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4-H 399 Water Riches for Youth: Activist Workbook

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Dear ___________________________

As you probably are aware, our city's current landfill has been condemned and the city must build a new one and have it operational in 24 months. Because of this immediate problem, I am in the process of putting together a task force to help locate a new landfill.

I am asking you to serve on this committee. All the task force members will provide a balance of knowledge, insight and interest, you have a sincere concern for the environment that will make you an unique and invaluable member of this team.

Some of the ground work has already been laid for this task force. My office has narrowed the number of possible sites down to five. Once the task force has met and discussed all five sites, your committee will narrow the field to three, then two, and finally, to its final recommended site.

We hope this will be a rewarding experience for you. I feel it will be very beneficial to bring together a cross-section of professionals and citizens to help make this important decision. I thank you, in advance, for the time and effort you will put in to help your community in this way.

The first meeting of this task force will be ___________________________.

If you have any questions, feel free to call my office at ___________________________.

We look forward to meeting you at the first meeting.

Sincerely,

Mayor
The Role of The Activist

Your role on this team is to help your team understand the environmental impacts of their decisions. You are going to challenge your teammates. If you perform your role effectively, you may even frustrate your teammates with the challenges you present.

You are an activist with a strong commitment to protecting the environment. In this situation, you are going to work hard to influence a public policy decision. You are going to be "active" or vigorous in promoting a particular decision or practice.

Activists are sometimes considered by many as extremists and not representative of the general public. However, activists play an important role in decision making because they often present information that otherwise might not be presented.

As an environmental activist you want to be sure that the new landfill will not harm the environment. You are especially concerned about Site E because it is bordering a natural wetland habitat. A landfill located near this area could damage both the water quality and the habitat.

During the discussion of the landfill siting you should suggest alternatives that will reduce the amount of solid waste. These alternatives include source reduction (this includes such things are reducing the amount of packaging), recycling, and composting of organic materials like yard waste. You might even suggest incineration of some wastes, although that also has some potential negative environmental impacts. Your suggestions may slow down the decision-making process while teammates wrestle with the issues you raise. But your challenges, however, will force your fellow decision-makers to consider long-term consequences.

During this process, you are going to:
• learn a lot about water,
• concentrate on how ground water supplies become polluted,
• challenge your team to make their decision based on long-term consequences,
• challenge your team to consider alternatives you consider to be more satisfactory than what they are proposing, and
• learn how to organize information and people to help support your position.

Overview

Welcome to Water Riches for YOUth! You're going to find this a different kind of learning activity, so pay close attention.

This situation involves locating a new landfill in your community from among five sites. Careful consideration must be given to this issue. Your team must consider a variety of social, economic, political and environmental issues when determining which site to recommend.

You have been assigned to a community task force. The mayor's letter identified a serious problem with the landfill and a solution must be found.

As a member of this task force or team you will take the role of a community resident with particular views and perspectives of the problem. The different ideas from the team members will help reach the best decision.

If you don't understand how this activity works, you're going to have trouble serving on the team, so please:
• READ this workbook carefully,
• THINK about your responsibility to your group, and
• PERFORM your role so your group can work effectively.
This workbook will guide you through an interesting team problem-solving activity.

NOTE: You are the ONLY member of your team receiving the information contained in this workbook. You need to understand your role and the information in this workbook. Remember, a team is only as good as its weakest member. Do the best job you can — that’s all your team asks.

Here’s How This Activity Works

♦ Study the Sites
  Your teacher will provide site sheets with basic data and maps for:
  Study the information provided. Ask questions. Search for other additional information that will help to make a decision. Look for long term and short term impacts of different decisions. Talk to experts in your community to help you gather information. You may have to make assumptions or guess about how the sites might be used and the environmental threats at the sites.

♦ Group Meetings
  Your group will alternate between GROUP MEETINGS and INDIVIDUAL WORK SESSIONS. Your teacher will help you get the first group meeting underway and may call additional meetings from time to time when necessary.
  The Team Leader will call the group meetings.
  During the group sessions, you will discuss which landfill site to select. When your team seems ready (has discussed the issues, looked at options, weighed the trade-offs of each site), you may call for a vote to determine the end of one round and the beginning of the next round. At the end of each meeting you’ll need to complete the questions at the end of your workbook and discuss how your team is working.

♦ Rounds
  During Round 1, all five sites will be discussed, and a vote will be taken to decide which three sites to continue discussing.
  During Round 2, three sites will be discussed, and a vote will be taken to decide which two sites to continue discussing.
  During Round 3, two sites will be discussed and a final vote will be taken to decide which site the group supports.

♦ Individual Work Sessions
  During the individual work sessions, each team member will work from his/her workbook, will work to find answers to questions that arose during the previous group session, and will work on the laboratory experiences and special activities the teacher may assign.

♦ Your Unique Role
  In addition to these activities you will play the role of an activist with great concern about the environment. Read about the group problem. Talk with your parents and others in the community for ideas.
  Look through this workbook and you’ll see that it will help you understand more about your role and how to accomplish its tasks.
Moving Through the Rounds

Be Prepared!

One of the best ways to approach a problem-solving activity is to come to the meetings prepared. By writing down what you want to accomplish, when, how and who should be involved, you will help the group find workable alternatives and solutions.

This group problem-solving activity will take place in three rounds. Round 1 will begin only after the teacher and team leader believe everyone is ready. Rounds Two and Three will be called in that same manner.

If team members need more time to gather information or ask more questions — either individually or in group discussion — the round continues. A ROUND ENDS ONLY AFTER A VOTE IS TAKEN!

ROUND 1:
• The group will meet to discuss the features, advantages and disadvantages of each of the five possible sites for the landfill.
• Before closing Round 1, the group will VOTE to continue studying THREE sites.

ROUND 2:
• Discuss the advantages, disadvantages, alternatives to and consequences of the three sites still being considered.
• Vote on the three sites to narrow the field to two.

ROUND 3:
• Discuss the two sites, as above.
• Vote on which site group prefers.
• Prepare for final presentation, as teacher directs.

This workbook has a series of activities you complete during this project. Your teacher may provide additional activities and resources for you to use.
How Groundwater Supplies Become Polluted

Although surface water and groundwater are separate to the human eye, they are, in fact, able to intermingle during the process of water movement.

Water is constantly moving through the underground soil and rock layers. Although the groundwater is moving, the movement is slow—it may move only a few inches to a few feet per day. By studying the illustration, you can see two examples of how ground-water and surface water can meet.

In the illustration you can see the old waste dump, located high on the hillside, has leached contaminants into the groundwater. The water table is high enough that the groundwater seeps into the pond, thus affecting the quality of the pond water. The already contaminated aquifer is supplying water for the house well. The water then joins the surface stream because of the high water table.

The contamination can work the other way, as well—from surface water to groundwater. With the waste dump located uphill from the pond, there is also a chance that contaminants will wash into the pond in surface runoff.

Any chemicals that have been applied to the surface above the pond or the stream that either don’t get used by plants or don’t break down in the soils also can run into the surface water. Once in the pond or stream, those contaminants would also be available to enter ground water if the surface water is recharging an aquifer.
Study the maps and site information and list where potential water contamination may take place.

Which of the landfill sites you are considering would most likely contaminate surface water run off? Groundwater? Why?
Wastes — A Potential for Contamination

Until recently we have not been careful about disposing of our wastes: in some cases, people disposed of waste by dumping it into a hole or ravine or over a creek bank. This waste included everything from old tires to table scraps to unused pesticides. Many of the manufactured items were new to our society, so people did not understand the long-term effect of throwing them into the environment.

More recently, however, incorporated towns, cities and states have had laws that control where landfills are located, how they are constructed and what materials may be disposed of in landfills.

It is not uncommon, however — especially in rural areas and poverty-ridden urban areas — for people to find their own places to deposit their waste materials. Sometimes people truly do not understand the impact of their actions. And, unfortunately, sometimes people are just plain careless or inconsiderate toward the environment in disposing of their wastes.

The precipitation runoff from uncontrolled dumpsites often has a direct route to a body of surface water and, eventually, the groundwater in the surrounding area. The result has been numerous instances of point source pollution — pollution that is created by an identifiable source (starting point). Leaking storage tanks are another example of point source pollution. This is compared to nonpoint sources where a specific source of the contamination cannot be identified. Agricultural chemicals are an example of nonpoint pollution.
Contact your local Natural Resources District (NRD) and ask these questions. Record your answers below.

What are the greatest potential water contaminants in the community?

How does the NRD work to reduce the risk?

What is the NRD's involvement if contamination occurs?
Threats to Quality Water

In recent years, the growth of industry, technology and population has increased the stress upon both our land and water resources. With more people living on Earth, and industrialization increasing, we are increasing our demand for water and returning increasing amounts of waste back into our environment.

The results?

In many places, the quality of groundwater has been degraded. In some coastal areas, intensive pumping of fresh groundwater has caused saltwater to "intrude" into freshwater aquifers. Municipal and industrial wastes, fertilizers and pesticides have infiltrated the soil and contaminated some aquifers.

Pesticides, nitrates, gasoline, mining residues, bacteria and organic chemicals all have been discovered in well water. Some major pollution sources include:
- leaking underground petroleum pipes and storage tanks
- failing septic tanks and improperly treated municipal sewage
- solid, liquid or hazardous waste improperly disposed of in landfills and other areas
- chemicals leaching into the soil from poorly-designed landfill sites
- over-application of fertilizers and pesticides
- improperly managed animal wastes

Once contaminated, groundwater is difficult, expensive and sometimes impossible to clean up. Groundwater contaminants move slowly and do not spread or mix quickly. Instead, they move in featherlike masses that can be present for years before being detected in drinking water.

Source: Wisconsin Geological Survey
Finding Common Concerns

It's important to get your team to discuss different solutions to the problem. How will you accomplish that?

Will you talk only to the team or approach team members individually? Why or why not?

Which team members do you think are most likely to agree with your way of thinking? Why?

Which team members most likely to disagree with your way of thinking? Why?

What are some issues where you agree with these team members? How could you build on these areas of agreement?

If this were a real-life situation, what other individuals and groups would you approach to strengthen your case? Why?

What other resources do you need to help strengthen your cause? (You might consider media attention, financial support, public awareness campaigns, support of politicians, etc.) How could these resources help you?
Evaluating Our Progress after Round 1

Rate yourself on the following items with 5 being the best.

I was prepared for our meeting 5 4 3 2 1
I shared information that helped us evaluate the sites 5 4 3 2 1
I listened carefully to what others had to share 5 4 3 2 1
I asked questions to gain more information 5 4 3 2 1
When I didn’t agree with someone, I did so in a friendly manner 5 4 3 2 1

What is one thing you can do next time to help the group function better?

Answer the following questions as a group.

As a group, what are some things you all need to work on next time?

What is the most important thing you accomplished in this round?

What would you like to accomplish in the next round?

Evaluating Our Progress after Round 2

Rate yourself on the following items with 5 being the best.

I was prepared for our meeting 5 4 3 2 1
I shared information that helped us evaluate the sites 5 4 3 2 1
I listened carefully to what others had to share 5 4 3 2 1
I asked questions to gain more information 5 4 3 2 1
When I didn’t agree with someone, I did so in a friendly manner 5 4 3 2 1

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What is one thing you can do next time to help the group function better?

Answer the following questions as a group.
What are some things you all need to work on next time?

What is the most important thing you accomplished in this round?

What would you like to accomplish in the next round?

Evaluating Our Progress after Round 3

Rate yourself on the following items with 5 being the best.

I was prepared for our meeting
I shared information that helped us evaluate the sites
I listened carefully to what others had to share
I asked questions to gain more information
When I didn’t agree with someone, I did so in a friendly manner

Answer the following questions as a group.
What is the most important thing you accomplished in this round?

What do you feel the strengths of your group were?

What do you feel the weakness of your group were?

What other type of problems may you solve in the future using this same technique?