
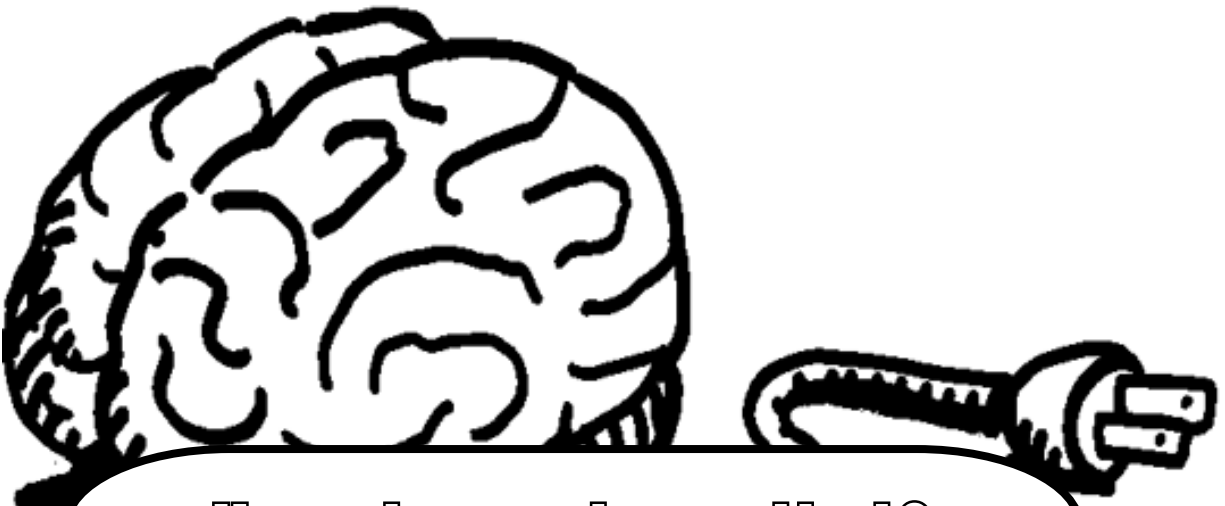


# THE AGE OF REASON

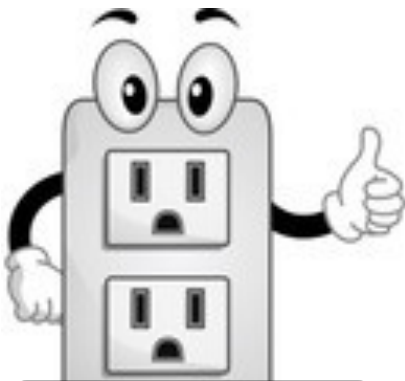
## e·pis·te·mol·o·gy

/əˌpɪstəˈmäləjē/ 

The study of (-ology) how one knows what is true



How do you know that?

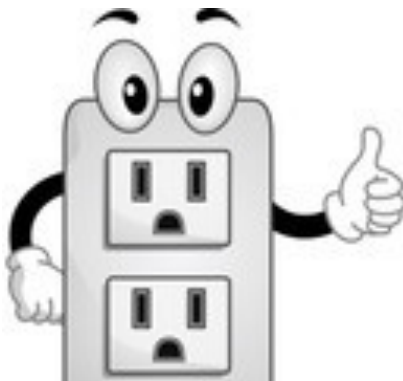


### Medieval:

**Religion:** Church leaders told them what was true (people couldn't read the Bible)

**Government:** Feudal lords owned everything, but nobody really thought about what rights people should have.

**Science:** World and the way it worked were explained by superstition or religion.

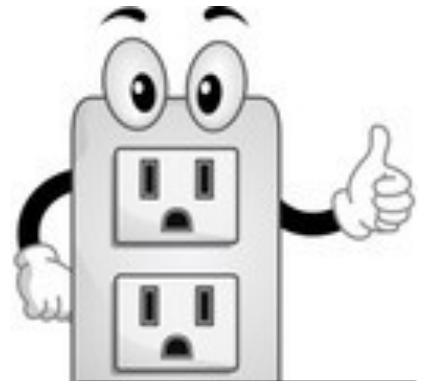


### Renaissance:

**Religion:** Church leaders told them what was true (More literacy = More people starting to develop their own ideas)

**Government:** Depended on support from Church leaders. Divine Right

**Science:** Mostly still religion and superstition. Some curious people like da Vinci were starting to do observations.



### Reformation:

**Religion:** Church leaders (Catholic) or Bible Interpretation (Protestant). King choose official religion for country.

**Government:** Divine Right

**Science:** Mostly still religion and superstition. Some curious people like da Vinci were starting to do observations.

# THE AGE OF REASON



## Personal Epistemology:

*Answers will vary, provide reflection time*

**Religion:** What is true about your soul and spiritual truth?

**Government:** What are governments for?

**Science:** How do we discover truth about the world we live in?

## Foundations of Western Civilization



### GREEK AND ROMAN EMPIRES

*Representative Government*

### HUMANISM

*Man is able to discover truth himself*

### ENLIGHTENMENT

*Government serves the citizens*

### JUDEO-CHRISTIAN WORLDVIEW

*Morals (right and wrong) determined by 10 Commandments and the "Golden Rule"*

### SCIENTIFIC REVOLUTION

*Man can explain the world he lives in by using Science*

## Challenging the Church

### New Ideas:

#### Renaissance (Humanism):

Mankind has the potential to discover truth apart from divine revelation (Pope or Catholic Church Leaders)

#### Reformation (Protestantism):

Man is able to understand and relate to God without the Church leaders telling him how (through reading the Bible)

#### Society (Capitalism):

You can improve your life or social status by investing \$  
(God didn't create you to be a peasant)



## Scientific Philosophy of the Church



Aristotle

1. The Truth is out there (some things are true, and other things are not true)
2. The universe is made up of elements (Fire, Air, Water, Earth, and Aether)
3. Truth is learned through observation

"It is the mark of an educated mind to be able to entertain a thought without accepting it."

Aristotle

Teacher note: Use these boxes to teach text interpretation strategies. Let students use reading strategies to try to determine and rephrase in modern language.

"It shows you're smart if you can listen to someone without automatically agreeing with them."

# THE AGE OF REASON

## Copernicus



### BIG IDEA

Create models to explain ways that nature works when the current beliefs don't make any sense



Helio = Sun  
Centr = Middle  
Ism = Belief

Geo = Earth  
Centr = Middle  
Ism = Belief

Helio★centr★ism

Geo★centr★ism

Teacher Note: Use this space to encourage students to draw diagrams of the different models. You may wish for them to label retrograde motion of Mars, Jupiter, and Saturn to show how the Geocentric model showed various motions that really didn't make sense in order to force the Earth to be at the center.

## The Risk of Truth

Copernicus was concerned about excommunication

- was a Catholic

- was aware of what happened to Martin Luther

waited to publish his models until after he died

"It is proper for an astronomer to establish a record of the motions of the heavens. . .and then to think out laws, or rather hypotheses. . ."

Copernicus

It is good to make careful observations about how the planets, moon, and stars move. After making the observations, we should try to make it so they all follow the same rules.

### SPOTLIGHT ON TEXT



# THE AGE OF REASON

## Galileo



### BIG IDEA

Any idea should be tested and should be able to be proven in an experiment before we say it's true



### EMPIRICISM:

A belief (-ism) that experiments are the foundation of scientific understanding. I cannot say it is true unless I can demonstrate it in an experiment

### Father of Modern Science:

Invented a telescope which could observe movement of objects in space

- Not the first telescope, but the best of the time
- used telescope to verify Copernicus' heliocentric model
- OBSERVED moons orbiting Jupiter

Also proved that gravity was the same regardless of mass

- Aristotle claimed heavier objects fell faster (THEY DON'T!!!)

### Conflict with the Church:

Supported Copernicus' Model

- Doesn't make sense that moons orbit Jupiter if earth is really the center. . .so it must not be.

Wrote a book, somewhat insulting to Catholic Leaders

- Galileo put on trial for heresy, convicted
- Recants (takes it back) officially, but personally continues to believe Church was wrong
- Books banned and burned by the Church for 200 yrs.



"I think that in the first place that it is very pious to say...that the Holy Bible can never speak untruth...But I believe nobody will deny that it is often very abstruse, and may say things that are quite different from what its bare words signify."

Galileo

The Bible doesn't make mistakes, but the people reading it do.  
(which is why the Pope doesn't understand heliocentrism like he should).

### SPOTLIGHT ON TEXT

## Isaac Newton



### BIG IDEA

Man can use math or science to predict how objects in nature are going to behave.



### Gravitation:

All objects with mass have gravity. Gravity is what holds the universe together and what causes the planets to move (not God). **TEACHER NOTE:** See quote below, Newton was not an atheist.

### Laws of Motion:

1. Objects in motion stay in motion unless acted on by an outside force. Same for objects at rest
2. The more force, the more an object accelerates
3. For every action, there is an equal and opposite reaction

### Impact of Newton on Science:

Newton's laws can use Math to predict how objects will behave in nature.

Allows mankind to predict (and somewhat control) nature. Leads to new inventions like steam engine and the Industrial Revolution.

"Gravity explains the motions of the planets, but it cannot explain who sets the planets in motion."

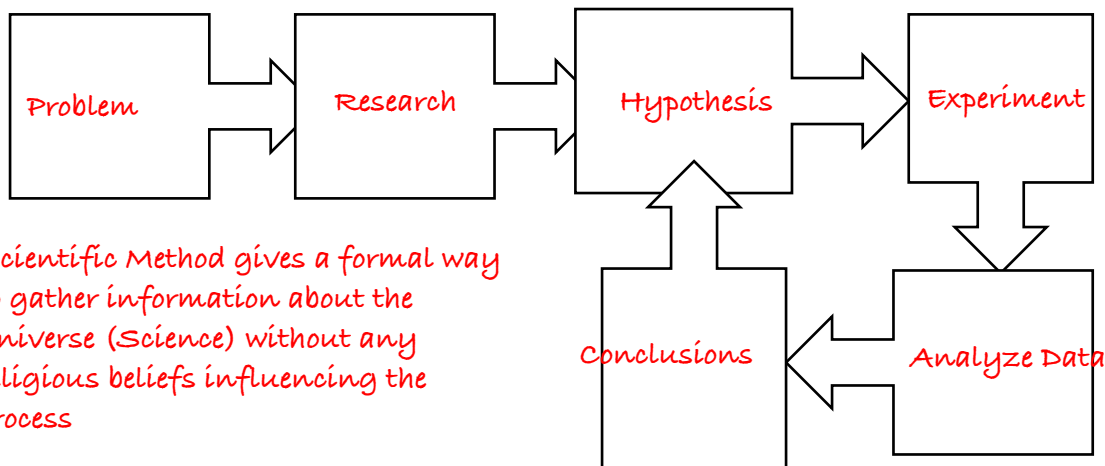
Newton

I can predict nature without God, but I can't explain how it got there without him.

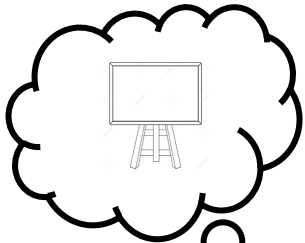
SPOTLIGHT ON TEXT

## New Ideas

### The Scientific Method: Francis Bacon



### Empiricism and Rationalism



John Locke

-Tabula Rasa

People born with no knowledge of the world. Their experiences teach them what is true.

We only learn truth through experience or experiment.



Rene Descartes

-Rationalism

Belief that people can use reason to learn things even when they haven't experienced it.

-Mind and reason are more important.



## Deism

- \*God created the world to run by itself
  - Not involved in how it works now, just watching
- \*"Clockmaker" Theory
- \*Major shift, makes humans responsible for improving the world (If we don't do it, God certainly won't)

## The Enlightenment

Sticking it to the Man (or king)!

Major blows to the Catholic Church Authority

Protestant Reformation

Luther and Protestant leaders claim the Church is wrong about religion and the Bible

Scientific Revolution

Copernicus, Galileo, and Newton prove that the Church is unnecessary to explain how the world works



### Divine Right



King forces citizens to pay tithes to Church and participate in Church.



Church leaders teach that the King has been given his authority by God. Questioning the King is also questioning God's authority.



King and Church officials reinforce one another's power



# THE AGE OF REASON

## John Locke



### BIG IDEA

Governments exist to serve  
the needs of the people.



### Social Contract:



#### PEOPLE GET:

Protection of Rights

TEACHER NOTE: Encourage students  
to brainstorm a list of examples from  
modern world in these boxes



#### PEOPLE GIVE UP:

Certain Natural Rights (like Revenge)

TEACHER NOTE: Encourage students  
to brainstorm a list of examples from  
modern world in these boxes



### Natural Rights:

The rights that everyone was born with:

Life: (I deserve to live)

Liberty: (I own me)

Property/Pursuit of Happiness: (I own  
what I do)

#### Think about it:

What do you own that nobody has the  
right to take away from you?

Each person owns themselves, their ideas,  
and the labor (work) that they do.

"The State, according to my ideas, is a society of men established for the  
sole purpose of the establishment, preservation, and promotion of their  
civil interests."

Locke

In my opinion, the only reason we have a government is to do  
things that are good for all of us.

#### SPOTLIGHT ON TEXT

## Montesquieu



### BIG IDEA

If one person has all the power, they will take away your freedom

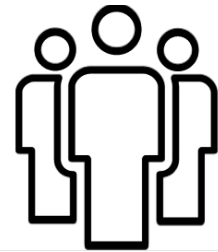


## Separation of Powers

Legislative Branch: Writes laws but cannot enforce them.



Executive Branch: Enforces the laws, but cannot write them.



Citizens: Vote for members of the government.



Judicial Branch: Decides what the laws mean, but cannot write them.

### Think about it:

Are more laws a good thing, or a bad thing??

"That anyone who possesses power has a tendency to abuse it is an eternal truth. They tend to go as far as the barriers will allow."

Montesquieu

People will always try to abuse their power. They take as much as they can.

### SPOTLIGHT ON TEXT

# THE AGE OF REASON

## Jean-Jacques Rousseau



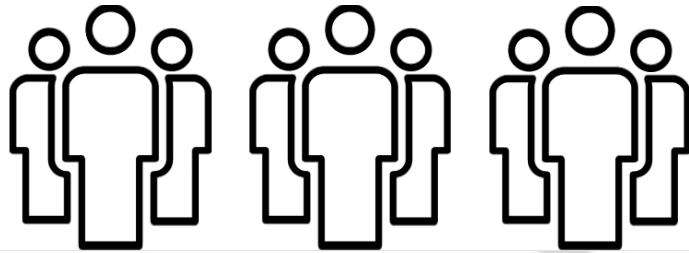
### BIG IDEA

People are good, but societies are bad. People should control the government

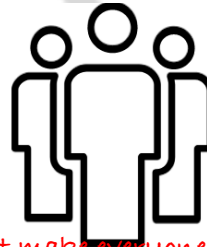


### General Will:

Government has an obligation to do what is best for the largest number of people in the country.



The majority of people in a society should control the government.



### Corruption of Society:

You can't make everyone happy. Too bad for these guys.

People are naturally good.

Institutions are naturally corrupt.

People's goal should be to reform society by learning truths from nature, not from various social institutions

#### Think about it:

What is dangerous about majority rule?

"In truth, laws are always useful to those with possessions, and worthless to those who have nothing."

Rousseau

Laws are what rich people use to keep their power and wealth.

#### SPOTLIGHT ON TEXT

# THE AGE OF REASON

## Voltaire



### BIG IDEA

Everyone should have the right to think and say whatever they want.



Rate 1 (strongly disagree)-10 (strongly agree) how you feel about the below statements

People should be allowed to kneel or stand during the national anthem.

People should be allowed to write news stories that they know are inaccurate

People should be allowed to make offensive statements.

Police should protect people who make racist statements.

People should be allowed to protest the government if they want

**TEACHER NOTE:** You can allow students to get up and indicate their agreement with these statements on a human continuum. You may also want to point out that all 5 are pro-free speech and that if the numbers are very different, the student has an incomplete picture of what freedom of speech is.

### Freedom of Speech:

Freedom and ability are not the same thing.

Voltaire regularly used this by writing crude, offensive stories just to make fun of the status quo or point out hypocrisy

### Freedom of Religion:

Voltaire strongly believed that established Churches were a problem.

King has no right to force you to believe something or participate in a religion that you disagree with.

#### Think about it:

If we let the government silence some people's opinions today, what happens if a new person is elected who is against your opinion next year?

"It is better to risk saving a guilty person than to convict an innocent man."

Voltaire

It is better to let a guilty man go, than to put an innocent man in jail.

#### SPOTLIGHT ON TEXT



# THE AGE OF REASON

## Adam Smith



### BIG IDEA

People should trade  
whatever they want without  
government rules



**Capitalism:** Belief (-ism) that each individual should be free to use their assets and resources (Capital) however they want.

### Key Concepts:

#### Invisible Hand

Supply and Demand will pick a price fair for buyers and sellers

#### Competition

Competition between businesses benefits buyers.

Competition between buyers benefits sellers (scarcity)



#### Private Property

Individuals should be able to own property.

#### Laissez Faire

Governments shouldn't interfere with how people use their property or assets.

"It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest.

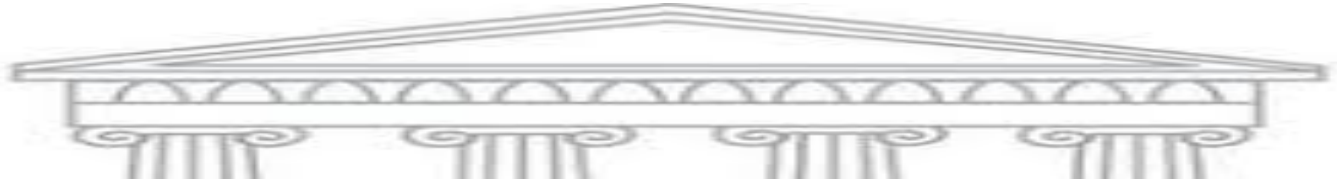
Smith

We can count on people selling goods to us, because it benefits them too.

### SPOTLIGHT ON TEXT

# THE AGE OF REASON

## Impact of the Age of Reason on. . .



| Religion  | Government   | Education  | Economy  | Family  |
|---|--|--|--|---|
| Religion is limited to explaining religious beliefs about the world.<br><br>Roman Catholic Church loses influence in society. (Three strikes, you're out) | Republic becomes a new form of government.<br><br>People gain power over the leaders of the government.<br><br>Checks and Balances<br><br>Citizen rights become more important | Science and Math become main ways to explain the universe. | Individuals gain more power over their social class through investment of capital. | Women continue to work to gain more rights, although progress is much slower. |



## Western Civilization