



habitat in the balance

black-line printable

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Feel free to print out these pages as guides to learning from this resource and helping us to improve it further.

We also want to help make your work a little bit easier by supplying these pages in electronic versions available on the Internet (www.seedshabitat.ca) in Adobe Acrobat™ and Microsoft Office™ forms.

Under the Support/Student Resource button on the Main menu is a collection of useful pages for printing and/or data entry. Under the Information/Teacher Resource button are editable versions of the same useful pages that can be customized for particular applications.



decision-making steps

Decision-making is a process of issue investigation. Steps in this process include:

1. Select an **ISSUE** that relates to human impacts on habitat systems.
2. Understand the **QUESTION** of a specific issue, the **RATIONALE** behind it.
3. Begin to **RECORD INFORMATION** for when you are ready to choose an action and to communicate with others. A **NOTEBOOK** is handy means to do this.
4. Identify the **SITUATION** to be resolved for this issue and the details about it.
5. List the possible **CHOICES** to address the issue, or reduce the effects of it, developing from information important to the issue.
6. Review **POINTS OF VIEW** of the people, the stakeholders, impacted by this issue. Select a point of view that interests you and use it as a filter for your information-gathering and learning about choices.
7. Explore **BACKGROUND** information to better understand what is known about the **RESOURCE** that is at issue and how different **OPTIONS** will address it. This information will likely be of interest to any of the different points of view.
8. Use **PERSPECTIVES** as ways of thinking about the information. From your point of view some perspectives may be more significant than others and some may not apply to some points of view at all. Perspective information is organized by the categories of **HISTORICAL, SCIENTIFIC, TECHNOLOGICAL, ENVIRONMENTAL, ECONOMIC, SOCIETAL, and POLITICAL**.
9. In order to choose an **ACTION**, review perspectives notes that will best **SUPPORT** a decision. **REFINE** the notes you pick, making changes to the information gathered so it is clear, concise, and suggests an action on the issue.
10. Now **SELECT** an action that best fits with your point of view and informed by the information gathered, producing a **STATEMENT** to explain your choice.
11. Check the **CONSEQUENCES** of the action selected with others who have a similar point of view for consistency with that viewpoint.
12. Produce a **SUMMARY REPORT** with your statement on the issue and information gathered that backs up that choice.



perspective practice

Name: _____ Class: _____

TRY THIS EXERCISE TO GET PRACTICE IDENTIFYING PERSPECTIVES –
Statements in the following story have been identified as a fit with these perspectives:
[historic](#), [scientific](#), [technological](#), [environmental](#), [economic](#), [social](#), and [political](#). Try
inserting the perspective following the sentences below. The first one is done for you.

COMPETING INTERESTS FOR GROUNDWATER – RURAL WELLS AND COAL-BED METHANE

For many years groundwater has been used for drinking water and residential use by nearly one third of all Canadians. [[historical](#)] Other groundwater uses include: agriculture, mining, manufacturing, and oil and gas production. In Alberta, for example, groundwater supplies about 90% of rural domestic water use and about 43% of agriculture and 14% of industry's needs. There are about 500 000 domestic wells and about 7 000 are added each year. There are several reasons for this: it is easier and cheaper to drill a well than construct a dam, canal, or reservoir;

[_____] [_____] the quality of groundwater is usually higher than surface water; and groundwater is often less susceptible to contamination than surface water. [_____] As surface water seeps into the ground and travels many metres through the subsurface, many contaminants are filtered and removed. [_____] Nevertheless, it is necessary to have well water tested to ensure it is safe for drinking. [_____]

The demand for natural gas within Canada and the United States has sparked an interest in developing gas deposits that are close existing pipelines. This gas can be obtained more cheaply than other deposits located in more remote regions.

[_____] Some natural gas occurs in coal seams, and is called as coal-bed methane. Some of these seams contain groundwater that must first be removed to

reduce the pressure on the methane. [] This causes the methane to be released from the coal so it can be extracted and pumped to the surface. Horizontal drilling is a preferred method because it allows more than one a coal seam to be drilled from the same surface drill site. []

One concern is that removing the water from the coal will affect the groundwater in adjacent regions by reducing the groundwater available to rural residents.

[] If removing the water in a coal seam reduces the groundwater, it is not known how long it will take to be replenished by other groundwater or from surface water percolating into the ground. Other concern is that the chemicals used to fracture the coal seams to extract the methane could contaminate the groundwater.

[] Rural residents who have used groundwater for domestic needs [] for many years feel that their right to that water supersedes that of an industry that is new to the area and wants drill for coal-bed methane that may adversely affect the quantity and quality of the groundwater.

[]

Environment Canada and several provinces have established several research priorities for groundwater. They include: national overviews of groundwater quality, emerging contaminants, groundwater-surface water interactions such as groundwater contribution to stream flow, land use impacts, urban water issues, rural water issues, and contaminated groundwater remediation. [] Groundwater policies fall under the jurisdiction of federal, provincial, and municipal governments. []

There are conflicting objectives and priorities as agriculture and industry promote increased use, and the environmental groups advocate restraint and conservation. Should all stakeholders and governments participate in establishing policies and the decision-making process?



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