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| **Weather and Climate** |
| **08-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.** [Clarification Statement: Examples of factors include human activities (such as fossil fuel combustion, cement production, and agricultural activity) andnatural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and the rates of human activities. Emphasis is on the major role that human activities play in causing the rise in global temperatures.] |
| **Science & Engineering**  | **Core Ideas** | **Crosscutting Relationships** |
| **Asking Questions and Defining Problems****ESS2.C: The Roles of Water in Earth’s Surface Processes**Asking questions and defining problems in 6–8 builds on K–5 experiences and progresses to specifying relationships between variables, clarify arguments and models.Ask questions to identify and clarify evidence of an argument. (08-ESS3-5) | **DiscESS3.D: Global Climate Change**Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth’s mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities. (08-ESS3-5)**iplinary Core Ideas** | **Stability and Change**Stability might be disturbed either by sudden events or gradual changes that accumulate over time. (08-ESS3-5) |
| **ELA:*** **RST.6-8.1** Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions (08-ESS3-5)

**Math*** **6.EE.B.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. (08-ESS3-5)
* **7.EE.B.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. (08-ESS3-5)
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| **Learning Targets** | **Activities** | **Assessments** |
| 1. **Identify the reservoirs of carbon and how carbon cycles through the earth.**
2. **Investigate the greenhouse effect and identify greenhouse gases.**
3. **Compare & analyze temperature and co2 data to determine a pattern in the fluctuation.**
4. **Investigate effects of climate change.**
5. **Create solutions to climate change problems.**
 | **211. Carbon Cycle game, videos, literature.****2.****3. Interpreting Graphs.**  |  |