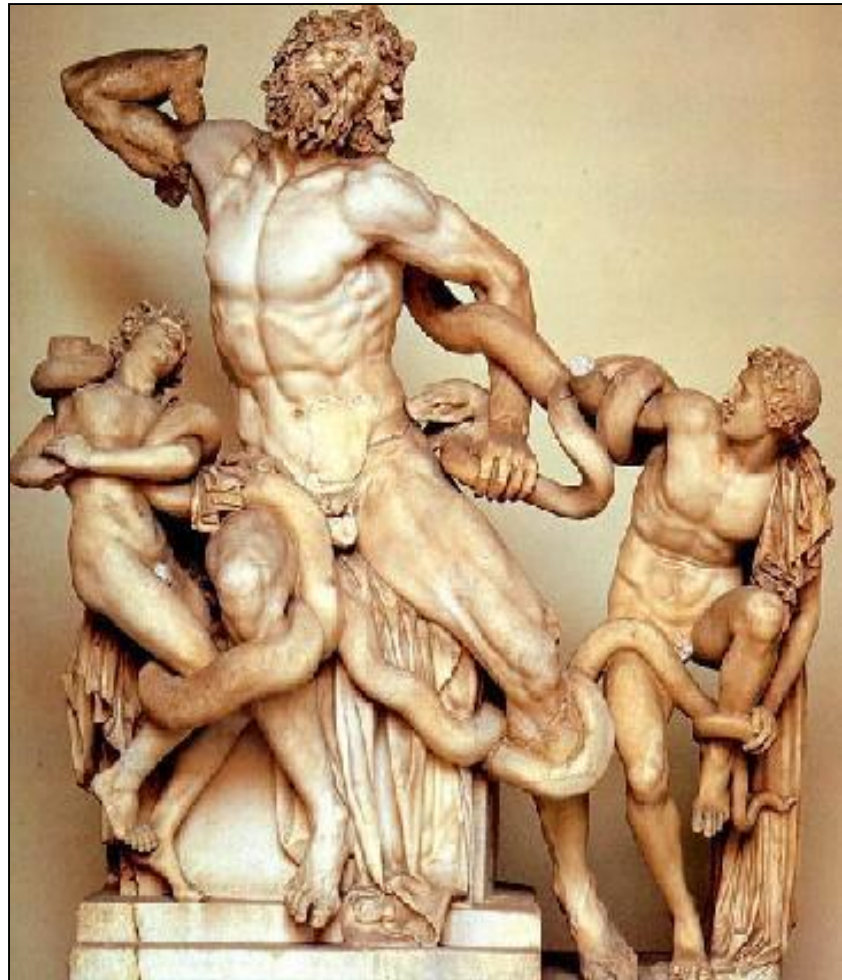
# GREEK ART & SCULPTURES



The Greeks' life-sized statues are renowned for their innovation; the sculptures showed *realism* and portrayed *human movement*

# GREEK ART & SCULPTURES

By making nude sculptures, the Greeks tried to show *“ideal human beauty”*

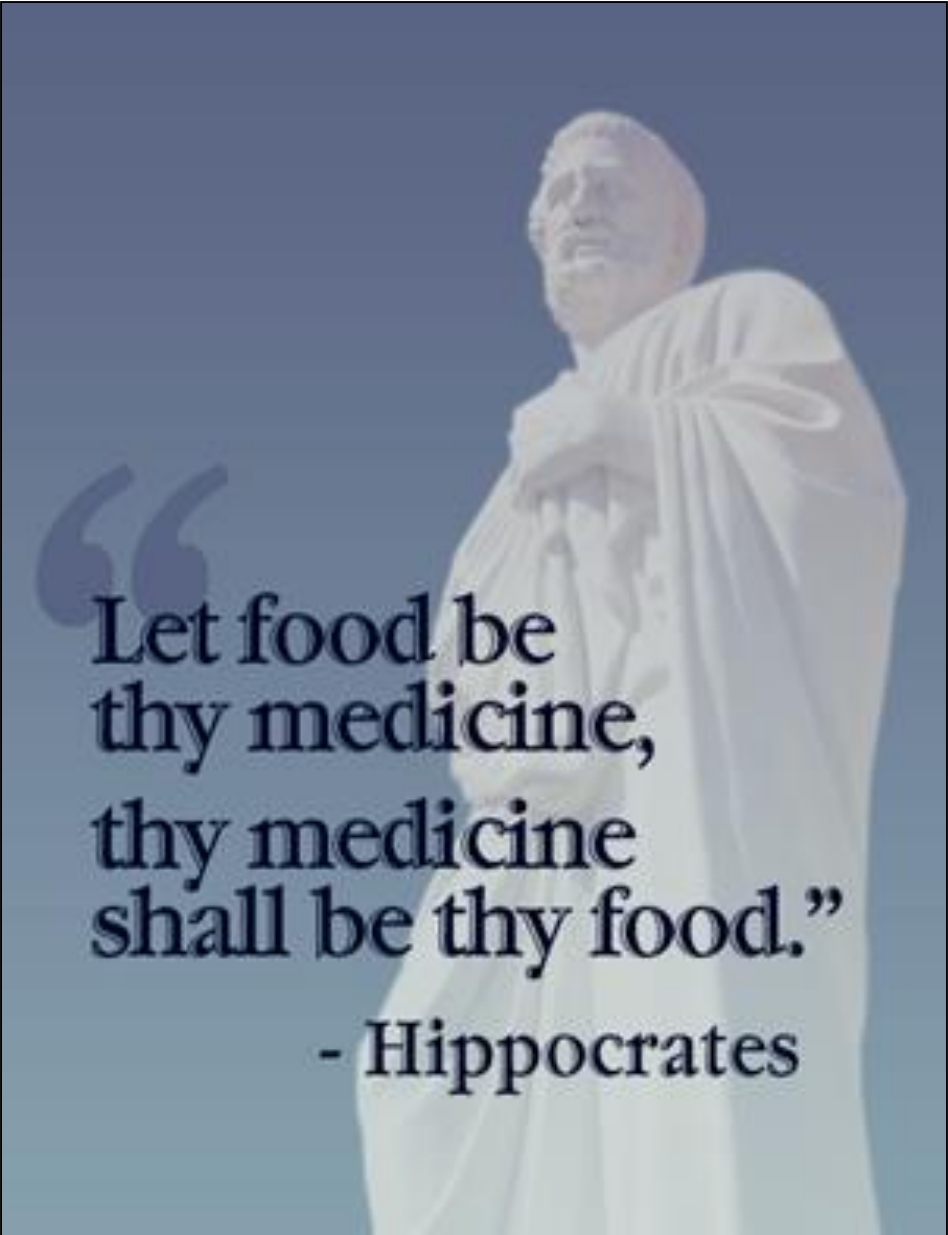




# GREEK MEDICINE

Hippocrates is called the “*father of modern medicine*” because he began a school that introduced new medical practices

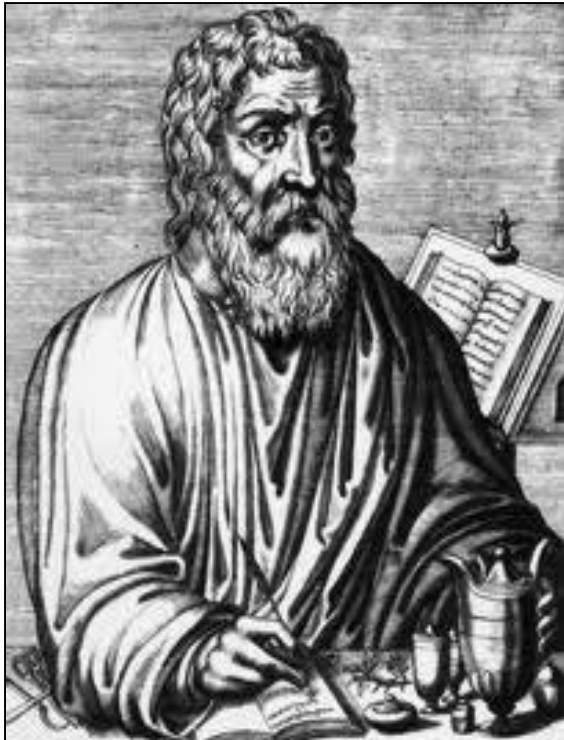
Hippocrates believed that diseases were caused by *natural events*, not by the gods



“  
Let food be  
thy medicine,  
thy medicine  
shall be thy food.”  
- Hippocrates

# GREEK MEDICINE

Greek physicians developed the “**Hippocratic Oath**”, a pledge that doctors take that emphasizes a doctor’s responsibility to the patients



*“I swear by Apollo, the healer, and I take to witness all the gods...the following Oath: I will prescribe regimens for the **good of my patients** according to my ability and my judgment and **never do harm to anyone.**”*

—Excerpt from the Hippocratic Oath

- Why do you think scholars call this period in Greek history a “golden age”?
- Which Greek achievement do you think is most important? Why?

## The Legacy of Greece



### Culture

- Greek language
- Mythology about gods and goddesses
- Olympic games
- Philosophers search for truth



### Science and Technology

- Disagreement whether Sun or Earth at center of universe
- Euclid's geometry textbook
- Accurate estimate of Earth's circumference
- Development of lever, pulley, and pump



### Arts

- Drama and poetry
- Sculpture portraying ideals of beauty
- Painted pottery showing scenes of Greek life
- Classical architecture



### Government

- Direct democracy; citizens rule by majority vote
- Citizens bring charges of wrongdoing
- Code of laws
- Expansion of citizenship to all free adult males, except foreigners

