Sun and Earth: Day 3

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| **Criteria** | **Look For:** | **Lacks Features of Effective Explanation** | **Needs Further Development** | **Includes Features of Effective Explanation**  |
| Describe Process of Scientists and our Study | Describes Actions of Scientists, including:* Ask a question
* Gather Data
* Analyze the data
* Sci. Modeling
* Construct Explanation
* Engage in Argumentation

Describes their Actions:* Graph data
* Analyze data
* Develop a model
* Construct an explanation
* Critique and defend explanations
 | Explanation is limited.  | Includes some aspects, but many activities are omitted.Student describes the actions of scientists or how the classroom investigation replicated aspects, but may not fully describe both. | Response includes many/most of the aspects listed.Student describes both the actions of scientists **AND** how the classroom investigation replicated aspects of this. |
| Reasons for Differing Length of Daylight in AK and Ec | Explanation includes:Tilt causes Alaska to be angled away in Wintertime so they get no light. Because Ecuador is on the equator, the angle never really changes so the amount of daylight stays the same | Explanation is limited and/or contains misinformation and /or misconceptions | Explains Alaska or Ecuador, but may not include bothExplanation lacks clarity or includes minor misinformation and/or misconceptions | Explanation is clear, explains thoroughly that the tilt causes Alaska to be angled away in Wintertime so they get no light for 24 hours a day. Explains that because Ecuador is on the equator, the angle never really changes so the amount of daylight stays the same.May include a drawing that shows the tilt and the angle of the Sun’s rays that helps illustrate the explanation. |