

Opinion Performance Task

Task:

Your class has been learning about ways people affect the environment. Now the mayor has proposed a plan to build a new highway near your town. As editor of the school newspaper, you have decided to write a multi-paragraph article to give an opinion about the mayor's proposal. Before you begin, you do some research and find two articles and a presentation about how the changes humans make can affect animals and plants living around them.

After you have reviewed these sources, you will answer some questions about them. Briefly scan the sources and the three questions that follow. Then, go back and review the sources carefully to gain the information you will need to answer the questions and finalize your research. You may take notes on the information you find in the sources as you read. Your notes will be available to you as you answer the questions

Directions for Part 1

You will now examine three sources. You can look at these sources as often as you like.

Research Questions:

After examining the sources, use the rest of the time in Part 1 to answer the three questions. Your answers to these questions will be scored. Also, your answers will help you think about the information you have read and viewed, which should help you write your article.

You may take notes when you think it would be helpful.

Source #1: An Invisible Pollution

Cities throb with sound. Airplanes thunder overhead, traffic rumbles by, and horns blare. As populations grow, these noise levels constantly increase. They are an invisible type of pollution that upsets the balance of nature.

Hearing, a Valuable Sense

Most animals have well-developed hearing. They depend on this sharp sense to avoid danger, and, sometimes, loud sounds interfere with their ability to escape predators.

For example, scientists studied how dune buggy noise affected the desert kangaroo rat. First, they exposed the rat to bursts of the noise. Then they tested how quickly the rat responded to the *swish* of an approaching snake. Usually, the rat kicks sand at this enemy when it is about 16 inches away. However, after listening to blasts of a dune buggy, the rat did not react until the snake crept within an inch. This is a severe disadvantage for the endangered rat.

For some animals, loud noises prevent their mating success. Certain animals rely on mating calls to attract partners, but noise masks their songs. This is especially true for several species of tree frogs, and scientists say the noise could eventually lead to decreases in frog populations.

Other animals, like the German nightingale, have attempted to overcome city noises by singing with more piercing melodies. Their songs now reach 95 decibels, the same volume as a roaring chainsaw. Certain birds have tried changing the pitch of their songs, too, or singing at night after daytime sounds fade. By adjusting their calls, the birds may be able to survive noisy challenges.

Changing Habits

Loud noises cause animals to modify other behaviors, too. Today, aircraft frequently fly over wildlife regions. Their constant rumbling can upset animals living beneath their flight patterns. As a result, some animals, like the endangered palila bird in Hawaii, leave prime nesting locations and crowd into peaceful, less-suitable areas.

In some cases, low-flying planes frighten herds of animals, causing stampedes. The frantic racing leads to injuries. This is a special concern when planes disrupt herds with young calves. One study tracked several caribou herds. The herd that experienced the most overhead flights lost the most calves.

Links in a Chain

When one animal alters its behavior, the change can ripple through the environment. Scientists unraveled a perfect example when they studied the relationship between hummingbirds, Western scrub jays, mice, and pinyon pine trees. The loud noise from natural gas wells sets off the chain of events.

To begin with, the clatter of the noisy wells chased jays from the surrounding areas; jays preferred quiet settings. Once the jays disappeared, hummingbirds quickly moved into the location. Because jays usually raid their nests, with the jays gone, the noisy sites now favored the hummingbirds. The hummingbirds fed on flowers, spread their pollen, and helped flowers grow.

However, the absence of jays hurt the pine trees. Often, jays eat the trees’ seeds and stash extra seeds in the ground, encouraging seedlings to sprout.

After the jay disappeared, mice feasted on the available seeds. Unlike jays, mice left few seeds behind. In time, few seedlings were found near wells. The noisy sound had led to a decrease in the number of pine trees.

How loud is your world?

Today, scientists continue to investigate the impacts of noise pollution. Our government is also working to limit these problems through the Noise Control Act, which has lessened aircraft noise. You can help, too, by turning down the volume of things, like televisions, and by shutting off machines, like fans, when they are not being used.

Look at the decibel measure of some common sounds. Avoid listening to loud noises for long periods when possible.

Sound Source	Degree	Decibel Measure
Aircraft taking off	deafening	180
Thunder	deafening	120
Passing Truck	very loud	100
Lawn mower	very loud	100
Average traffic	loud	85
Washing Machine	loud	70
Average radio	loud	70
Conversation	moderate	60
Quiet stream	moderate	50

Source #2: Our Dark Night Sky, a Valuable Resource

When you step outside at night, can you see the stars shining in the sky? Or does the orange glow of city lights mask their sparkle? Today, some city skies are thousands of times brighter than 200 years ago. This increasing “light pollution” is a concern, because it affects our environment and wildlife.

Life Rhythms

Living things have adapted their habits to fit the daily cycles of light and darkness. For instance, certain animals, like bats, hunt for insects at night when fewer predators will see them. Unfortunately, light pollution can alter these cycles and cause far-reaching effects.

The Quest for Dinner

First, scientists say light pollution can change the timing of an animal’s search for food. Some creatures wait until dusk to leave their homes and begin eating. When unexpected lights click on at sunset, the puzzled animals remain hidden and have less time to feed.

Light pollution influences where hungry animals hunt for meals, too. Because animals avoid lights to stay safe, they will pass by convenient meals in bright areas, wandering further to find food. The extra effort burns energy, requiring them to need more food.

Getting Together

Sometimes, light pollution disrupts the mating of animals. The firefly is one likely victim. Around the world, the numbers of this insect have dropped. Fireflies use flashing light patterns to attract mates in the dark. When the night sky is too bright, the blinking signals are difficult to notice, making it more challenging for fireflies to find each other.

Traveling Troubles

Often, light pollution causes problems for animals roaming at night. For instance, deer that encounter traffic cannot see well. Like many nocturnal animals, their eyes magnify light, and bright shining headlights blind them for a moment. Consequently, the deer may accidentally leap in front of a vehicle.

Other animals, like the puma, view the lighted highway like a fence. To survive, pumas require large territories for hunting. However, one scientist noted that when pumas neared lighted highways, they refused to cross. This most likely happened because the brightness hampered the puma’s vision. Sadly, brightly lit areas are breaking apart the ranges where numerous animals travel, fragmenting their homes.

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Light pollution creates dangerous confusion for traveling, newborn sea turtles, too. When they hatch, the turtles instantly seek the brightest light. In the past, moonlight reflecting on the ocean safely drew them into the water. Today, the gleam from beach homes bewilders the newborn turtles, and they aimlessly wander inland.

Migrating birds flying at night depend on both moonlight and the stars to navigate. However, a city's artificial glow sometimes blocks these guiding lights. Furthermore, shimmering buildings attract birds like magnets. Scientists do not understand why, but birds will circle the glittering building until exhausted. Airport towers and lighthouses present similar hazards.

How Can People Help?

Some big cities have started "Light Out" programs to help birds; building owners voluntarily shut off unnecessary lights during migration seasons. In addition, cities near beaches have passed laws guiding the usage and types of outside lights that people install.

You can reduce the problem by making wise choices in your own home and yard. First, avoid landscape lighting if it is simply decorative. Next, be sure to shut off unneeded lights, or use a timing system. Finally, position lights so their beams shine downward, not into the sky.

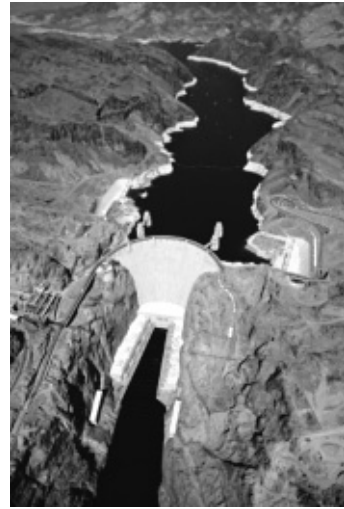
Currently 19% of the electricity used in the world is for lights at night. By working together, we may be able to lessen this number and save our dark night sky.

Source #3: Understanding Dams

The following information is part of a presentation on the benefits and drawbacks of dams.

What is considered a dam?

- A dam is a man-made structure that stops the flow of water.
- Once a dam is created, an artificial lake forms behind it.
- In the United States, the National Inventory of Dams (NID) lists 66,000 river dams.



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Dams serve multiple purposes

- Dams produce hydroelectricity, a clean, renewable form of energy.
- Dams supply water for crops and household needs.
- Dams allow people to prevent flooding. Dams can control the release of river water.
- Mining operations use dams to catch any pollution they create, so the pollution does not spread into rivers.
- Dams create large lakes for fish.
- Dams provide a new habitat for wildlife.
- Nearly 40% of all dams in our nation are used for recreation.

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Dams have drawbacks . . .

- Dams block rivers and limit debris such as twigs, leaves, and mud. Living things depend on debris for food and shelter.
- Dams stop river water from flowing downstream, reducing the depth of the stream. Shallow streams supply less water to the earth, and the groundwater level drops, affecting plants that depend on it.
- A dam's artificial lake floods plants and vegetation once used by wildlife.
- Dams block migrating fish from traveling upstream to lay eggs, and they prevent newly hatched fish from traveling downstream to oceans.



Photo courtesy of USDA Natural Resources Conservation Service

. . . but people are searching for solutions

People are working to solve problems created by dams. Fish “ladders” allow fish to travel around dams. Dams that are no longer useful are removed.



Photo by Gary Wilson, USDA Natural Resources Conservation Service

1 Pollution can change animal behaviors and their environments.

Complete the chart to show which sentence from Source #1, and which sentence from Source #2 **best** support this idea.

Best supports the idea	Source #1
<input type="checkbox"/>	"In time, few seedlings were found near wells."
<input type="checkbox"/>	"Today, scientists continue to investigate the impacts of noise pollution."
<input type="checkbox"/>	"Usually, the rat kicks sand at this enemy when it is about 16 inches away."
	Source #2
<input type="checkbox"/>	"To survive, pumas require large territories for hunting."
<input type="checkbox"/>	"When they hatch, the turtles instantly seek the brightest light."
<input type="checkbox"/>	"Around the world, the numbers of this insect have dropped."

Name: _____ Date: _____

- 2 Explain how making changes in our environment can reduce the negative impact on plants and animals living around us. Give **two** examples, one from Source #1, one from Source #2. For each example, include the source title or number.

- 3 In Source #3, the author provides examples of the positive and negative aspects of dams and their effect on the environment. Explain how this provides a different point of view from the other **two** sources. Use details from the text to support your answer.

Directions for Part 2

You will now review your notes and sources, and plan, draft, revise, and edit your opinion article. You may use your notes and refer to the sources as often as you need.

Now read your assignment and the information about how your writing will be scored; then begin your work.

Your Assignment:

Your town is considering building a new, faster highway system that will save the townspeople time and money. The highway will be built over an existing swamp and includes plans for a new dam. As editor of your school newspaper, you are going to write a multi-paragraph article giving your opinion about this proposal. In your article, you will take a side as to whether you think the idea is a good one or whether it should be reconsidered. The audience for your article will be the students at your school, parents, and your community. In your article, clearly state your opinion and support your opinion with reasons that are thoroughly developed using information from what you have read. Choose the most important information from all three sources to support your ideas. Then, write an opinion article that is several paragraphs long. Clearly organize your article and support your ideas with details from the sources. Use your own words except when quoting directly from the sources. Be sure to give the source title when using details from the sources.

REMEMBER: A well-written opinion article

- has a clear opinion
- is well-organized and stays on the topic
- has an introduction and conclusion
- uses transitions
- uses details or facts from more than one source to support your opinion
- gives details or facts from the sources in your own words
- gives the title or number of the source for the details or facts you included
- develops ideas clearly
- uses clear language
- follows rules of writing (spelling, punctuation, and grammar usage)

Now begin work on your opinion article. Manage your time carefully so that you can plan, write, revise, and edit the final draft of your article. Write your response on a separate sheet of paper.

