

Space Odyssey Online Teacher's Guide

Deep Space Tic-Tac-Toe

Postvisit Activity for Deep Space



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Grades 4- 8

CDE Standards

Science: 1,4,4,5,6

Language Arts: 1,2,4,5,6

Math: 1,2,5

Preparation and Materials

Estimated Preparation Time: 30 minutes

Estimated Activity Time: Three or more time periods of 30 minutes each

Materials

Paper

Pencils

Colored pencils, crayons, or markers

Poster board (for game boards)

Miscellaneous materials for building models

Computer with Internet access

Copies of HR diagram (see resource list)

Learning Goals/Objectives

Students will analyze and synthesize information learned in a unit on deep space to complete three activities.

Connection to *Space Odyssey*

A visit to *Space Odyssey* is a cosmic journey, one that can't be taken without exploring the contents of our universe. Whether exploring planets at the Candor Chasma exhibit or studying stars at the Stellar Evolution interactive, visitors will undeniably learn about the many different objects in the universe. Be sure to check the Space Screen for the most incredible views you'll ever see!

Advanced Preparation

Make a copy of the tic-tac-toe activity sheet for each student in your class.

Classroom Activity

1. This activity is designed to differentiate for the needs and learning styles of the students in your classroom.
2. After completing a unit on space exploration, hand out a copy of the tic-tac-toe sheet to each of your students.
3. Briefly discuss each activity on the tic-tac-toe grid to give students any information they might need to complete their three activities.
4. Tell students they will choose three activities from the grid to complete a row. Students are allowed to choose any of the activities from the grid, as long as they lie in a straight line. (This is a

- preference only. You may opt to have students choose any of the activities from the playing board.)
5. Give the students the time they'll need to complete the three activities.

Variations/Extensions

1. Have a "Universe Day" to allow student to share their projects with classmates.
2. Host a "Space Night" open house for parents and families to come see student projects. You may choose to host this night in conjunction with a Museum Star Party for extra space exploration opportunities.

Resources

Web sites

<http://chandra.harvard.edu/photo/2003/1154/>

<http://www.hubblesite.org/>

<http://www.aw-bc.com/info/bennett/images/hrdiagram.jpg>

<http://www.csulb.edu/~gordon/hr.jpg>

http://www.astro.utoronto.ca/~ast251/lectures/the_hrd.jpg

<http://apod.gsfc.nasa.gov/apod/lib/aptree.html>

http://www.astro.uni-bonn.de/~pbrosche/hist_astr/ha_pers.html

Name: _____

Instructions: Choose a path on the tic-tac-toe board and complete three activities to make a tic-tac-toe. Your activities must lie in a straight line on the board.

<p>1. Pretend that you have traveled to a remote location in our universe. Do some quick research and write a postcard home to tell about that place. Don't forget to include your astronomical address on the back of your postcard!</p>	<p>2. Build a model of our galaxy using any materials you wish. Don't forget to show where our Sun lives in the galaxy!</p>	<p>3. Write a song, poem, or rap to teach your class about the objects in the universe. Add some movements to your song and teach it to your class.</p>
<p>4. Compare yourself to a star. Keep a journal and write about five ways that you are similar to and different from a star. Be creative, but base your comparisons on scientific fact.</p>	<p>5. Create a scrapbook of deep space images from the Hubble, Chandra, or Astronomy Picture of the Day Web sites. Include factual captions and journal entries in your scrapbook.</p>	<p>6. Observe the sky at night. Choose your favorite constellation and do some research on the stars in that constellation. Find out their names, how far they are from the Sun, and what color they are.</p>
<p>7. Create a quiz game about the objects in the universe. Make up at least 20 questions for your game. Play the game with a small group of students or teach it to your whole class.</p>	<p>8. Write a script to portray the life of an early astronomer. Use factual information to show how this astronomer used the night sky to perform his/her research. Perform your skit in front of an audience.</p>	<p>9. Using the HR diagram, write 10 problems for a friend to solve. Trade problems with another student and do your best to solve them!</p>

Activities chosen: _____

