



Sustainable Development: Where Do You Stand?

Introduction

The purpose of this activity is to challenge students to understand the concept of sustainable development and ways that the values and beliefs of a culture influence its environmental relations. Students review statements about sustainable development to see the varying points of view expressed about this key concept.

Grade Level

Grades 6-12 with some adaptations up and down

Gifted and Talented Connections

This activity provides students with multiple opportunities to explore issues at depth and in complex ways. Students develop vocabulary related to sustainable development, and identify multiple points of view.

Texas Essential Knowledge and Skills

Grade 6: 7. Impact of interactions between people and the physical environment on the development of places and regions

Grade 7: 10. (A) identify ways in which Texans have adapted to and modified the environment and analyze the consequences of the modifications

(B) explain ways in which geographic factors have affected the political, economic, and social development of Texas

Grade 8: 12. (B) describe the consequences of human modification of the physical environment of the United States

US History: 11. The relationship between population growth and modernization on the physical environment

World Geography: 12. (C) evaluate the geographic and economic impact of policies related to the use of resources such as regulations for water use or policies related to the development of scarce natural resources (Grade 10 TAKS Objective 5)

World History: 12. (B) analyze the effects of physical and human geographic factors on major events in world history (Grade 10 TAKS Objective 5)

Materials/Resources

Handout 1, Aspects of Sustainability

Handout 2, Aspects of Development

Handout 3, Values Continuum

Handout 4, Sustainable Development Statement Cards

Colored pencils

SUSTAINING OUR STATE

--a project of the Texas Alliance for Geographic Education--

<http://sos.tamu.edu>

Classroom Procedures

Beginning the Activity

1. To introduce students to sustainable development, you may wish to ask them to “Take a stand...” Create a continuum as suggested in Figure 1 across a wall of the classroom. Ask students to express an opinion to a series of statements by positioning themselves along the continuum. After each statement, ask two or three students to explain the reasons behind their decision. Why have they positioned themselves as they have?

STRONGLY AGREE

AGREE DISAGREE

STRONGLY DISAGREE

Figure 1: Continuum

Alternately, you may wish to give students a graphic of the continuum and have them note the number of each statement beneath their position. Select statements that students in your context are likely to take a personal stand. Suggestions include:

1. I prefer to ride a bicycle.
2. I prefer to be driven places in an automobile.
3. I like to eat McDonalds and other fast food.
4. I prefer to eat home made food rather than fast food.
5. I like my hometown just the way it is.
6. I would like to see more stores and people in my hometown.
7. I always recycle aluminum cans and paper.
8. I think a clean environment is a healthy environment.
9. I am willing to change my way of life for a cleaner and healthier environment.
10. There are too many people in the world.
11. I try to conserve resources like energy by turning off lights.
12. Earth’s resources are for all practical purposes inexhaustible.
13. People can have both a positive and negative affect on the environment.

Debrief this activity by asking students to reflect on the reasons why they agree or disagree with each statement.

Developing the Activity

2. Tell students that they are going to complete an activity that will help them to develop a more complete understanding of sustainable development. Begin by asking students to suggest a definition for sustainable development. Give them time to brainstorm and write all responses without comment. It may help to break the term into parts: what does sustainability mean? Are there different types of sustainability? What does development mean?

3. Divide the class into groups (three students is ideal) and distribute Handout 1, *Aspects of Sustainability* and Handout 2, *Aspects of Development*. Ask students to read these resources and refine their definitions. Discuss the explanations of sustainability and development outlined here to clarify student questions about concepts and vocabulary.

4. Distribute one copy of Handout 3, *Values Continuum*, and one set of Handout 4, *Sustainable Development Statement Cards*, to each group of students. The cards represent the point of view of different people. Instruct students to place the cards face down. Ask students, in turn, to

select a card and read it to the rest of the group. Referring to Handouts 1, 2, and 3, instruct students to discuss each statement and answer the following questions:

- A. Which of the aspects of sustainability does this person favor?
- B. Which of the aspects of development does this person favor?
- C. Are there any contradictory statements made by this person?
- D. Who do you think this person is? For example, might this person be a politician, a member of an industrial group, a scientist, an economist, or an environmentalist?

You may wish to clarify definitions of several terms listed in Educator Background with students as they work through the statements.

Concluding the Activity

5. After the cards have been discussed and points of view and values clarified, ask students to mark on Handout 3, the *Values Continuum*, where they think each of the statements should be by putting the number of the statement at the appropriate point. Work through one of the statement cards as a whole group to mark its position on the continuum and to make sure students understand the task.

6. Have students join each of the numbers placed on the Continuum in Step 5 with a different colored pencil. Is there any common pattern? What can you say about the different values that are behind the statements made by each person? Discuss with the group the range of points of view and the principles involved in the concept of sustainable development

7. Check student responses to Question D "Who do you think this person is?" with the answers provided here:

1. Ariana Willis: Government policy maker
2. Fred Smiens: Scientist
3. April Morrill: Economist
4. Roberto Sanchez: United Nations policy maker
5. Loretta Bossinger: Environmentalist
6. Chris McLeod: Government policy (Principle 1, Rio Declaration)
7. Leo Koski: Economist
8. Michel Redcliff: Environmentalist
9. David Montefiore: Econmist
10. Thomas Chong: Industry representative

Conclude the activity by asking students to revisit their definitions of sustainable development. Ask them to write their own statements including in it the main elements of sustainable development and a discussion of the elements.

Extension

Students can use the Values Continuum to judge the views of candidates for office, and for specific issues such as drilling for oil in environmentally vulnerable areas, subsidy payments to large agricultural corporations, regulations on cattle feedlots and pig farms in relation to water supplies and so on.

Educator Background

Carrying capacity: Carrying capacity refers to the number of individuals who can be supported in a given area within natural resource limits, and without degrading the natural social, cultural and economic environment for present and future generations. The carrying capacity for any given area is not fixed. It can be altered by improved technology, but mostly it is changed for the worse by pressures which accompany a population increase. As the environment is degraded, carrying capacity actually shrinks, leaving the environment no longer able to support even the number of people who could formerly have lived in the area on a sustainable basis (<http://www.carryingcapacity.org/>)

References

Reid, Alan. 1996. Exploring values in sustainable development. *Teaching Geography*, 21(4):168-171.

Handout 1: Aspects of Sustainability

What is sustainability? A complete definition of sustainability would include all the following aspects, but some definitions may only include one or two.

Economic Sustainability

Economic sustainability means that development is economically efficient and that the benefits of such development are distributed between generations of people. Growth now will not place people living in the future in danger. Economic efficiency means that processes and projects undertaken must give the greatest output per unit of input.

Social Sustainability

Social sustainability requires that development does not cause social conflict. In practice this means that development should increase people's control over their own lives—that all social groups should have the opportunity to participate in decision making, a hallmark characteristic of democracy.

Cultural Sustainability

Cultural sustainability requires that any development should take into account the values and beliefs affected by it. In addition, the range of cultural groups should be maintained and encouraged and the value of their heritage, traditions, and points of view recognized.

Ecological Sustainability

Ecological sustainability means that development should take into account the maintenance of ecological processes, biological diversity, and environmental resources. To achieve this our society needs to recognize that the survival and well-being of other species are also important. All things, both living and non-living, are part of the Texas heritage.

Handout 2: Aspects of Development

What is development? The word development means a process of change. But what is it that is changing? What are people's vision of change and development? Here are some ideas representing different perspectives and points of view:

Development is helping others to help themselves.

Development is the process by which all humanity moves to live with dignity and a just share of the world's resources.

Development is progress towards a higher standard of living for every person in a region or nation.

Development is a form of imperialism whereby the rich, core nations exploit the poor, peripheral nations.

Development is the attempt to ensure that as nations change and increase their production per person, there is a better distribution of wealth so that every person has his or her basic needs met and as many as possible of his/her wants satisfied.

Development is the growing capacity of a society to incorporate change.

Development is sharing the world's wealth more equitably. It is sharing our world.

Development is economic growth measured in terms of the improvement in gross national product, that is, how many goods and services are produced by a nation each year.

Handout 3: Values Continuum

Mark below where you think each of the statements in Handout 4 should be by putting the number of the statement at the appropriate point.

Supports the preservation of the natural environment							Encourages the use of the natural environment for human needs
Supports limited economic growth							Supports high economic growth
Supports fairness between all species for the present generation (intragenerational equity)							Does not support intragenerational equity
Supports fairness for future generations (intergenerational equity)							Does not support intergenerational equity

Handout 4: Sustainable Development Statement Cards

<p>1. Ariana Willis</p> <p>Sustainable development can be described as working for economic growth without cheating on our children and shortchanging their future by using up all the resources now.</p>	<p>6. Chris Macleod</p> <p>Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature</p>
<p>2. Fred Smiens</p> <p>Sustainability means the capacity to satisfy current need without jeopardizing the prospects of future generations... This entails protecting the ozone layer, stabilizing the climate, conserving soils, stabilizing forests and population.</p>	<p>7. Leo Koski</p> <p>Sustainable development means reconciling two basic aspirations of society:</p> <ul style="list-style-type: none"> • Achieving economic development to secure rising standards of living both now and for future generations; • Protecting and enhancing the environment now and for the future.
<p>3. April Morrill</p> <p>For development to be sustainable, it must follow paths that allow for the renewing of renewable resources, whether those be local firewood or a global climate matched to current agricultural systems. Sustainable development, by definition, is environmentally sound development.</p>	<p>8. Michel Redcliff</p> <p>Sustainable development means more than seeking a compromise between the natural environment and the pursuit of economic growth. It means a definition of development which recognizes that the limits of sustainability have structural political and social aspects as well as natural origins.</p>
<p>4. Roberto Sanchez</p> <p>Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs...and extending to all the opportunity to fulfill their aspirations for a better life.</p>	<p>9. David Montefiore</p> <p>Sustainable development is economic development that lasts.</p>
<p>5. Loretta Bossinger</p> <p>Sustainable development... means improving the quality of human life while living within the carrying capacity of supporting ecosystems.</p>	<p>10. Thomas Chong</p> <p>The concept of sustainable development implies balancing environmental protection with the generation of increased opportunities for employment and improved livelihoods.</p>