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Chapter 8 Guided Notes Assignment

**KEY PEOPLE, CONCEPTS, DEVELOPMENTS, IDEAS:**

*Pay particular attention to the items in this section as you read. At the conclusion of the chapter you should have a working understanding of these items.*

Galileo Galilei

Aristotle

The Crystal Spheres

The Scientific Method

The Ptolemaic system

Nicholas Copernicus

Heliocentric/ism

Geocentric/ism

Galen

William Harvey

Tycho Brahe

Johannes Kepler

Kepler’s Laws of Motion

Francis Bacon

Rene Descartes

Induction vs Deduction

Cogito Ergo Sum

Isaac Newton

Theory of Gravity

Calculus

Royal Society of London

**KEY QUESTIONS:**

1. What caused the Scientific Revolution of the seventeenth century?
2. In what areas of science were some of the greatest achievements?
3. How was the universe viewed prior to and after Copernicus?
4. What developments during the Middle Ages and the Renaissance contributed to the Scientific Revolution?
5. How did the Copernican system differ from the Ptolemaic? Why was this correction considered “revolutionary”?
6. What did Brahe and Kepler contribute to the emerging understanding of the heavens?
7. Describe inductive and deductive reasoning. How do they differ in their approach to finding truth?
8. Why was Galileo tried and condemned by the Inquisition?
9. Compare and contrast the approaches to science of Descartes and Newton. What do they share? How are they different?
10. What is the Newtonian synthesis?
11. How did the new science reach the public?
12. How did different religious denominations respond to the new science?

**CHAPTER OUTLINE**

**I. THE NEW PHILOSOPHY OF SCIENCE**

* 1. Changing Views of the Universe
     1. Ancient and Medieval Science
     2. Copernicus Challenges the Aristotelian View of the Universe
     3. The Universal Laws of the Human Body
     4. Brahe and Kepler Explore the Heavens
     5. Francis Bacon and the Scientific Method
     6. Galileo an science on Trial
  2. Descartes and Newton: competing Theories of Scientific Knowledge
     1. Descartes and Deductive Reasoning
     2. The Newtonian Synthesis
  3. The Culture of Science
     1. The Diffusion of the Scientific Method
     2. The Uses of Science
     3. Science and Religion
  4. Consequences of the Scientific Revolution