



Cause and Effect

> Section A) Quiz

1. The survival of the Karner blue butterfly depends completely on:
 - a. Deer
 - b. Wild lupine
 - c. Forest fires
 - d. Squirrels and badgers

2. Worms are important to an ecosystem because:
 - a. They eat wild lupine
 - b. They dig through the soil, allowing air to flow and plants to take root
 - c. They provide food to birds, rodents and frogs
 - d. b and c
 - e. a and b

3. An ecosystem is:
 - a. A community of living things and non-living things that interact with each other
 - b. A community of living things that eat each other
 - c. A community of people who work to protect nature
 - d. A community of weeds, insects, and pests

4. Conservationists are working to bring back wild lupines and Karner blue butterflies by:
 - a. Using pesticides to kill weeds
 - b. Helping forests to grow thick
 - c. Helping to increase the deer population
 - d. By removing trees to let in sunlight



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5. Burrowing owls make their homes in:
 - a. Wild lupine
 - b. Holes dug by ground squirrels and badgers
 - c. Holes dug by farmers
 - d. Forests

6. Bears in British Columbia help the trees grow by:
 - a. Preventing forest fires
 - b. Preying on deer that eat the trees
 - c. Dropping the remains of salmon in the soil
 - d. Eating the worms that turn the soil

7. Nutrients are:
 - a. Ingredients used to kill weeds
 - b. Ingredients that help plants and animals grow
 - c. Ingredients that help plants and animals breed
 - d. Ingredients found only in salmon that help trees grow

8. When we remove a plant or animal from an ecosystem:
 - a. It can decrease the population of other plants and animals
 - b. It can increase the population of other plants and animals
 - c. All of the above
 - d. None of the above

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> Section B) Short Answers

1. Explain what conditions threatened the wild lupine population in Ontario.

2. What are conservationists doing to help bring the Karner blue butterfly back to Canada?

3. How have humans affected the number of burrowing owls living in Alberta?

4. Why do we use pesticides?

5. How do pesticides affect the ecosystem?

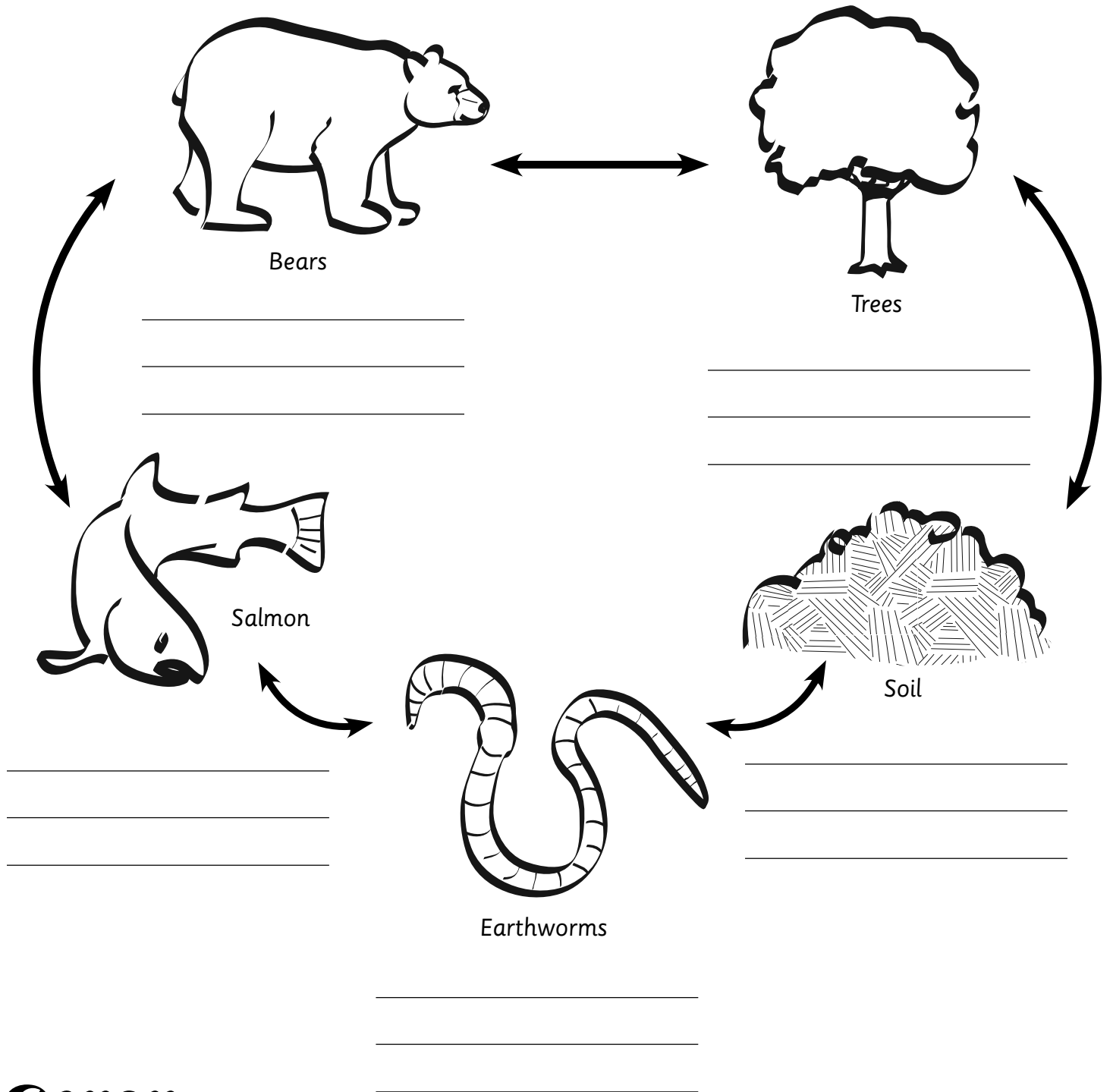




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> **Section C) Exploring Relationships in an Ecosystem**

Use the reading passage to explain how each species depends on each other in an ecosystem.





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> **Section D) Crossword**

The crossword puzzle grid consists of 13 numbered starting points for words:

- 1: 4-letter word starting at row 2, column 1.
- 2: 2-letter word starting at row 1, column 4.
- 3: 1-letter word starting at row 3, column 5.
- 3: 3-letter word starting at row 3, column 2.
- 4: 2-letter word starting at row 3, column 8.
- 5: 2-letter word starting at row 3, column 9.
- 4: 2-letter word starting at row 4, column 8.
- 5: 3-letter word starting at row 4, column 1.
- 6: 2-letter word starting at row 4, column 6.
- 7: 2-letter word starting at row 5, column 3.
- 8: 2-letter word starting at row 5, column 7.
- 8: 2-letter word starting at row 5, column 9.
- 9: 2-letter word starting at row 6, column 3.
- 9: 2-letter word starting at row 6, column 7.
- 10: 5-letter word starting at row 6, column 5.
- 7: 2-letter word starting at row 7, column 3.
- 11: 4-letter word starting at row 7, column 1.
- 12: 2-letter word starting at row 7, column 5.
- 10: 2-letter word starting at row 7, column 8.
- 13: 3-letter word starting at row 8, column 6.





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Down:

1. Karner butterflies rely on the wild _____ to survive.
2. A person who works to protect nature.
3. What pesticides do to weeds.
4. This animal loves to eat the flower that Karner blues need to survive.
5. Frogs _____ worms.
6. Karner blue butterflies used to live around the _____ (2 words).
7. By protecting plant and animal species, are humans helping themselves?
8. Do wild lupines grow in thick forests?
9. The hole that squirrels and badgers dig.
10. Wild lupines need lots of sunshine to _____.

Across:

1. Earthworms mix the _____.
2. An animal that Alberta farmers consider to be a pest.
3. A _____ can pollute the soil.
4. Another word for soil, also our planet.
5. A type of butterfly that is almost extinct in Canada.
6. One way to help wild lupines grow is to remove trees to _____ in the sun.
7. A fish that is an important part of the rainforest ecosystem in northern B.C.
8. An animal that helps trees grow in northern British Columbia.
9. A group of connected food chains.
10. Ingredients that help a plant or animal to grow.
11. A province where burrowing owls live.
12. A community of living and non-living things that interact with each other is called an _____ system.
13. Even a small creature like a _____ is important. It helps plants and trees grow.





Answers: Cause and Effect

Section A) Quiz

- | | |
|------|------|
| 1. b | 5. b |
| 2. d | 6. c |
| 3. a | 7. b |
| 4. d | 8. c |

Section B) Short Answers

- Open – Student could focus on a few of many reasons:
 - Less wild lupines because of the development of farms and homes.
 - Use of pesticides.
 - Human prevention of forest fires.
 - The deer population.
- Open – Student could focus on a few of many ways:
 - Removing trees to let in sun.
 - Planting wild lupines in fenced areas where people and deer cannot get at them.
 - By bringing in Karner blues from the United States.
- Open – Answers should contain the following elements:
 - Farmers kill rodents like squirrels and badgers because they are pests.
 - Without the holes and tunnels that rodents dig, the burrowing owl has nowhere to nest.
- Open – We use pesticides to kill weeds, unwanted insects and pests.
- Open
 - Pesticides can pollute the soil and harm plants and animals that live in or around the soil.
 - Student may also make the connection that pesticides remove species from an ecosystem, which will affect other species.
 - Upsets the balance in the ecosystem, affecting multiple species connected by the food web.

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Answers: Cause and Effect (continued)

Section C) Exploring Relationships in an Ecosystem

