

Citizen Science

Create Your Own "Lake Globe"

TERM	2013
LOCATION	G+L+S
PROGRAM	VideoGames and Learning

Overview of Lesson Within the game of Citizen Science, the "Lake Globe" was introduced as a valuable tool in the process of understanding lake ecology. In this lesson, students will have the opportunity to create their own "Lake Globe," and can personalize it to reflect the environment of their surrounding community.

Materials Needed Various art supplies (figurines, pipe cleaners, markers, paper, modeling clay, pom-poms, etc.)
Maps and images of the surrounding area
Plastic craft dome for each student or pair/team of students working together
Styrofoam half ball 2" *smaller in diameter*
Tagboard or cardboard on which to affix the dome

Content of Lesson Begin by reviewing the use and appearance of the "Lake Globe" within Citizen Science. Ask your students to brainstorm a list of the globe's contents (such as the farm, the water, and the beach area) and the variables associated with it (for instance, runoff, mussel introduction, and fertilizer). If necessary, ask them to play through Citizen Science again until they are comfortable using the globe.

Next, students will (either individually or divided into pairs/teams) be given access to the previously mentioned supplies and the visuals of their surrounding ecological communities. Direct them to construct their own bio-domes based off of the Citizen Science content and available art supplies by applying their ideas to the styrofoam piece given to each group. Students should be given ample time to apply details to their projects - an entire class period is ideal. Once work on the styrofoam itself is done, affix it to the tagboard before covering it with the plastic dome and affixing this as well.

As a class, decide on a list of variables (comparable to the mussel introduction, fertilizer, and runoff variables within Citizen Science) by researching or brainstorming ecological variables present in your surrounding community. Then, have each student/team present their bio-spheres in a gallery walk-style (by walking from table to table around the room in small groups, then switching presenters), making sure that students discuss how these variables would impact their individual domes.

Citizen Science

Create Your Own "Lake Globe"

TERM	2013
LOCATION	G+L+S
PROGRAM	VideoGames and Learning

Learning Objectives Students will work responsibly in an independent fashion, staying on task and accomplishing set goals.

[OR]

Students will work cooperatively in groups, staying on task and accomplishing set goals.

Students will be able to describe their ecological model and explain the impact of multiple variables upon their bio-domes.

Students will be able to reflect upon their experiences and assess their own knowledge.

Educational Standards

- (MS-LS1-5.)** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
- (MS-LS2-2.)** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- (MS-LS2-5.)** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
- (MS-ESS3-3.)** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.