

Star Clues: Instructional Strategies

Alignment with the National Standards:

Science Content Standard D: As a result of their activities in grades 9 – 12, all students should develop an understanding of the **origin and evolution of the universe**.

Required Materials:

1. One set of 30 clue cards for every two to three students. These may be reproduced on colored card stock prior to the activity or students may cut their own from xeroxed copies. Scissors required.
2. Student chart
3. Star clue reference sheet
4. An overhead transparency of the student chart for a review session
5. An answer key has been provided

Allotted Time:

One to two periods with time allotted for introduction and discussion.

Procedure:

1. This advanced activity requires prior knowledge of star formation, spectral types and the H-R Diagram.
2. It is highly recommended that the instructor work through this activity prior to introducing it to students as it may present a greater challenge than anticipated!
3. The assigned task is to enter all missing data on the student chart.
4. This activity is ideal for use with small groups of two to three students each.
5. Clues are provided (1) on the student chart in the form of pre-entered data, (2) on the reference chart and (3) on each of the thirty cards. Instruct students to read the clues given on each card. Information provided on any one card may or may not be relevant at the time it is read. If the information is not relevant at the time the card is read, instruct students to place that card at the bottom of the deck and continue with the next card. Assure students that all information on all cards will be required at some time and that the information on some cards will be required for more than a single entry while that on other cards will be required for only one entry. Once all relevant information has been gleaned from a card, that card may be set aside.
6. As this activity presents a unique approach to learning, plan to circulate about the room to assist groups of students requiring additional help.
7. Once all or nearly all students have completed their charts, generally by the second day, project the chart onto a viewing screen. Complete this chart in a manner similar to that used earlier by students. During this review session, students may compare the entries made during the review session with those on their own charts.

For information about **STELLAR JOURNEY: The Game** developed in cooperation with NASA's Chandra X-ray Center and The Wright Center for Innovative Science Education, visit <http://www.stellarjourney.net>