

Name _____

The Sun's Radiant Gift: How Solar Energy Reaches Earth

Open-Ended Response Answer Key

1. Answers may vary but could include impacts on temperature, ecosystems, agriculture, and energy sources. Life on Earth would likely be unsustainable without the Sun's energy.
2. Benefits include reduced greenhouse gas emissions, lower energy costs, and increased energy independence. Solar panels also create job opportunities and contribute to a cleaner environment.
3. The greenhouse effect is the trapping of heat by greenhouse gases in Earth's atmosphere. These gases, like carbon dioxide and water vapor, absorb some of the outgoing IR radiation, warming the planet. Solar energy plays a role in this process by heating the Earth's surface.
4. Humans have a responsibility to use solar energy wisely to reduce environmental impacts, combat climate change, and ensure a sustainable future for generations to come. This includes transitioning to renewable energy sources and promoting energy efficiency.

