

Name: _____

FIGHTING OVER DAMS

In “Battle Over the Amazon” (p. 10), you learned that environmentalists oppose the construction of a hydroelectric dam in Brazil called Belo Monte because it would destroy parts of the rainforest. But that’s not the only way the dam could harm the environment say scientists. Read the passage below to learn how the rotting plants buried by hydroelectric dams could affect the atmosphere. Then answer the questions that follow.

Full of Hot Air

Environmentalists are facing off with Brazil’s government over plans to construct a large hydroelectric dam in the Amazon rainforest. Hydroelectric dams are usually thought to be cleaner than power plants fired by fossil fuels such as coal and natural gas, which emit *greenhouse gases* that contribute to global warming. But researchers say that when hydroelectric dams are built in rainforests, they actually produce large amounts of methane. Methane is a powerful greenhouse gas that traps 20 times more heat than carbon dioxide.

The dam would create a huge reservoir of water, flooding the rainforest plants that grow behind the dam. As vegetation rots underwater, it releases methane. In the reservoir, pressure from all the water above keeps the gas down at the bottom. But when the deeper water flows through the dam’s electricity-producing turbines, the methane will bubble out and escape into the atmosphere. “It’s just like opening a bottle of Coca-Cola,” says Philip Fearnside, an ecologist at the National Institute of Amazonian Research in Brazil. “You see all those bubbles coming out, because you’ve released pressure.”

Each year, as the reservoirs’ levels drop during the dry season and then rise during the rainy season, the water would flood new vegetation, creating more methane.

1. Which of the following BEST represents the main idea of the passage?

- (A) Environmentalists and the Brazilian government are arguing over whether to build a dam in the Amazon.
- (B) The dam in the Amazon would create large, flooded reservoirs and cause vegetation to rot.
- (C) Hydroelectric dams may not actually be better for the environment than burning fossil fuels because dams can release heat-trapping methane into the atmosphere.
- (D) Underwater methane that’s under pressure will stay in a dam’s reservoir, but releasing that pressure lets the gas escape.

2. Which is the BEST definition for the term *vegetation*?

- (A) plant matter
- (B) rotting wood
- (C) animal waste
- (D) a type of fossil fuel

3. Why do environmentalists want to prevent extra methane from being released into the air?

- (A) It’s poisonous to breathe.
- (B) It is a greenhouse gas that contributes to global warming.
- (C) Plants and animals need it to be dissolved in the water.
- (D) It makes the sky hazy.

4. How does the methane that’s produced as plants rot in a dam’s reservoir escape into the atmosphere?

- (A) As the plants in the reservoir rot, the methane bubbles up to the surface.
- (B) Submerging the plants instantly releases methane.
- (C) When water levels in the reservoir drop during the dry season, the methane escapes.
- (D) The methane is released when water flows through turbines in the hydroelectric dam.

5. Do you think that the benefits of having a hydroelectric dam outweigh the threat of methane?

(Hint: Use some factors discussed in “Battle Over the Amazon” to support your opinion.)

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