

# The Galapagos Islands: Oil Spill Near the Coast

## Level 1, Sample 1

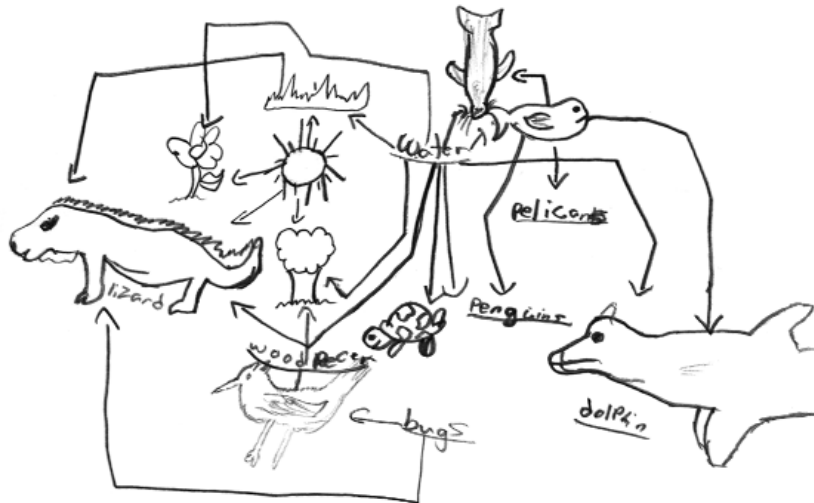
A

### Web Organizer- Abiotic and Biotic Interactions

**Instructions**

- Use the space provided below or the back of this page to create a web organizer:
- which shows the specific abiotic and biotic components of the Galapagos Islands' ecosystems;
  - which clearly shows the relationships between the abiotic and biotic components;
  - which is organized in a way that is easy to understand; and
  - which includes labels that explain the connections between components.

Note: You may use words, arrows, small pictures, symbols, and colour to clarify the relationships.



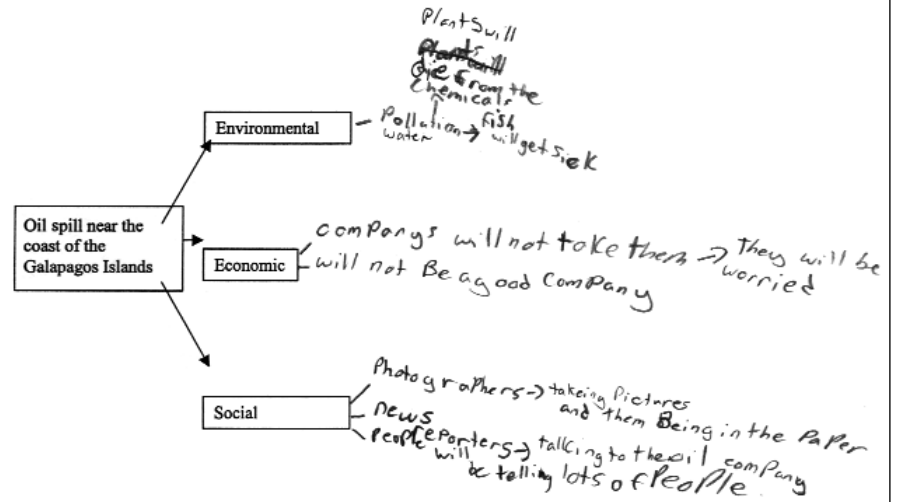
B

### Flow Chart Organizer – Short- & Long-Term Effects

**Instructions**

- Add to the template provided below to build a flow chart organizer of the environmental, social, and economic consequences of the oil spill:
- which shows the short- and long-term effects;
  - which shows a reasonable sequence of events for each consequence; and
  - which lists as many ideas as possible for each heading.

Note: You may use words, arrows, small pictures, symbols, and colour to clarify the relationships.





**Teacher’s Notes****Understanding of Basic Concepts**

- The student identifies a few relevant abiotic and biotic components of the ecosystem (e.g., Web Organizer: includes two abiotic components in drawing [sun and water], but does not label them; identifies the general group “bugs”, includes unlabelled drawings of land plants, and names a few bird and animal species, but includes no aquatic plants).
- The student correctly depicts a few interactions between components of the ecosystem (e.g., Web Organizer: uses words, arrows, and pictures/symbols to show a few interactions).

**Inquiry Skills**

- The student supports opinions with limited use of scientific facts (e.g., Letter: “Some oil particles will remain in the water and on shore but their will not be enough to harm the animals, plants.”).

**Communication of Required Knowledge**

- The student communicates understanding of components and interactions within ecosystems with limited clarity (e.g., Web Organizer: uses arrows to show that all living things need water to survive and each bird or animal eats at least one living thing: water → woodpecker → bugs).
- The student makes limited use of appropriate science and technology vocabulary (e.g., Web Organizer: labels some components [“water, woodpecker, dolphin”] but represents others only pictorially).

**Relating of Science and Technology to Each Other and to the World Outside the School**

- The student makes limited predictions about the short-term and long-term effects of oil spills (e.g., Flow Chart: clearly indicates only short-term effects: “Water pollution → plants will die ... fish will get sick”; shows no long-term effects).
- The student makes limited recommendations for reducing the risk of similar future events (e.g., Letter: “you can go on a different course, higher standards, build a stronger ship ...”).

**Comments/Next Steps**

- The student should work on developing science and technology vocabulary to communicate understanding more effectively (e.g., include labels to explain the relationships in the graphic organizers).
- The student should develop a more thorough understanding of key concepts related to ecosystems (e.g., more complex interactions, continuing cause-and-effect relationships).
- The student should correct spelling errors by referring to resources such as wall charts and a dictionary.

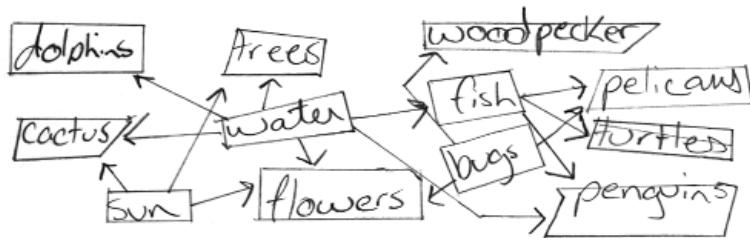
A

**Web Organizer- Abiotic and Biotic Interactions**

**Instructions**

- Use the space provided below or the back of this page to create a web organizer:
- which shows the specific abiotic and biotic components of the Galapagos Islands' ecosystems;
  - which clearly shows the relationships between the abiotic and biotic components;
  - which is organized in a way that is easy to understand; and
  - which includes labels that explain the connections between components.

Note: You may use words, arrows, small pictures, symbols, and colour to clarify the relationships.



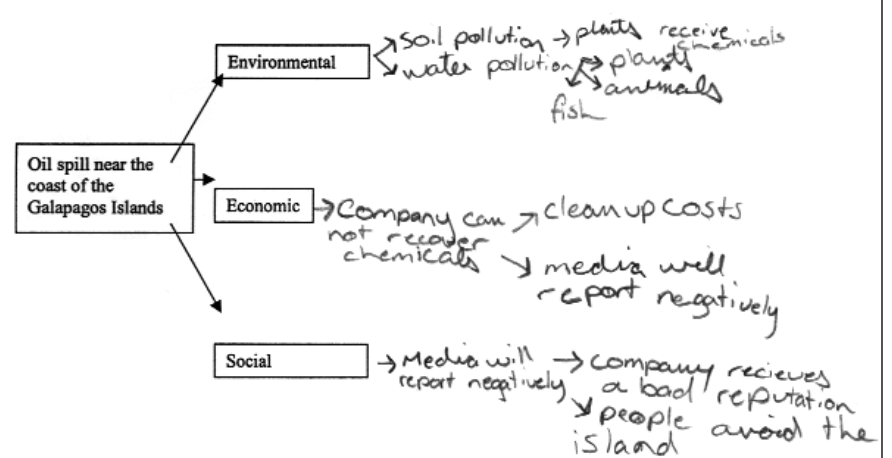
B

**Flow Chart Organizer – Short- & Long-Term Effects**

**Instructions**

- Add to the template provided below to build a flow chart organizer of the environmental, social, and economic consequences of the oil spill:
- which shows the short- and long-term effects;
  - which shows a reasonable sequence of events for each consequence; and
  - which lists as many ideas as possible for each heading.

Note: You may use words, arrows, small pictures, symbols, and colour to clarify the relationships.



C

**Supported Opinion – Letter to the Editor**

**Instructions**

- Using your planning sheet, point-form notes, and any posted information in your classroom, create a Letter to the Editor of *Youth Science* magazine which:
- states whether you agree or disagree with the expert’s statement about the oil spill;
  - supports your opinion with scientific facts using the information from your graphic organizers;
  - suggests some reasonable actions to reduce the chance of such situations happening again;
  - summarizes your viewpoint; and
  - uses proper letter format (complete sentences and paragraphs).

██████████ School  
██████████, Ontario  
May 2nd, 2001

The editor,  
Youth Science Magazine

Dear Editor

I disagree with the experts statement about the oil spill. I disagree because the plants and animals will die because the oil will go into the oil water, the fish will die then the birds and animals will die

D

and when some of the water evaporates it will rain onto the plants and the plants will die. Some ways to avoid this may be to properly equip the boats for a 100% sure that the oil won't spill. Or watch people don't spill it on purpose. I disagree with the experts.

Yours truly,

## Teacher's Notes

### Understanding of Basic Concepts

- The student identifies a few relevant abiotic and biotic components of the ecosystem (e.g., Web Organizer: identifies two abiotic components; identifies the general groups “flowers” and “trees” but no aquatic plants; names a few bird and animal species).
- The student correctly depicts a few interactions between components of the ecosystem (e.g., Web Organizer: connects “bugs” to both “flowers” and “woodpecker”; misses a number of obvious connections such as “bugs” to “trees” or “trees” to “woodpecker”).

### Inquiry Skills

- The student supports opinions with limited use of scientific facts (e.g., Letter: “the plants and animals will die because the oil will go into the water ...”).

### Communication of Required Knowledge

- The student communicates understanding of components and interactions within ecosystems with limited clarity (e.g., Web Organizer: uses arrows to indicate simple relationships of plants and animals not all of which are specific to the ecosystem of the Galapagos Islands).
- The student makes limited use of appropriate science and technology vocabulary (e.g. “soil pollution, water pollution, evaporates”; uses general terms, such as “flowers”, “trees”, rather than names for specific species).

### Relating of Science and Technology to Each Other and to the World Outside the School

- The student makes limited predictions about the short-term and long-term effects of oil spills (e.g., Flow Chart: indicates mostly short-term effects such as “plants receive chemicals”, “media will report negatively”; identifies two medium-term effects: “company receives a bad reputation”, “people avoid the island”).
- The student makes limited recommendations for reducing the risk of similar future events (e.g., Letter: “properly equip the boats for a 100% sure that the oil won't spill. Or watch people don't spill it on purpose.”).

## Comments/Next Steps

- The student needs to develop science and technology vocabulary in order to communicate more clearly and effectively.
- The student needs to use more information from previous learning and research to support opinions with facts and examples.
- The student should correct spelling errors by referring to resources such as wall charts and a dictionary.