

Stellarium
Grade Level:6

Subject:Science

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Standard Course of Study Goals & Objectives

Objective: After exploring the solar system through guided travel in Stellarium, students will demonstrate an understanding of the cycles of the solar system.

NCSCOS:

Competency Goal 5: The learner will build understanding of the Solar System.

Objectives

5.01 Analyze the components and cycles of the solar system including:

- Sun.
- Planets and moons.
- Asteroids and meteors.
- Comets.
- Phases.
- Seasons.
- Day/year.
- Eclipses.

5.02 Compare and contrast the Earth to other planets in terms of:

- Size.
- Composition.
- Relative distance from the sun.

Technology Integration

Use of a simulation to view the solar system and investigate the objects in it.

Use of the Internet and Video for research and supporting Detail.

Description

Student Resources

Prior Knowledge/ Experience

- Students should show proficiency with applicable terminology (vocabulary).
- Review/informally assess student knowledge.

Materials Needed

- Stellarium program

- Internet

www.screentoaster.com

- Anasazi video of Chaco Canyon (we used one from Discovery Education Streaming)
Video - The Mystery of Chaco Canyon - another good one can be purchased
<http://www.bullfrogfilms.com/catalog/mocc.html>

Guided Activity

Begin with a simple guided tour of the program for the kids. Keep it simple

- Moving the view around
- Advancing time
- Turning on constellations
- Searching for objects, selecting, hold on object
- Ground and Atmosphere

Project

You and your team have been recruited to build an animation model for a new tourism venture. The company is selling tours of the solar system in Virtual Reality. They would like you to use Stellarium and the screen capture web site of Screen Toaster to record a travel video, modeling a virtual reality trip through the solar system. Your tour should include the following places:

- Sun.
- Planets and moons.
- Asteroids and meteors.
- Comets.

Please include the following information about the objects in the solar system.

- Size.
- Composition.
- Relative distance from the sun.
- Length of a day
- Length of a Year (not needed for asteroids and comets)

Interdisciplinary Connections

- Use myths, folktales and legends associated with constellations. (SS 7.02; ELA 2.02)

- Compare maps historically. Use graphic organizers to show influences of the known sun/moon/earth system on mapping and exploration (SS 3.02, 4.01; ELA 4.04)
- Chart the phases of the moon for a set period of time and compare the actual data with the simulation. Record the data using spreadsheets/databases (M 4.01)