Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 80%. We keep your highest score.

Next item

1. What is the main factor behind the various manifestations of climate change? 1 / 1 point

- ○ Stable global average temperature leading up to the 20th century.
- ○ Heavy flooding in some locations.
- ○ Extreme drought in some locations.
- ◉ Increasing global temperatures.

Correct
The main factor driving all the manifestations of climate change is that global temperatures are rising on average yearly.

2. Rising temperatures on Earth coincides with the following: (Select all that apply) 1 / 1 point

- ☐ An increase in human energy consumption, mainly from renewable sources.
- ☑ An increase in human energy consumption, mainly from fossil fuels.

Correct
That's right, in recent decades, the increase in human energy consumption has mainly come from fossil fuels

- ☑ An increase in the atmospheric concentrations of greenhouse gases.

Correct
Burning more fossil fuels has increased concentrations of greenhouse gasses contributing to rising temperatures on Earth.

3. What is the primary way increased greenhouse gasses impact the atmospheric temperatures on Earth? 1 / 1 point

- ◉ Greenhouse gasses like carbon dioxide and methane rise into the atmosphere and act to trap heat radiation that would otherwise escape into space (the greenhouse effect), which causes an increase in average temperatures across the globe.
- ○ The greenhouse effect causes ice in the polar regions to thaw. As ice melts, the Earth's temperature increases.
- ○ Greenhouse gasses act to reduce the temperature of the Earth's atmosphere and make the Earth habitable.

Correct
Nice work!

4. What are some of the potential impacts of global warming? Select all that apply. 1 / 1 point

- ☑ Extreme weather events.

Correct
Climate change can translate into extreme weather events like floods and droughts becoming more frequent and severe.

- ☑ Larger and more frequent wildfires.

Correct
Excessive heat and drought are causing more extreme and more frequent wildfires than in the past.

- ☑ Loss of biodiversity.

Correct
Dramatic changes in global and regional weather patterns and water temperatures can alter a species' habitat to the degree that it can no longer survive there.

5. Which sentences are true about mitigation and adaptation strategies to climate change? Select all that apply. 1 / 1 point

- ☑ Some strategies, such as water conservation and sustainable agriculture can be considered both mitigation and adaptation strategies.

Correct
Indeed!

- ☑ Mitigation strategies are those that work to reduce the amount of greenhouse gasses in the atmosphere through reduced emission, protection of natural sinks and reservoirs of carbon, and removal of carbon from the atmosphere.

Correct
That's right!

- ☑ Adaptation strategies are those that aim to help us adapt to changing climate by working to reduce the impacts of the effects of climate change.

Correct
Nice work!

6. What does the goal of "limiting global warming to 1.5 degrees celsius" require in terms of a reduction in greenhouse gas in the atmosphere? 1 / 1 point

- ◉ The 1.5 degree mark requires reducing carbon dioxide emissions from fossil fuels and / or removing carbon from the atmosphere totalling 30 gigatons per year by the year 2030.
- ○ The 1.5 degree target will require a dramatic increase in the production of nuclear energy.
- ○ The 1.5 degree target will require replacing fossil fuels entirely with renewable energy sources by the year 2030.

Correct
Well done!

7. Potential uses of AI in the context of climate change are: (Select all that apply) 1 / 1 point

- ☑ Optimize the predictability of renewable energy sources such as solar and wind power.

Correct
You can use AI to make renewable energy sources more predictable and more valuable.

- ☑ Analyze and predict the impacts of climate change on biodiversity and natural ecosystems.

Correct
You can use AI to analyze and predict the impacts of climate change on biodiversity.

- ☐ Help to provide air quality estimates and inform public policy regarding air pollution.

8. True or False: As shown in the lab walkthrough and course videos, global temperatures are increasing evenly around the surface of the earth. 1 / 1 point

- ○ True.
- ◉ False.

Correct
Although the temperature is rising on average globally, the change is not evenly distributed, with some areas actually getting colder on average in recent decades.

9. In the lab, how did the average temperature change you observed for land-based stations compare to the global average temperature change? 1 / 1 point

- ◉ The land-based temperature change was higher, around 1.5 degrees celsius rise compared to about 1.1 degrees as a global average.
- ○ The land-based temperature change was about the same as the global average, around 1.1 degrees celsius.
- ○ The land-based temperature change was less than the 1.1 degrees global average temperature rise.

Correct
That's right, and this is to be expected given that oceans reflect sunlight more effectively than land.

10. True or False: The changing climate means that all populations around the world will experience warmer temperatures no matter the season. 1 / 1 point

- ◉ False.
- ○ True.

Correct
While it is an overall rise in average global temperatures that is causing climate change, populations around the world will experience extreme weather conditions and temperatures on either end, leading to warmer than average seasonal temperatures in some cases and colder than average seasonal temperatures in other cases.