

Citizen Science

Ecological Sorting Activity

TERM 2013

LOCATION G+L+S

PROGRAM Video Games and Learning

Overview of Lesson Based at Lake Mendota in Madison, WI, the player's goal of Citizen Science is to restore a lake that has become eutrophic. During gameplay, the player encounters several solutions to restore the health of the lake. For this activity, students will work in small groups to sort these solutions in order of their importance, and present their unique sort to the class, justifying why it's arranged the way it is. This lesson will help answer the essential question: How do we reach collective decisions in society?

Materials Needed notecards, labeled accordingly to comprise a solution set:

- Pick up trash
- Plant rain gardens
- Protest and picket around the lake
- Stop the introduction of invasive species to the lake
- Talk to farmers about controlling/preventing runoff Ex: manure
- Support fishing regulation Ex: stocking/overfishing
- Help restore wetlands

7 pieces of paper, each with a solution

Content of Lesson Divide the class into small groups of three or four students and hand each group a solution set of notecards. Have the students work together to arrange the sort how they see fit, in order of most important to least important- being sure to work from left to right. Encourage students to debate amongst the group and form persuasive arguments like those in the game. For example, one student may say, "I think *Support fishing regulation Ex: stocking/overfishing* is the most important because increasing the amount of piscivore in the lake helps reduce algae blooms and overfishing reduces the amount of fish in the lake, therefore increasing algae blooms. Provide the groups enough time to come to an agreement, or close to one. Have the groups present their sorts by arranging in front of the class the solutions written larger on the pieces of paper so that the whole class can see. Have them explain the reasoning of their sort using specific evidence noted from gameplay or their background experiences.. After all the groups have presented, discuss any commonalities or differences among sorts. Relate this activity to real life- how do we reach collective decisions in society?

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Learning Objectives Students will be able to participate in effective arguments utilizing evidence to support points, in an effort to enact change or raise awareness on a topic regarding lake ecology.

Students will be able to sort a set of proposed solutions to end lake eutrophication in order of most to least important.

Educational Standards

Next Generation Science Standard Communicate information about a proposed solution to a problem,
(MS-ETS-ED.f) including relevant scientific principles, how the design was developed, how it meets the criteria and constraints of the problem, and how it reduces the potential for negative consequences for society and the natural environment.