SCILLSS Classroom Science Assessment Workshop

# Grade 5 Completed Unpacking Tool – Activity Answer Key

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| **Grade:**   | 5 |  |  |
| **NGSS Performance Expectation: 5-ESS1-2.** Represent data in graphical displays to reveal patterns of daily changes in the length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. |
|  | **Science and Engineering Practices (SEP)** | **Disciplinary Core Ideas (DCI)** | **Crosscutting Concepts (CCC)** |
| **SEP:** **Analyzing and Interpreting Data**Represent data in graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. | **DCI:** **ESS1.B: Earth and the Solar System**The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year. | **CCC:** **Patterns**Similarities and differences in patterns can be used to sort, classify, communicate and analyze simple rates of change for natural phenomena. |
| **Key Aspects** | * Represent data in tables.
* Represent data in various graphic displays (bar graphs, pictographs and/or pie graphs).
* Organize data.
* Use a variety of graphical displays to reveal patterns.
* Analyze data to make sense of phenomena.
* Interpret data to make sense of phenomena.
* Use data tables to describe patterns that show relationships.
* Use graphical displays (bar graphs, pictographs and/or pie charts) to describe patterns that show relationships.
* Use mathematics to analyze data.
* Analyze data to make predictions.
 | * As Earth moves around the sun and rotates on its axis, changes such as patterns of night and day can be observed.
* There are daily changes in the length of day and night.
* There are daily changes in the length and direction of shadows.
* As Earth moves around the sun and rotates on its axis, changes such as the movement of shadows can be observed.
* As Earth moves around the sun and rotates on its axis, changes such as nightly, monthly, and seasonal movements of the moon can be observed.
* As Earth moves around the sun and rotates on its axis, changes such as nightly, monthly, and seasonal movements of the stars can be observed.
* As the seasons change, so do the patterns of stars in the nighttime sky.
* The stars in the sky change as the Earth’s position changes in relation to the sun.
 | * Similarities in patterns can be used to sort simple rates of change (natural phenomena and designed products).
* Similarities in patterns can be used to classify simple rates of change (natural phenomena and designed products).
* Similarities in patterns can be used to analyze simple rates of change (natural phenomena and designed products).
* Differences in patterns can be used to sort simple rates of change (natural phenomena and designed products).
* Differences in patterns can be used to classify simple rates of change (natural phenomena and designed products).
* Differences in patterns can be used to analyze simple rates of change (natural phenomena and designed products).
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| **Prior Knowledge** | * Analyze data.
* Record information (observations, thoughts, and ideas).
* Use and share pictures, drawings, and/or writings of observations.
* Use observations (firsthand or from media) to describe patterns and/or relationships in the natural and designed world(s) in order to answer scientific questions and solve problems.
 | * There are patterns in the rising and setting of the sun and the moon.
* Stars other than our sun appear in the sky.
* At different times of the year, there are different amounts of daylight.
* Seasonal temperature is in relation to the amount of daylight Earth receives at different times of the year.
 | **Relationships to SEPs** | * Recognizing patterns in data.
* Identify patterns in data.
* Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.
* Use observations to describe patterns and/or

relationships in the natural and designed world(s) in order to answer scientific questions and solveproblems. |

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