

Climate Change and Its Effects

Assignment – Student Edition

I. Video Response

Watch the video entitled “Climate change: Earth’s giant game of Tetris – Joss Fong” by Ted Ed (Link: <https://youtu.be/ztWHqUFJRTs>) Then, complete each statement based on the information given in the video.

1. To understand climate change, think of the game _____.
2. For eons, Earth has played a version of this game with blocks of _____.
3. They enter the atmosphere as _____ gas from volcanoes, decaying plant matter, breathing creatures, and the surface of the sea.
4. And they leave the atmosphere when they are used by plants during _____, absorbed back into the _____ or stored in soil and sediment.
5. This game of Tetris is called the _____ and it is the engine of life on Earth.
6. When that carbon dioxide is in the air, waiting to be reabsorbed, it _____ a portion of the sun’s heat, which would otherwise escape to space. This is why carbon dioxide is called a _____.
7. It creates a blanket of warmth, known as the _____, that keeps our Earth from freezing like Mars.
8. The more carbon dioxide blocks hang out in the atmosphere waiting to be cleared, the _____ Earth becomes.
9. Over the past 8,000 years, the _____ climate we know took shape, allowing human civilization to thrive.
10. But about 200 years ago, we began _____ that old carbon that had been stored in the soil. These _____ are made from buried remains of plants and animals that died long before humans evolved.
11. _____ these fuels injected new carbon blocks into Earth’s Tetris game.
12. At the same time, we cleared forests for agriculture, _____ the Earth’s ability to remove the blocks.
13. Since 1750, the amount of carbon in the atmosphere has increased by _____ and shows no sign of slowing.
14. Just like in Tetris, the more blocks pile up, the harder it becomes to restore _____.
15. The extra carbon dioxide in the atmosphere _____ the greenhouse effect by trapping more heat near the surface and causing polar ice caps to melt.
16. The more they melt, the less sunlight they are able to _____, making the ocean warm even faster.
17. Sea levels _____, coastal populations are _____ by flooding, natural ecosystems are _____, and the weather becomes more _____ every time.

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II. True or False

Analyze each statement and decide whether it is true or false. If false, provide an explanation why the statement is incorrect.

1. Climate change is the short-term alteration of temperature and typical weather patterns in a place.

2. Climate change could refer to a particular location or the planet as a whole.

3. The past million years of the Earth’s history has been characterized by a series of ice ages broken up by relatively short periods of warmer temperatures.

4. Earth has been in a glacial period called the Holocene.

5. Global warming is primarily due to burning fossil fuels that generate greenhouse gas emissions.

6. Global warming is the long-term warming of the planet’s overall temperature.

7. The earth’s temperature depends on the balance between energy entering and leaving the planet’s system.

8. Carbon dioxide, methane, and water vapor are all examples of greenhouse gases.

9. Greenhouse gases reflects heat back to the space.

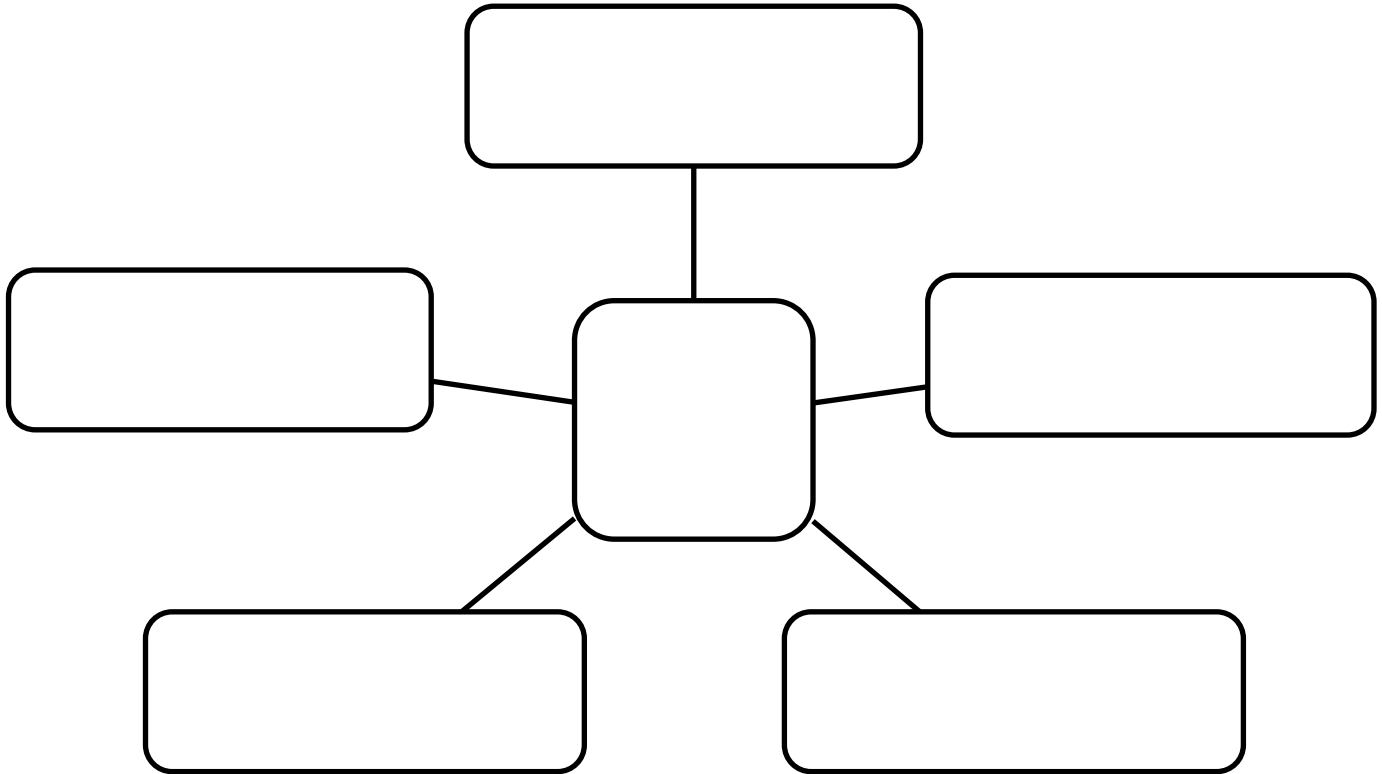
10. Feedbacks that amplify changes in the climate are called negative feedbacks.

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III. Diagram Completion

Complete the cause-and-effect diagram of climate change. Write the **cause** in the middle of the diagram, then write the **effects** on the textboxes surround it.



IV. Identification

On the blank, put a check (✓) if the practice shows correct way of mitigating effects of climate change. Otherwise, mark it cross (✗).

- _____ 1. Consume less meat.
- _____ 2. Buy unnecessary products.
- _____ 3. Travel frequently.
- _____ 4. Conserve energy.
- _____ 5. Create less waste.
- _____ 6. Help restore forests.

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V. Short Answers

Answer the following questions. Write the answers on the space provided below.

1. Explain greenhouse effect. How can this process result in climate change?

2. Differentiate global warming and climate change.

3. Differentiate mitigation and adaption approaches to climate change. Why are these two approaches important in dealing with climate change?

4. As a student, how can you help slow down climate change? Cite concrete examples.
