



Research an environmental issue and create a community survey

Time Needed: About three 45 minute classroom sessions. Students will conduct part of the lesson outside of normal classroom.

Ages: 9th – 12th

Season: Any

Materials: Computers, paper, writing utensils

Lesson Outline

- I. Select and research a current issue
- II. Develop a survey
- III. Conduct survey
- IV. Presentation and summary of results

Overview of Lesson: Students will work in small groups to research an environmental issue. They will design a survey and ask community members their thoughts and opinions on the issue.

Minnesota Standards

Science

9.1.1.2. Scientific inquiry uses multiple interrelated processes to pose and investigate questions about the natural world.

9.1.3.4. Science, technology, engineering, and mathematics rely on each other to enhance knowledge and understanding.

Mathematics

9.4.1. Display and analyze data; use various measures associated with data to draw conclusions, identify trends and describe relationships.

Background Information:

Students will explore environmental topics in this lesson. A few examples of topics are below, but current issues will vary from year to year and depend on your location. Any environmental issue in the news will work for this lesson.

For information on specific threats to eagles, you can visit the National Eagle Center's website at <http://www.nationaleaglecenter.org/learn/current-threats/>.

Example topics for students to explore:

- Fracking (hydraulic fracturing) and frac sand mining
- Renewable energy sources, including wind or solar energy production
- Lead ammunition
- Bird-safe glass
- Legal protections for eagles in the U.S.
- Invasive species control – some aquatic examples: Asian Carp, Zebra Mussels, Lamprey
- Maintenance and expansion of the lock and dam system on the Mississippi River
- Wolf hunting

Many other topics that are in the news, or relevant in your community, will work for this lesson. Have each student pick an issue that they have an interest in.

Lesson Outline:

- I. Split the students into small groups. Each group should brainstorm environmental issues that they have heard about in current events. Select one issue to focus on.
- II. Allow the students to research background information on the issue.
- III. Once students have a good understand of the issue, they should develop a short survey to measure the communities view on the issue. These questions should look at the beliefs and values of the community toward a specific environmental issue.
 - a. Yes / No questions will be the most straightforward when it comes to statics while open ended questions may give specific insights.
 - b. Depending on the classroom, it is worth students discussing if a paper survey or electronic would work better for the question.
 - c. A good review of creating survey questions can be found at <https://owl.english.purdue.edu/owl/resource/559/06/>
- IV. Each group of students should distribute their questionnaire to members of the community.
 - a. The group should try and get a variety of people to take the survey. If they only ask fellow students, family or friends the survey results could be biased.
- V. Have students compile the results. This is a great chance for students to present the results using graphs and charts and converting the answer to percentages of responses. If open ended questions were used, quotes can be discussed here.

- VI. Students should present their issue and survey results to the class.
- a. What is their issue?
 - b. How does it affect the local community?
 - c. Survey
 - d. Survey Results
 - e. Were the results what they expected? Is there anything they would do differently?

References:

National Eagle Center – Current Threats <http://www.nationaleaglecenter.org/learn/current-threats/>

National Eagle Center – Additional Resources <http://www.nationaleaglecenter.org/learn/other-resources/>

Creating survey questions: <https://owl.english.purdue.edu/owl/resource/559/06/>