

Medieval Science:

- In the Middle Ages, many educated Europeans took an intense interest in the world around them
- The Medieval scientists did not make observations of the natural world, they relied on ancient authorities (like Aristotle) for their scientific knowledge
- Medieval scientists are known as the natural philosophers
- Believed in alchemy



The Old View:



- One example of how natural philosophers relied on ancient authorities was the structure of the universe
- People believed that the Earth was the center of the universe and that the sun, moon, and other planets orbited around Earth, this is known as the geocentric theory
- Aristotle named the theory in the 300s
- About 100 years later, Ptolemy expanded on Aristotle's theory
- The theory was upheld by the church, which taught that God had put Earth in the middle of the universe

What was the Scientific Revolution?:



- What is a Revolution?
 - A forcible overthrow of a government or social order in favor of a new system
- Started in the 17th century
- Exploration and trade led to innovation and more accurate observation and measurement
 - New instruments like the telescope and microscope made fresh observations and discoveries possible

[The Scientific Revolution](#)

Rene Descartes:



- He was a French philosopher and mathematician
- Thought reason, not tradition, is the source of all knowledge
- He began by thinking and writing about the doubt and uncertainty that seemed to be everywhere
- He ended with the a philosophy that dominated Western thought until the twentieth century

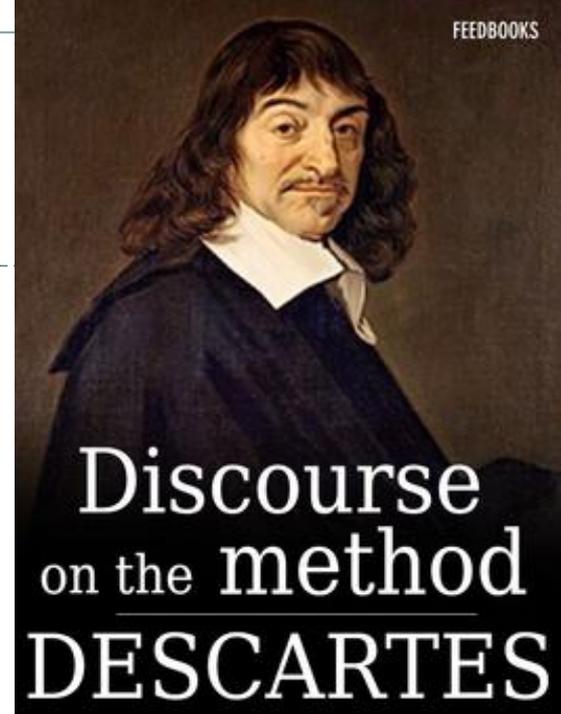


Rene Descartes Cont.:

Rene Descartes



- The starting point for Descartes's new system was doubt
- In his *Discourse on Method*, written in 1637, Descartes decided to set aside all that he had learned and to begin again
- He emphasized the importance of his own mind and asserted that he would accept only those things that his reason said were true
- Came to his "I think, therefore I am"
- He believed that everything should be doubted until proven by reason
- Became known as deductive reasoning
- Rationalism- Holds that all knowledge comes from reason



Empiricism:



- The belief that experience is the only true source of knowledge
- Shift toward empiricism is a hallmark of the Scientific Revolution
- Lead to the development of the scientific method

Sir Francis Bacon:

[Sir Francis Bacon](#)

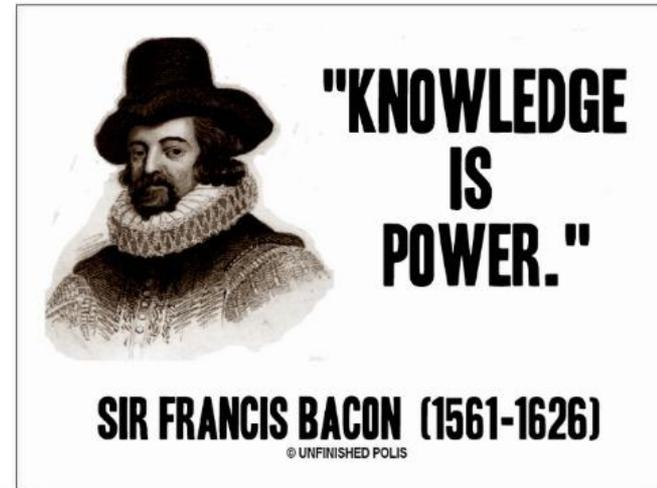


- English philosopher and empiricist
- Argued for experimental methodology
- His ideas about science incorporated what is known as inductive reasoning, which involves using concrete facts to come up with answers

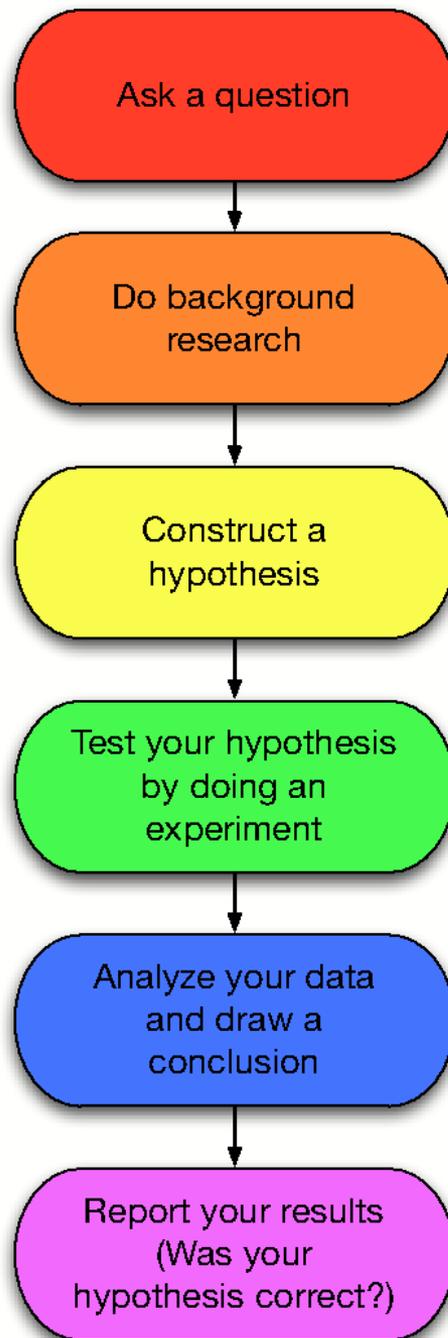


Sir Francis Bacon Cont.:

- Bacon believed that all scientific research should rely on careful observation and experimentation rather than simply relying on one's own thought and reasoning
- The data obtained should then be recorded and analyzed according to logic and reason, then used to produce a testable hypothesis
- Created the scientific method



The Scientific Method



Exit-slip:



- ➔ **What is a revolution?**
- ➔ **What are medieval scientists known as?**
- ➔ **What was Descartes major founding?**
- ➔ **What was Francis Bacon's major founding?**