3-ESS2 Earth’s Systems

Students who demonstrate understanding can:

3-ESS2.1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. [Clarification Statement: Examples of data could include average temperature, precipitation, and wind direction.][Assessment Boundary: Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.]

3-ESS2.2. Obtain and combine information to describe climates in different regions of the world.

The performance expectations above were developed using the following elements from the NRC document A Framework for K-12 Science Education:

**Science and Engineering Practices**

Analyzing and Interpreting Data
Analyzing data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.
- Represent data in tables and various graphical displays (bar graphs and pictographs) to reveal patterns that indicate relationships. (3-ESS2-1)

Obtaining, Evaluating, and Communicating Information
Obtaining, evaluating, and communicating information in 3-5 builds on K-2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.
- Obtain and combine information from books and other reliable media to explain phenomena. (3-ESS2-2)

**Disciplinary Core Ideas**

ESS2.D: Weather and Climate
- Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (3-ESS2-1)
- Climate describes a range of an area’s typical weather conditions and the extent to which those conditions vary over years. (3-ESS2-2)

**Crosscutting Concepts**

Patterns
- Patterns of change can be used to make predictions. (3-ESS2-1),(3-ESS2-2)

Connections to other DCIs in third grade: N/A

Articulation of DCIs across grade levels: K.ESS2.D (3-ESS2-1); 4.ESS2.A (3-ESS2-1); 5.ESS2.A (3-ESS2-1); MS.ESS2.C (3-ESS2-1),(3-ESS2-2); MS.ESS2.D (3-ESS2-1),(3-ESS2-2)

Common Core State Standards Connections:

ELA/Literacy –
RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-ESS2-2)
RI.3.9 Compare and contrast the most important points and key details presented in two texts on the same topic. (3-ESS2-2)
W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (3-ESS2-2)

Mathematics –
MP.2 Reason abstractly and quantitatively. (3-ESS2-1),(3-ESS2-2)
MP.4 Model with mathematics. (3-ESS2-1),(3-ESS2-2)
MP.5 Use appropriate tools strategically. (3-ESS2-1)
3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (3-ESS2-1)

3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in bar graphs. (3-ESS2-1)

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