Life Cycle of Stars with Slooh Online Observatory

Using the CERES Project

Students in grades 9-12 analyze characteristics that indicate human life cycles, and then apply these observational principles to various NASA pictures of stars to synthesize patterns of stellar life cycles. They are than able to take their own pictures using a remote telescope.

Learner Outcomes

By completing this activity, the learner will:

- Sequence pictures of human beings by age.
- Describe the observational characteristics used to determine a life cycle.
- Observe NASA images of stars at various life cycle stages.
- Synthesize a stellar life cycle based on observation.
- Contrast students' star life sequences with astronomers' sequence.
- Create a star life cycle concept map.
- Observe and image stages of stellar evolution using a remote telescope

Activities 1 and 2 can be found online:
http://btc.montana.edu/ceres/html/LifeCycle/stars1.html

Activity 3 can be done using Slooh Online Observatory:
http://www.slooh.com/

Teacher Lesson Plans

Activity 1: Investigating the Human Life Cycle

Activity Page One shows eight pictures of humans at various ages. Your FIRST task is to figure out and record the correct sequence of pictures from youngest to oldest. Pay careful attention to how you determine the sequence because your SECOND task is to write a detailed description so clear that other students will understand it, and be able to use it as a model to come up with the same sequence. This might not be as easy as it appears. THIRD, check your sequence with the expert sequence (sequenced human life cycle page) and propose explanations for any discrepancies.

Activity 2: Sequencing NASA Images of Massive Stars

Activity Page Two (unsequenced large star cycle page) shows eight NASA images from the Hubble Space Telescope (HST). These are pictures of the formation sequence of really BIG stars. Your FIRST task is to figure out and record the correct sequence of pictures from birth formation to stellar death. Pay careful attention to how you determine the sequence because your SECOND task is to write a detailed description so clear that other students will understand it, and be able to use it as a model to come up with the same sequence. Each picture is hyperlinked to a description of the picture for background information IF you need it. THIRD, check your sequence with the expert sequence (sequenced large star cycle page) and propose reasons for any discrepancies.

Activity 3: Taking Pictures Using Slooh Online Observatory

Write a log that describes the sequence of stellar formation, life cycle, and death. Use a remote telescope to take at least 5 pictures showing different examples of the stages of stellar evolution. If this is your first time using Slooh, start here:

http://slooh.com/schools

Scientific Background For the Teacher:

http://btc.montana.edu/ceres/html/LifeCycle/starsbackground.htm

Also included on the CERES webpage are:

- National Science Education Standards
- National Mathematics Education Standards
- Materials and Technology

Learn more about the CERES Project here: http://btc.montana.edu/ceres/