### 1-ESS1  Earth’s Place in the Universe

**Science and Engineering Practices**

- **Planning and Carrying Out Investigations**
  Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.
  - Make observations (firsthand or from media) to collect data that can be used to make comparisons. (1-ESS1-2)

- **Analyzing and Interpreting Data**
  Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations.
  - Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (1-ESS1-1)

**Disciplinary Core Ideas**

- **ESS1.A: The Universe and Its Stars**
  - Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1)

- **ESS1.B: Earth and the Solar System**
  - Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS1-2)

**Crosscutting Concepts**

- **Patterns**
  - Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1),(1-ESS1-2)

**Scientific Knowledge Assumes an Order and Consistency in Natural Systems**

- Science assumes natural events happen today as they happened in the past. (1-ESS1-1)
- Many events are repeated. (1-ESS1-1)

### Articulation of DCIs across grade-levels:

- **3-PS2.A** (1-ESS1-1); **5-PS2.B** (1-ESS1-1),(1-ESS1-2); **5-ESS1.B** (1-ESS1-1),(1-ESS1-2)

### Common Core State Standards Connections:

**ELA/Literacy –**

- **W.1.7** Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). (1-ESS1-1),(1-ESS1-2)
- **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-ESS1-1),(1-ESS1-2)

**Mathematics –**

- **MP.2** Reason abstractly and quantitatively. (1-ESS1-2)
- **MP.4** Model with mathematics. (1-ESS1-2)
- **MP.5** Use appropriate tools strategically. (1-ESS1-2)

- **1.OA.A.1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations to represent the problem. (1-ESS1-2)

- **1.MD.C.4** Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. (1-ESS1-2)

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*The performance expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea. The section entitled "Disciplinary Core Ideas" is reproduced verbatim from A Framework for K-12 Science Education: Practices, Cross-Cutting Concepts, and Core Ideas. Integrated and reprinted with permission from the National Academy of Sciences.*