Follow the Evidence

Compare climate claims, evidence, and source interests.

E.7.9B.1 "Read and evaluate scientific or technical information assessing the evidence and bias of each source to explain the causes and effects of climate change."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline one piece of evidence in each paragraph, circle a claim that needs more evidence, and number the three sources. Use your marks to compare what each source can and cannot show.

What Should the Town Believe?

1. A coastal town is deciding what to print in a climate change notice. A national science agency reports that its instruments track rising carbon dioxide in the air and rising global temperatures over many decades. Burning coal, oil, and natural gas adds carbon dioxide to the air, where it slows the escape of heat into space. The agency also compares these records with estimates of human emissions and studies of natural factors, such as changes in the Sun. Its report says human activities are the main cause of recent warming.

2. A gas utility's flyer says replacing a coal power plant with a natural gas plant can cut carbon dioxide released when electricity is produced. That comparison can be useful, but the flyer calls gas a "climate solution" without discussing methane that may leak during gas production and delivery. Methane traps heat, too. The utility sells gas, so it benefits if readers choose gas projects. Its claim about plant emissions does not show that the whole gas supply chain stops warming, or that switching fuels will prevent coastal flooding.

3. A neighborhood group keeps a dated log of days when seawater covers a road at high tide. The log shows more such days now than ten years ago, so it documents a local effect people can check. Warming expands seawater and melts land ice, raising sea level. However, the road could also flood more often if the ground beneath it is sinking. The log alone cannot separate these causes or prove what is happening worldwide. Nearby tide-gauge records and ground-level measurements could help test the explanation.

2 ANSWER WITH EVIDENCE

Use the passage

1. What evidence does the science agency use to support its claim about the main cause of recent warming?

2. Why might the utility's flyer give readers an incomplete picture of how gas affects climate change?

3. What effect does the neighborhood log show, and what cause can it not prove?

4. How could tide-gauge records and ground-level measurements help evaluate the neighborhood group's explanation?

3 YOUR TURN

Your own words

Write a four-sentence note to the town council about whether to quote the utility's flyer in a notice on climate change and coastal flooding. Explain a cause and an effect, compare evidence and possible bias from two sources, and name one fact the council should check before publishing.

ANSWER KEY

Follow the Evidence

GRADE 7 · E.7.9B.1

PART 1 · READ AND MARK

Underline one piece of evidence in each paragraph, circle a claim that needs more evidence, and number the three sources. Use your marks to compare what each source can and cannot show. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What evidence does the science agency use to support its claim about the main cause of recent warming?	**It compares long records of carbon dioxide and global temperatures with estimates of human emissions and studies of natural factors.**
2	Why might the utility's flyer give readers an incomplete picture of how gas affects climate change?	**The utility benefits from gas projects, and its flyer leaves out methane leaks during gas production and delivery.**
3	What effect does the neighborhood log show, and what cause can it not prove?	**It shows that seawater covers the road at high tide more often. It cannot prove whether rising sea level, sinking ground, or both caused the change.**
4	How could tide-gauge records and ground-level measurements help evaluate the neighborhood group's explanation?	**They could help determine whether water levels are rising, the ground is sinking, or both are contributing to the flooding.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

The council should not quote the utility's flyer as proof that switching to gas will prevent coastal flooding. Burning fossil fuels adds heat-trapping gases, and warming can raise sea level. The science agency compares long records and possible causes, while the utility sells gas and leaves methane leaks out of its claim. Before publishing, the council should check measurements of methane leaks from the gas supply.

Accept answers that distinguish a source's observations from what those observations can prove. For Part 3, accept another specific fact to check if it addresses a limit or possible bias in the sources.