

## **Reading Guide to the Scientific Revolution: New Directions in Thought and Culture in the 16<sup>th</sup> and 17<sup>th</sup> Centuries.**

**DIRECTIONS:** Study each document or reading—respond to the questions in your notes. Organize your notes in like fashion. Leave room after each reading for additional discussion notes.

### **EVE OF THE SCIENTIFIC REVOLUTION:**

**Michael Postan, “Why Was Science Backward in the Middle Ages” (p. 229-231 Sherman):**

1. Why was scientific innovation lacking in the Middle Ages?
2. What typically medieval traits discouraged the men of the Middle Ages from Scientific exploration?

**Sir George Clark, “Early Modern Europe: Motives for the Scientific Revolution.” (p. 231)**

1. What led men to engage in scientific work in the 17<sup>th</sup> century more so than in the preceding centuries?

**Chapter 14 Introduction (p. 449-450 Kagan):**

1. What scientific changes swept through Europe in the 16<sup>th</sup> and 17<sup>th</sup> centuries?
2. What was the study of science called in this era?
3. What other two forces in history *simultaneously* challenged European thought and culture? What impact did these two forces have on European thought?

### **EVENTS AND CHARACTERISTICS OF THE SCIENTIFIC REVOLUTION:**

**The Scientific Revolution (p 450-455 Kagan):**

1. How would you define the term “Scientific Revolution”? How does the author define this era? In what ways was the event truly revolutionary?
2. Describe the Ptolemaic System. (Key terms: Ptolemy, Geocentricism, Aristotle, epicycle, deferent)
3. Discuss the contributions of Copernicus, Brahe, Kepler, Galileo, and Newton to the new science of the 16<sup>th</sup> and 17<sup>th</sup> century? Which do you think made the most important contributions and why?

**Philosophy Responds to Changing Science (p.455-457 Kagan):**

1. How did the proponents of the new science seek to explain the world? How did this view influence society? Explain.
2. According to Francis Bacon...
  - a. What was the goal or purpose behind the new science?
  - b. What approach should natural philosophers employ in the search of truth and in the discovery of new knowledge?

**Women in the World of the Scientific Revolution (p. 467-468 Kagan):**

1. What factors prevented women from fully participating in the new science?
2. Discuss the contributions of Margaret Cavendish.

### **CHALLENGES TO THE SCIENTIFIC REVOLUTION:**

**The New Science and Religious Faith (p. 468-469 Kagan):**

1. What potential challenges did the new science pose to religion?
2. Describe the case of Galileo.

**Galileo Galilei, “Letter to Christina of Tuscany: Science and Scripture.” 1615. (p. 226-227 Sherman)**

1. According to Galileo, what kind of topics or questions are appropriately scientific and which are appropriately religious?
2. How do Galileo’s views relate to Petrarch’s who wrote in an earlier time?
3. Why are Galileo’s views so crucial to the new movement in science?

**“The Papal Inquisition of 1633: Galileo Condemned.” (p. 227 Sherman)**

1. Why were Galileo’s views so threatening to the Church?
2. What are some long-term consequences of the Church’s stance toward these views?