

OPINION activity



Opinion activity

background

Background:

The Keystone Center uses a non-biased philosophy to address local, national and global sustainability issues. This philosophy has been embedded within *The Balanced Equation* curriculum module. This activity allows students to express and analyze their own opinions on a variety of issues. Students have the opportunity to create a rationale and understand opinions that differ from their own. This skill is crucial to the development of creative scientists who are open to new ways of thinking while considering other's opinions.



goal

Goal:

To provide a safe environment for students to share opinions about controversial topics and to understand the opinions of others.

objectives

Objectives:

Students will...

- Define their stance on controversial topics
- Actively listen to a variety of perspectives
- Understand different perspectives
- Construct a 3D graph from their data

Standards Met: S6, S7, LA12

materials

Materials (for a class of 30):

- 30 copies of Opinion Activity – Student Sheet
- 30 copies of Opinion Activity – Dihydrogen Oxide Information Sheet
- Pencils or pens
- Signs for “Strongly Agree,” “Agree,” “Undecided,” “Disagree,” and “Strongly Disagree”
- 15 pieces of 8½ in. x 11 in. graph paper
- 15 pieces of 9 in. x 12 in. construction paper
- 15 glue sticks or glue bottles
- 15 pairs of scissors
- 15 copies of Opinion Activity – Making a 3-D Bar Graph
- Markers or crayons for each pair of students

Time Required: One – 45 to 60 minute class period



Proce

In Class

- Give each student the Opinion Activity – Student Sheet and have him or her circle the option that best represents their opinion.
- Do **not** have students write their names on the student sheets.
- Choose statement 10 (ban dihydrogen oxide) from the Opinion Activity – Student Sheet and have one student read the statement aloud.
- Tell students that you recently received more information about dihydrogen oxide.
- Pass out the Opinion Activity – Dihydrogen Oxide Information Sheet and read it aloud.
- Ask students if they would like to change their opinion based on the information they just heard.



dure



- Tell students that dihydrogen oxide is actually water and read the Opinion Activity – Dihydrogen Oxide sheet again. Ask students if the information is accurate. Give students a chance to list several positive aspects of water.
- Discuss with students how information is important when making a decision. Ask how information can be misleading.
- Go outside. Use five signs to create a Lichert scale on the ground, ranging from Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree.
- Choose a statement from the Opinion Activity – Student Sheet and have a student read the statement aloud.
- Students should form a line behind the sign that represents their opinion.
- Ask one student from each line to explain why they are standing in that spot.
- Ask if any students would like to move based on the various rationales given.
- **IMPORTANT!** This is not a debate. Do not allow students to compete – this is a point-counterpoint style. Each line gets one opportunity to share their opinion.
- **IMPORTANT!** Be a neutral facilitator. It is very important that students understand that there is not one right answer. Be very aware of your responses and body language as each student shares his or her opinion; it is critical to have the same response to each opinion.
- Debrief the opinions shared by repeating what was stated.
- Choose another statement from the Opinion Activity – Student Sheet and ask a student to read the statement aloud.
- Have the students switch their papers with another student.



- They must now proceed to the sign that represents the opinion reflected on their new sheet of paper.
- One student from each sign should explain the rationale for that opinion. Only allow students to share the opinion represented on the sheet of paper they are holding – this is not the time to share their own opinions.
- Have students hold string from front to back and fold over excess to measure the number of students that favor each opinion.
- Place string on the ground, have students move away from the lines in order to see graph. Record the number of students in each line so that you will have the number of students to create 3-D graphs later.
- Ask students to raise their hands if they heard opinions based on facts.
- Ask students to raise their hands if they heard opinions based on emotion.
- Ask students to raise their hands if they chose to move after hearing the various opinions.
- Return to the classroom and discuss with students how and why people change or do not change their opinions. Ask them if they have ever been swayed to change their opinion on a controversial topic.
- Discuss how we form opinions and gather data in our lives (media, scientific experimentation, etc.).
- Group students in pairs and give each pair: scissors, glue stick, one piece of graph paper, one piece of construction paper, Opinion Activity – Making a 3-D Bar Graph instructions, and markers.
- Review Opinion Activity – Making a 3-D Bar Graph instructions and show an example to students.
- Have them construct the 3-D bar graph with their partner based on the numbers you recorded from one of the questions on the Opinion Activity – Student Sheet. If time does not permit, have students complete their graph as homework.

Follow-Up

- Students should write a paragraph explaining when they had their own opinion changed based on the opinion of another.

Assessment

- Class participation
- Successful completion of 3-D bar graph

Student Sheet

Strongly Agree = SA Agree = A Undecided = U Disagree = D Strongly Disagree = SD

1. Bottled water is healthier for you than tap water. SA A U D SD
2. Cigarette smoking should be banned in all public places. SA A U D SD
3. Medicine should be proven 100% safe before it is put on the market. SA A U D SD
4. Animals should be used in medical research. SA A U D SD
5. Chemicals are bad for people's health. SA A U D SD
6. The cleaning products in my house do not impact the environment. SA A U D SD
7. Uniforms should be mandatory in all public schools. SA A U D SD
8. Chemicals are toxic to the environment. SA A U D SD
9. Recycling should be mandatory. SA A U D SD
10. Dihydrogen oxide should be banned in all public places. SA A U D SD

dihydrogen oxide

Information Sheet

This page is only for people who wish to ban dihydrogen oxide because of its toxic properties.

- Causes excessive sweating and vomiting
- A major component of acid rain
- Can cause severe burns in the gaseous state
- Accidental inhalation can kill you
- Primary contributor to erosion
- Decreases effectiveness of automobile brakes
- Has been found in tumors of terminal cancer patients
- May dissolve metals – especially in the presence of road salt
- Some scientists believe that in vapor form, it is responsible for 95% of greenhouse gases

Taken from:

www.dhmo.org/facts.html

making a 3-D bar graph

making a 3-D bar graph

Follow the directions below to construct the 3-D bar graph.

1. Fold a piece of graph paper in half with the grid on the outside.

1



2. Using the folded edge of the paper as the base, create a bar graph showing the information gathered from your survey. Note: Leave a few spaces between each bar on the graph.

2



3. Color each bar and cut up the left and right sides of each bar.

3



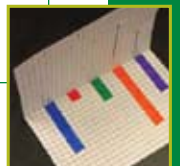
4. Fold the tabs back and forth several times until there is a nice crease at the top of each bar.

4



5. Open the paper and refold along the same line so that the grid is now on the inside.

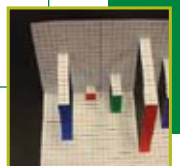
5



6. Partially open the paper and push the tab to the inside creating a “pop-up” effect.

7. Glue a piece of folded construction paper to the back to create a cover.

7



Optional: Glue figures on the front of each tab to represent what the chart shows.

8. Label each bar, both axes, and title the graph.