The Enlightenment: Revolutions in Science and Thought



The Enlightenment Why Did it Happen?



in the 1500s, people believed the earth was flat

by the 1600s, the seeking of knowledge led to the questioning of old assumptions and then to a breakthrough in Western thought

transformations of religious thought:

deism: religious philosophy based on reason and the idea of natural law

methodism: religious movement that stressed the value of personal religious experience through community work (these people and their ideas later spread to America)



which all contributed to the movement that became known as

the Age of Enlightenment

this cultural movement of intellectuals that emphasized using reason rather than tradition

thinkers of the Enlightenment who spread exciting new ideas were known as philosophes

The Scientific Revolution



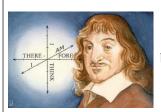


Nicholas Copernicus

(1473-1543)

started his scientific career in Poland in 1492 said earth was round and that it rotated on its axis as it revolved around the sun

kept his ideas secret = couldn't be persecuted for them



Rene Descartes

(1596-1650)

French philosopher and mathematician believed truth must be reached through reason invented analytical geometry Discourse on Method (1637):

"I think, therefore I am." Galileo Galilei (1564-1642): mathematician; telescope; discovered moons orbiting Jupiter

= not all heavenly bodies revolved around earth; but on trial; recanted





Johannes Kepler (1571-1630): astronomer and mathematician; elliptical orbits

Francis Bacon (1561-1626): philosopher; scientific method





The Scientific Revolution



Joseph Priestly

(1733-1803)

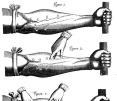
English chemist and clergyman discovered oxygen and studied the existence of carbon dioxide

Antoine Lavoisier (1743-1794)

French scientist who discovered the nature of combustion

Marie Lavoisier, his wife, learned English and Latin so she could translate scientific essays and books for him she also drew the illustrations for his books



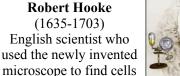


(1578-1657) English doctor who proved that blood circulates through

that blood circulates through the body via the heart and veins

William Harvey

Andreas Vesalius (1514-1564): medical student; dissections



in vegetable tissue

Revolutions of Thought

natural law

a universal moral law that could be understood by applying reason



Thomas Hobbes

(1588-1679)

English political theorist

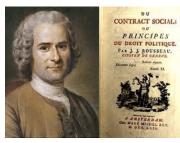
said people form a **social contract** to live obediently under a ruler, because without a leader people naturally are violent and disorderly *Leviathan* (1651), showed a world without government in which life was "nasty, brutish, and short"

Baron de Montesquieu

(Charles-Louis de Secondat; 1689-1755)
French political theorist who admired English government believed in the separation of powers legislative, executive, and judicial branches contributed to the *Encyclopedie* and wrote *The Spirit of Laws* (1748)



Revolutions of Thought



Jean-Jacques Rousseau

(1712-1778)

French philosopher born in Geneva to French Huguenot parents *The Social Contract* (1762): government should be made by the people

Voltaire

(Francois-Marie Arouet; 1694-1778)
French satirist who was jailed twice
for writing about the Church and insulting a nobleman

Candide (1759):

challenged the idea that everything works out for the best "I disapprove of what you say,

but I will defend to the death your right to say it."









Immanuel Kant

(1724-1804)

German philosopher who claimed that there were two worlds the physical world, which is known through the senses the spiritual world, which is known through faith religion is real even though it can't be scientifically explained

The Enlightenment Spreads

ENCYCLOPEDIE. DICTIONNAISE BASSONNE DES SCIENCES. DE SCIENCES. DE SCIENCES. DE SCIENCES DE MATTERS TO SCIENCES DE

Encyclopedie (1751)

28 volumes containing all the new theories banned by Catholic Church for its criticisms of the Church



Madam de Pompadour (Jeanne Antoinette Poisson) Louis XV's mistress from 1745 until her death in 1764) hosted salons and noted for her intelligence and wit

salons

gatherings held in the homes of wealthy patrons held partly as a social gathering and partly to increase the knowledge of the participants through conversation





Enlightened Despots

absolutist rulers who governed by Enlightenment principles while keeping their royal powers



Frederick II of Prussia (ruled from 1740–1786) abolished the use of torture established elementary schools promoted industry and agriculture

Joseph II of Austria

(Maria Theresa's son, ruled with her from 1740–
1780, then alone until 1790)
abolished serfdom
made land taxes equal for nobles and peasants
instituted freedom of the press
took property from Catholic Church;
used the money to fund hospitals
granted religious freedom to
Protestants and Jews







Maria Theresa of Austria
(ruled from 1740–1780)
most far-reaching measures of
enlightened despotism occurred
under her reign
set up elementary schools
freed all serfs who worked on
her estates