

San Marcos Explorers Lesson Plan

DATE: April 2024

LOCATION: Crockett Elementary School

TIME: 8:00 am

PARTNERSHIPS *(if any)*:

PROMOTION PLAN:

TOPIC: Problem Solving for Stewardship

GENERAL DESCRIPTION OF WORKSHOP & GOALS:

Help students understand the basic principles of environmental management, and how making decisions about the environment (or any issue) can become complicated due to the existence of conflicting interests.

MATERIALS & COSTS:

Hat, bin, bowl, box, or other enclosed container Pencils Blank paper Careholder raffle list	Free, reused Found at school Found at school Printed
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LESSON PLAN (with timing):

Note: Ensure before lesson that students will be divided into groups of 3-4. Cut out each careholder group from the final page of this lesson plan, fold into smaller size, and throw into bin/box/hat for students to draw from during the activity.

Discussion: meeting students where they are. Formulate questions that will get them to talk about what they already know about the topic, or what they currently associate it with.

Ex: Where have you seen ____? Who has heard of ____?

2-3 minutes (Slides 2):

Begin by asking if anyone has heard the word stewardship before? Where have they heard it? If no one has heard it, does anyone have any guesses as to what it may mean? Allow for a few minutes of supervised discussion.

Background: Lay the foundational knowledge that is essential for students to know to understand the topic at hand.

Ex: explaining basics of the water cycle

1 minute (slide 3):

Read the definition of Stewardship as written on the slide. Pose the role of “Steward” to students as related to the Medieval castle system. Ask them to imagine the castle, and how a steward isn’t the owner of the castle, but rather its caretaker for the time being. Compare this to a steward of the earth or environment. Explain that we as humans don’t own the earth, the land, the air, the water, but because we live on the planet we are its caretakers for as long as we are here. It is our job to manage the resources we’ve been given to make sure they last into the future.

1 minute (slide 4):

Give examples of different methods of environmental management, in the simplest terms possible. Use the lists as examples of ways to solve environmental problems, from starting a community garden to calling and emailing a Congressman or Mayor. Ask students if they can list any examples of how to solve an environmental problem.

1 minute (slide 5):

After a few students have given different examples of how they would solve an environmental problem, point out that just as each student has different ideas of what a solution to a problem would be, so too does each “careholder” in a community. Define a careholder as just a person who cares about a problem. Using the list on the slide, show how anyone can be a careholder, from scientists to business owners to students themselves. Because each person has a different role and job in a community, they all care about a problem for a different reason.

1 minute (slide 6):

Explain that because every person has a unique experience and education, often times they cannot agree on how to solve an environmental problem because of their different ideas. Explain that part of being a good steward is trying to balance everyone’s concerns and interests, and try to make decisions that benefit as many people as possible. This is difficult, but it is how our leaders make decisions!

1 minute (slide 7):

For broad examples use those of the Meat/Dairy Business and the Fossil Fuel Industry. Ask students how each careholder might think about the issue at hand. How would their perspectives be different from someone who didn’t work in a mine? From someone who didn’t live next to a factory farm?

Local Context: Bring the broader topic close to home by teaching about how it relates to their region/community.

Ex: explaining what the Edwards Aquifer is

3-4 minutes (Slide 8):

Introduce the background of the problem that students themselves will try to solve in the following activity. Be clear that this is not just an invented hypothetical, but a real problem that people in the San Marcos community are trying to solve as we speak. Ask if anybody recognizes the location that we are focusing on, and build on their familiarity with it.

Going bullet by bullet, explain the conditions that set the scene for this environmental problem. Explain that the challenge to managing this environmental problem is that there are multiple people and groups that need to be satisfied, but because of a limited resource, we cannot satisfy everyone, so we need to choose which things are the most important to focus on. Relate it back to the earlier examples, and emphasize that this is something that isn't happening in a make believe space, this is actually a discussion that is going on in their own backyards.

Beg the question- how can we be good stewards to the headwaters?

Activity: A hands-on or out-of-seat activity that helps students apply their knew knowledge or engage with the material.

Ex: Craft, competition/quiz, presentation, dance, science experiment/lab, etc.

Remaining Time (Slide 9):

Issue instructions for the activity. Begin by asking a representative of each student group to draw a paper from the bin/box/hat. Have them unfold what they chose, and tell them that this is now the careholder group that each team will represent/pretend to be. Referencing the instructions on the slide, tell students that they must get into the minds of the careholder they have been assigned, and using the paper and pencils on their tables, brainstorm some ideas of what they would think as that careholder about the headwaters problem. What kinds of things would they value? Why would they hold those interests? How would that be different from what another group would think?

After students are done with brainstorming, ask them on the back of the same sheet of paper to come up with 1-3 solutions for the headwaters problem, based only on the interests that their careholder would have.

After students have finished with this, go group by group and ask each team to

1. Introduce what careholder group they represent.
2. Explain their brainstorming process for why the careholder would care about the headwaters.
3. Give the solutions that they came up with as a team.

As students are saying this out loud, use a whiteboard or digital board to write this down and display for the entire class to see in individual lists that delineate each group's findings.

Food for Thought: Have another short discussion about how the students' new knowledge compares to what they knew before, or previously thought.

Ex: How do you feel about ____ now that you know how it works? What are you going to do different now?

After all groups have finished presenting, ask students if they notice anything on the white board displaying everyone's findings. Are there solutions that are repeated by multiple groups? Does this mean that people can agree on some things? Are there any solutions that are in direct conflict with each other? Is there more agreement or disagreement? (Keeping in mind, this activity will have different results each time because the interest groups will all be different).

Circle those solutions/interests that are similar, and if there is time, try to combine them into one solution. If there are no solutions or interests that overlap, ask students what that might say about their careholders, or how this problem might be solved? Which group has a lot of power to do something about the problem? Who has less power?

Call to Action: A challenge or tangible action that students can do to apply their new knowledge.

Ex: visit a museum, pick up litter, talk to their family, etc

Challenge students to take this new knowledge with them into conversations about problems that people disagree about how to solve. Encourage them to ask their parents *why* they think the way they do about certain problems. Whether on the playground or in the home, encourage them to think about how perspective and experience plays a role into how problems are solved in their community.

Careholder Raffle List

Texas State University President

Elementary School Students

Texas State University Students

Tourists

San Marcos River Foundation

San Marcos Mayor

San Marcos Downtown Business Owner

Kerbey Lane Café Owner

Nearby San Marcos resident