

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Answer Key: Operation Frosty: 5th Grade Climate Rescue Quest

Suit up for a mission to identify how our atmosphere stays warm and what humans can do to keep our planet balanced.

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**1. Imagine the Earth is wearing a invisible 'jacket' made of gases that keeps us warm. What do scientists call this process?**

**Answer:** B) The Greenhouse Effect

The greenhouse effect is when certain gases in the atmosphere trap heat, acting like the glass walls of a greenhouse to keep the Earth warm enough for life.

**2. True or False: Using a bicycle instead of a car for short trips is a way to help reduce the gases that cause global warming.**

**Answer:** A) True

Bicycles don't burn fuel, so they don't release carbon dioxide, which is a major gas responsible for climate change.

**3. Most cars and trucks use \_\_\_\_\_, which release carbon dioxide when they are burned for energy.**

**Answer:** B) Fossil fuels

Fossil fuels like gasoline and oil are the primary sources of energy for most transportation, and burning them releases greenhouse gases.

**4. As the Earth's temperature rises, what happens to the large glaciers and ice sheets at the North and South Poles?**

**Answer:** D) They begin to melt into the ocean

Warmer global temperatures cause polar ice to melt, which leads to rising sea levels around the world.

**5. True or False: Climate change ONLY means that every single day will be hotter than the day before.**

**Answer:** B) False

Climate change refers to long-term patterns, including more extreme storms and shifting seasons, not just daily temperature increases.

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**6. People can use 'green' energy from the \_\_\_\_\_ to produce electricity without creating smoke or pollution.**

**Answer:** A) Sun

Solar energy uses sunlight to create power, which is a clean and renewable resource that helps fight climate change.

**7. Which of these is a way that trees help the Earth stay cool?**

**Answer:** B) They breathe in carbon dioxide and store it

Trees are like 'carbon sponges' because they soak up carbon dioxide, which is one of the main gases trapping heat in our atmosphere.

**8. True or False: Recycling a soda can helps the environment because it takes less energy to move or make new things.**

**Answer:** A) True

Saving energy through recycling reduces the amount of fossil fuels burned by factories and transportation.

**9. If the sea level rises due to melting ice, which type of area would be most affected?**

**Answer:** C) Cities built near the ocean

Coastal cities are at risk of flooding if the ocean levels go up because they are at the same level as the water.

**10. To help the planet, many families are switching to \_\_\_\_\_ light bulbs that use much less electricity.**

**Answer:** C) LED

LED bulbs are highly efficient, meaning they provide the same amount of light while using much less energy than older bulbs.