**AP Euro – Chapter 16 Study Guide: Scientific Revolution & Emergence of Modern Science**

Overarching Question: How and why did Europeans come to rely on reason and science in place of traditional sources of knowledge and authority?

Short Answer Questions (TWO REQUIRED):

1. Many new discoveries and advancements were made during the era known as the Scientific Revolution which challenged previously held traditional views of the universe and nature.
   1. Identify ONE scientist who challenged traditionally held views of the universe AND explain how this person’s ideas were different.
   2. Identify ONE scientist who challenged traditionally held views of nature AND explain how this person’s ideas were different.
2. Women played a role in the emergence of modern science.
   1. Briefly describe the accomplishments of ONE woman who played a role in the development of modern science during the 17th c.
   2. Briefly describe the problems faced by ONE woman who met with opposition to her role in the sciences.
   3. Briefly explain the reasons commonly given opposing the participation of women in the sciences.
3. 16th and 17th scientists contributed to a changing view of medicine.
   1. Briefly explain how Paracelsus changed traditional views and practices in the medical field.
   2. Briefly explain how Vesalius changed traditional views on human anatomy
   3. Briefly explain how William Harvey changed traditional medical knowledge.
4. Western civilization has had an ongoing debate between science and religion during the modern age.
   1. Briefly explain ONE reason why Copernicus’ ideas would have been in conflict with the Christian authorities of the time.
   2. Briefly explain ONE belief held by Galileo that placed him in conflict with the leadership of the Roman Catholic Church.
   3. Briefly explain ONE belief held by Spinoza that placed him in conflict with both Christian and Jewish leaders of the day.
   4. Briefly summarize how Blaise Pascal’s beliefs were different than those held by other scientists of the day.

Key Vocabulary and Concepts

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| **Historical Content & Terms Must Knows** | **People & Events Must Knows** | **Academic Vocabulary Must Knows** |
| Natural Philosophy  **Alchemy**  **Geocentric v. Heliocentric** views  **Copernicus v Kepler ideas**  Role of the Telescope in discovery  **Galileo v RC Inquisition**, outcome  **Newton’s Laws:**  **-Gravitation & Motion** | Aristotle, Ptolemy & **Galen**, beliefs  **Nicholaus Copernicus**  *-On the Revolutions of the Heavenly Spheres*  Tycho Brahe  **Johannes Kepler**  **Galileo Galilei**  *-The Starry Messenger*  *-The Dialogue… Ptolemaic and Copernican*  Robert Bellarmine  **Isaac Newton**  *-Principia* | Dissolution  Occult  **Cosmos** / Cosmology  Orb  Concept / Conception  Inaugurate  Elaborate  Proportional  **Continued Next Page** |
| **Historical Content & Terms Must Knows** | **People & Events Must Knows** | **Academic Vocabulary Must Knows** |
| Boyle’s Law  ***Querelles des Femmes***  **Rationalism**  *Index of Forbidden Books*  **Scientific Method**  **Empiricism**  **Deductive v Inductive** Reasoning  Science Academies:  -Role in spread of knowledge,  -Limitations of membership  Reason v Faith debate | **Paracelsus**  **Andreas Vesalius**  **William Harvey**  Robert Boyle  Antoine Levoisier  Margaret Cavendish  Maria Merian  Maria Winkelman  **Rene Descartes**  *-Discourse on Method*  -“I think therefore I am”  **Francis Bacon**  Benedict (Baruch) Spinoza  **Blaise Pascal**  *-Pensees* | Physiology  Anatomy  Entomology  Midwife  Divergent  Dichotomy |