**Disciplinary Core Ideas**

**ESS3.A: Natural Resources**
- Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not.

**ESS3.B: Natural Hazards**
- A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts. (4-ESS3-2) (Note: This Disciplinary Core Idea can also be found in 3.WC.)

**ETS1.B: Designing Solutions to Engineering Problems**
- Testing a solution involves investigating how well it performs under a range of likely conditions. (secondary to 4-ESS3-2)

### Crosscutting Concepts

**Cause and Effect**
- Cause and effect relationships are routinely identified and used to explain change.
- Cause and effect relationships are routinely identified, tested, and used to explain change.

### Connections to Engineering, Technology, and Applications of Science

- Knowledge of relevant scientific concepts and research findings is important in engineering.
- Engineers improve existing technologies or develop new ones to increase their benefits, to decrease known risks, and to meet societal demands.

*The performance expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea.*