3 Alaska Is Melting!



Pre-Reading

Think about the following questions.

1. Where is Alaska located?
2. What do you think contributes to global warming?
3. What do you know about glaciers?

Vocabulary Preview

Write the letter of the word or phrase with the same meaning as the underlined word.

a. disappearing; lessening	d. guessed by approximation
b. mean; (X1+X2+X3)/3	e. all the time; not temporarily
c. have babies	f. being swept away; being destroyed

1. ___ It is <u>estimated</u> that Alaska is fifteen percent smaller than it used to be.
2. ___ On <u>average</u>, temperatures around the world have increased by 3°C.
3. ___ The land in Alaska used to be <u>permanently</u> frozen.
4. ___ Because of the heavy rain this year, the nearby beaches are <u>eroding</u>.
5. ___ That beetle doesn't <u>reproduce</u> every year—only every two years.
6. ___ The <u>diminishing</u> glaciers are causing problems in Alaska.

LIVEWORKSHEETS

Alaska Is Melting!



Alaska is disappearing slowly, but surely. It is estimated that since the 1950s, as much as fifteen percent of Alaska's land area has disappeared. How can a whole state be disappearing? The problem is that Alaska's **glaciers** are melting. The state has more than 100,000 glaciers. These glaciers account for about 75,000 square kilometers, or five percent, of the state's area. That is an area of land larger than Ireland!

According to a recent report by the US **Geological** Survey, ninty-nine percent of Alaska's glaciers are either retreating or diminishing. This diminishing seems mainly due to the increase in global temperatures. Since the 1960s, the average year-round temperature has increased by almost 3°C. Additionally, the average winter temperature has increased by over 6°C. Presently, an estimated 100 cubic kilometers of ice is disappearing from Alaskan glaciers every year. It may be even more in the near future, as some scientists predict that the average world temperature could go up 4 to 7°C by the year 2100.

Another problem facing Alaska is its **thawing** permafrost. Much of the land in Alaska used to be permanently frozen or frozen for most of the year. Now, the thawing permafrost is causing a number of problems for people living in Alaska. Roads and **utility poles** are **collapsing** as the ground around and under them warms and softens. Also, the hard permafrost that originally prevented beaches from eroding during violent storms is now melting. People who live along Alaska's coasts are being forced to **relocate**. For villages on small low islands, one terrible storm could wipe out the entire community.

The melting permafrost and increasing temperatures are both affecting the forests of Alaska. As the permafrost under the forests melts, insects that normally do not turn up until the warmer seasons are appearing sooner. The **spruce**-bark beetle, for example, is increasing in numbers as a result of warmer winter temperatures. It usually takes about two years for these beetles to grow and reproduce in very cold weather. However, due to the increase in temperatures, spruce-bark beetles are reproducing faster and damaging as many trees in one year as they previously damaged in two. If something cannot be done to change things, Alaska's forests will not survive the turn of the century.

Some scientists believe that human activity is linked to a global increase in weather temperature. Whatever the cause of rising temperatures may be, the fact remains that temperatures are warming, affecting Alaska for the worse. **Horribly**, this could be a **preview** of what will happen to the rest of the world in the next century.

Reading Time _____ minutes _____ seconds 438 words

4 *glacier*: a huge mass of ice on land
8 *geological*: related to the study of the Earth and rocks
16 *thaw*: to melt
18 *utility pole*: a pole used to hold electrical and phone wires
19 *collapse*: to fall and be destroyed
21 *relocate*: to move somewhere else
25 *spruce*: a kind of pine tree
33 *horribly*: terribly; unfortunately
34 *preview*: something that gives an advanced idea of what is to come.

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Reading Comprehension

Choose the best answer.

1. What is the main idea of this reading?

a. Alaskan trees are dying.
b. Warmer temperatures are affecting Alaska.
c. Alaska has beautiful glaciers.
d. Alaskan villages must relocate.

2. What do some scientists predict?

a. All of Alaska's glaciers will melt and disappear in the next eight years.
b. Spruce-bark forests will become extinct in Alaska by the year 2100.
c. Global temperatures will start decreasing by the year 2100.
d. Most Alaskan villages on the small surrounding islands will be wiped out.

3. Normally, which is true regarding permafrost?

a. It is frozen by glaciers.
b. It may be frozen all year.
c. It never freezes.
d. It rarely freezes.

4. Why are the forests in Alaska being destroyed?

a. More insects are attacking them.
b. There is not enough land to live on.
c. Spruce trees don't grow well in the warmer weather and are dying.
d. The water from the melting glaciers is drowning the trees.

5. How could the events in Alaska be a preview for the rest of the world?

a. They show how a rise in global temperature could affect us negatively.
b. They show how the environment is important for ecology.
c. They show how ice is necessary to the Earth.
d. They show how human activity can negatively affect the Earth.

Idiomatic Expressions

Find these idioms in the reading.

- **wipe out** [to destroy; to annihilate]
  The computer virus wiped out all of the files on my hard drive.
- **turn up** [to appear; to become visible]
  Why do you always turn up at the most inconvenient times?
- **turn of the century** [the beginning of the century]
  At the turn of the century, we celebrated a new millennium.

Fill in the blank with one of the above idioms. Change its form if necessary.

1. I hope we have less pollution at the _____.
2. The guest of honor didn't _____ at the dinner party.
3. Water pollution could _____ all of the fish in the rivers.

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Summary

Read the sentences from the reading passage. Paraphrase the sentences to create a summary of the passage.

a. The problem is that Alaska's glaciers are melting.
b. This diminishing seems mainly due to the increase in global temperatures.

1. a + b: _____ are causing _____
_____.

c. Another problem facing Alaska is its thawing permafrost.
d. Roads and utility poles are collapsing as the ground around and under them warms and softens.

2. c + d: _____ is causing _____
_____.

e. The melting permafrost and increasing temperatures are both affecting the forests of Alaska.
f. As the permafrost under the forest melts, insects that normally do not turn up until the warmer seasons are appearing sooner.

3. e + f: _____ are causing _____
_____.



Listening

Too Warm in Alaska

Track 6

Listen to the dialog. Check True or False for each sentence.

	True	False
1. Alaska has about 1,000 glaciers.	☐	☐
2. The man says most of the glaciers have stagnant water on them.	☐	☐
3. One food source for polar bears is cold-water fish.	☐	☐

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Discussion

Discuss the following questions.

1. What do you think is the main cause of melting glaciers?
2. How do you think the increasing temperatures in Alaska affect the wildlife and fish there (e.g., polar bears, salmon)?
3. Was the last summer or winter where you live warmer than usual? What are the usual temperatures during these seasons?

Grammar

Present Continuous

The present continuous is used in order to talk about actions happening right now. Non-action verbs that express state, possession, senses, or feelings are not used in the continuous form.

Presently, an estimated 100 cubic kilometers of ice (is disappearing / is disappeared) from Alaskan glaciers every year.
Alaskan glaciers (are accounting for / account for) about 75,000 square kilometers, or five percent of the state's area.

Writing

Write your own short paragraph by answering the questions below.

Last Summer

(1) Where do you live? **(2)** What are the summers usually like? **(3)** What was last summer like? **(4)** What was the highest temperature? **(5)** Was this kind of weather good or bad? **(6)** Why?

Example

I live in the northern part of Texas. Usually, summers in north Texas are hot and dry. Last summer was very cool and wet. The highest temperature was only about 35 degrees Celsius. This was unusual, but great for me and for farmers! I didn't get too hot, and the farmers' crops grew well.

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Vocabulary and Idiom Review

A. Choose the best word or phrase to fill in the blank.

1. She introduced Sally to me, and then she _____ us on our blind date.
a. accompanied b. diminished c. reproduced d. sealed

2. Doctors say the new vaccine could _____ malaria.
a. be far from b. put up with c. turn up d. wipe out

3. We can't measure the molecule's size exactly, but we can _____ it.
a. arise b. beware c. estimate d. thaw

4. Did you know there is a(n) _____ on top of Mount Kilimanjaro?
a. activity b. dilemma c. glacier d. increase

5. It is sometimes difficult for animals to ____ if their homes are destroyed.
a. browse b. erode c. maintain d. relocate

6. Each American eats a(n) _____ of fifty pounds of chocolate per year.
a. average b. gradual c. initial d. proper

7. Both of my grandparents were born at the ____.
a. tried and true b. old wives' tale c. turn of the century d. gradual

B. Choose the correct form of the word to fill in the blank.

8. The ocean constantly reshapes coastlines by _____ the beaches, cliffs, and land.
a. erosion b. erode c. eroding

9. Sea turtles return to the beach where they were born to _____.
a. reproduction b. reproduce c. reproductive

10. Foreign students are considered aliens, not _____ residents, of the country where they study.
a. permanent b. impermanent c. permanently

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