# Drafting Essential Questions

Science and Chemistry

| | Overarching Essential Questions | Adapt these questions or generate new ones |
|---|---|---|
| Nature of Science | What is science? How does it differ from other disciplines?<br>How is scientific knowledge generated and validated?<br>How are scientific questions answered?<br>How do we decide which scientific claims to believe? What's the evidence?<br>How are science and common sense related? How does opinion affect inquiry?<br>What is the role of serendipity in scientific advances?<br>How do you study the unobservable?<br>How do you measure the unquantifiable?<br>What drives scientific and technological advancement?<br>In what ways do technological advances influence scientific inquiry?<br>How might advances in science and technology affect society? | |
| Chemistry | How is the periodic table organized?<br>How can materials with the same chemical composition be so different (e.g., graphite, diamonds)?<br>How is energy conserved?<br>How is matter conserved?<br>How are materials recycled or disposed of?<br>How do the unique chemical and physical properties of water make life on earth possible?<br>What is the role of carbon in the molecular diversity of life?<br>How do structures of biologically important molecules (e.g., carbohydrates, lipids, proteins, nucleic acids) account for their functions?<br>How do enzymes regulate the rate of chemical reactions?<br>Why do you gasp for breath during exercise?<br>Why and how does the ozone hole form?<br>What happens to acid rain? | |