

Name _____

Historical Breakthroughs with the Scientific Method

Open-Ended Questions Answer Key

1. Answer: This response will vary depending on the scientist chosen. For example, for Galileo Galilei, the steps would include observations of Jupiter's moons and Venus's phases, data collection, analysis, and the formulation of theories based on the evidence.
2. Answer: The impact of each breakthrough is significant and multifaceted. For instance, the impact of Darwin's theory of evolution includes its profound influence on biology and our understanding of biodiversity, while Curie's discoveries laid the foundation for medical applications of radiation.
3. Answer: The response should outline the steps of the scientific method, tailored to the chosen field of study. It should include how the scientist would formulate a research question, design experiments, collect data, analyze results, and draw conclusions.
4. Answer: The response should emphasize the importance of the scientific method in ensuring systematic and objective inquiry. It should discuss how the method's adherence has led to the accumulation of knowledge, technological advancements, and a deeper understanding of the natural world.

