Small, Smaller, Smallest
Discussion Questions: The History of Atomic Theories

These questions can be used for a variety of purposes, such as online or face-to-face discussions, journal prompts, or essay test questions.

- In what ways can the ideas of ancient thinkers about atoms be considered "scientific"? In what ways are they not scientific?
- Karl Popper introduced the idea that for a hypothesis, proposition, or theory to be scientific, it must be falsifiable—it must be possible to make an observation that would prove the theory false. How does this idea apply to the history of the study of the atom?
- How have "wrong" ideas contributed to our understanding of the atom?
- How did the study of electricity inform theories about the structure of atoms?
- What has been the role of different historical, social, political, and intellectual contexts in theories about atomic structure?
- How do scientists build on each other's knowledge?
- How have scientists used indirect observation to learn about atoms?
- How have scientists taken advantage of accidental or unexpected experimental results to create new knowledge?
- What role has math played in the development of knowledge of atomic structure?
- What are the major developments in theories about the atom? Who are the people responsible for these developments?