



Scoring Guide: Signals from the Cosmos- Deciphering Messages from the Stars

| Scoring Criteria | 1 Attempted Demonstration | 2 Partial Demonstration | 3 Proficient Demonstration | 4 Distinguished Demonstration |
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| Content Knowledge Students' understanding of the structure and evolution of supernovae, including the radiation emitted from it. | Student attempts to describe the evolution of a supernova. Major details are missing and/or contains major errors. | Student partially describes the evolution of a supernova. Some details may be missing or contains minor errors. | Student accurately describes, the evolution of a supernova including descriptions of formation and destruction and the ongoing process of star formation. | Student accurately describes, in rich detail, the evolution of a supernova including rich and vivid descriptions of formation and destruction and the ongoing process of star formation. Student provides sophisticated and/or insightful details. |
| Understandings about Scientific Inquiry Students understanding of how scientists gather data about objects, such as supernovae, and explain phenomena in our universe. | Student attempts to describe how scientists gather and analyze data about supernovae and how this data is used to understand supernovae. Student may neglect to relate findings to the supernova being described in the task. Several details may be missing or contain major errors. | Student partially describes how scientists gather and analyze data about supernovae and how this data is used to understand supernovae. Student provides at least one example that relates to the particular supernova being described in the task. Some details may be missing or contain minor errors. | Student accurately describes how scientists gather and analyze data about supernovae and how this data is used to understand supernovae. Student provides examples that relate to the particular supernova being described in the task. | Student accurately describes, in detail, how scientists gather and analyze data about supernovae and how this data is used to understand supernovae. Student provides clear and specific examples that directly relate to the particular supernova being described in the task. |
| Data Collection and Analysis Students' ability to interpret information, analyze data, and draw conclusions | Student attempts to create a story/picture of the supernova, but it is not evident that data from the web site was used and analyzed. Several details may be missing or contain major errors. | Student partially analyzes data from the web site and creates a story/picture of the supernova, partially based on the data. Some details may be missing or contain minor errors. | Student accurately analyzes data from the web site and creates a story/picture of the supernova, based on the data. | Student clearly, accurately, and precisely analyzes data from the web site and creates an insightful story/picture of the supernova, clearly based on the data. |
| Communication Students' ability to effectively communicate scientific ideas and findings. | The medium that was chosen does not effectively communicate the story of the supernova to the intended audience. | The medium that was chosen partially communicates the story of the supernova to the intended audience. | The medium that was chosen effectively communicates the story of the supernova to the intended audience. | The medium that was chosen clearly and effectively communicates the story of the supernova to the intended audience. |
| Accessing Information Students' ability to use computers to access information for research | Student provides an incomplete appendix of web resources used. It may not be clear how they were used for the task. | Student provides appendix of most of the web resources used although it may not be clear how some resources were used for the task. | Student provides appendix of all the web resources used and it is evident that the sources cited were used for the task. | Student provides appendix of all the web resources used and it is clearly evident that the web sources cited were appropriate and used for the task. |

