

## The Scientific Revolution and Enlightenment

### I. The Scientific Revolution

#### A. Beginning

1. new way of thinking
  - a. based on observation
  - b. willingness to question accepted beliefs
2. mid 1500's
3. started with the Renaissance

#### B. Early Ideas

1. Heliocentric Theory
  - a. Nicolaus Copernicus
  - b. Sun is center of universe
2. scientific method
  - a. observation
  - b. question
  - c. hypothesis = assumption
  - d. experiment
  - e. conclusion
  - f. Francis Bacon
  - g. Rene Descartes
3. Law of Gravity
  - a. Isaac Newton
  - b. Every object in universe attracts every other object

#### C. Important People

1. Galileo Galilei
  - a. proved heliocentric theory
  - b. law of pendulum
  - c. telescope
  - d. conflict with church
2. Zacharias Janssen
  - a. microscope
3. Anton van Leeuwenhoek
  - a. first to see red blood cells
4. Evangelista Torricelli
  - a. mercury barometer
5. Anders Celsius
  - a. scale for thermometer

- b. 0 =freezing
- 6. Gabriel Fahrenheit
  - a. scale for thermometer
  - b. 32 = freezing
- 7. Andreas Vesalius
  - a. dissected corpses
  - b. book on human body
- 8. Edward Jenner
  - a. vaccine for small pox
- 9. Robert Boyle
  - a. volume, temperature and pressure
  - b. chemistry

## II. Enlightenment

### A. Beginning

1. Renaissance thinking
2. Absolute government causes reaction
3. Scientific revolution

### B. Basics

1. thoughts about government
2. France and Great Britain
3. Spread through Europe
4. Reason things through
5. Salons = French social gatherings
6. Spread into art and music
  - a. baroque
  - b. neoclassical
7. enlightened despots
  - a. monarchs who thought they were making reforms
  - b. not always true reformers

### C. Important People and Ideas

1. Thomas Hobbes = English
  - a. man is selfish and gov't keeps him in line
  - b. social contract = people give up rights when governed
  - c. for absolute control
2. John Locke = English
  - a. man had natural rights (life, liberty, property)
  - b. gov't should protect these rights
  - c. if gov't doesn't protect = people can overthrow
  - d. Two Treatises on Government
  - e. Inspired Thomas Jefferson who wrote Declaration of Independence
3. Voltaire = French ( Francois Marie Arouet)
  - a. used satire in books
  - b. freedom of speech
  - c. I will defend your right to say what you want even if I disagree with it.
  - d. Freedom of religion

4. Baron de Montesquieu = French
  - a. studied ancient Rome and government
  - b. liked the English Government
  - c. separation of powers
  
5. Jean Jacques Rousseau = Swiss
  - a. individual freedom
  - b. gov't should be general will of the people
  - c. consent of the governed
  - d. all people should be equal
  - e. get rid of noble titles
  
6. Cesare Bonesana
  - a. against common abuses of gov't
  - b. against torture irregular trials
  
7. Mary Wollstencraft
  - a. rights of women
  - b. equal education
  
8. Denis Diderot
  - a. encyclopedia
  - b. spread ideas

- D. Effect of Enlightenment
1. More education
  2. More thinking
  3. American Revolution
  4. French Revolution