

Class 12 - English

Vistas

Journey to the end of the Earth

CBSE NOTES

Journey to the end of the Earth - Practice Worksheet

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Solve the following questions. Write your answers in the space provided.

1. Describe the significance of Antarctica as a place to study the Earth's past, present, and future.

Hint: Focus on the role of ice cores and the historical climate data they provide.

2. What was Gondwana, and why is its history important in understanding the present geography of the Earth?

Hint: Consider how plate tectonics relates to the geography we see today.



Solve the following questions. Write your answers in the space provided.

3. Discuss the impact of human activity on Antarctica and the implications for global climate change.

Hint: Link human activities to specific consequences observed in Antarctica.

4. What lessons can be drawn from studying phytoplankton, and why is their health critical for the Southern Ocean?

Hint: Think about their role in the food chain and overall ecosystem balance.



Solve the following questions. Write your answers in the space provided.

5. Reflect on the author's journey to Antarctica. What emotional and intellectual realizations did she experience?

Hint: Consider how her physical journey parallels her emotional and intellectual discoveries.

6. Analyze the phrase 'a lot can happen in a million years, but what a difference a day makes' in the context of the text.

Hint: Reflect on how human actions relate to geological processes mentioned in the text.



Solve the following questions. Write your answers in the space provided.

7. What role does the 'Students on Ice' program play in educating future generations about the environment?

Hint: Think about the practical experiences the program provides for students.

8. Discuss the geological phenomena mentioned in the text such as Cordilleran folds and pre-Cambrian granite shields. What do they signify?

Hint: Connect the geological terms to the overall theme of Earth's history.



Solve the following questions. Write your answers in the space provided.

9. What are the potential consequences if Antarctica becomes a warmer place? Speculate on the environmental impact.

Hint: Consider both direct and indirect environmental effects of warming.

10. Examine the imagery used by the author to describe Antarctica. How does it contribute to the overall theme of the narrative?

Hint: Identify specific examples of imagery and their thematic significance.



Check your answers with the solutions below.

1. Describe the significance of Antarctica as a place to study the Earth's past, present, and future.

Solution: Antarctica serves as a crucial site for understanding Earth's climatic and geological history. Its pristine ice cores hold records of carbon dating back hundreds of thousands of years, providing insight into past climate conditions. By studying these records, scientists can predict future climate trends and gauge the impact of global warming. For example, as the ice melts, it reveals how greenhouse gases have fluctuated over millennia, offering vital perspectives on current climate changes. The continent's unique ecosystem and lack of human population further emphasize its importance as a benchmark for measuring environmental changes and their effects on biodiversity.

2. What was Gondwana, and why is its history important in understanding the present geography of the Earth?

Solution: Gondwana was a massive southern supercontinent that existed approximately 650 million years ago, encompassing present-day Antarctica, South America, Africa, and more. Understanding Gondwana's existence helps us learn about plate tectonics and the movements that shaped our continents. The separation of Gondwana led to the current geographic layout and has implications for biodiversity. For example, species in South America and Antarctica share common ancestors from Gondwana. This historical perspective informs our understanding of how geology influences both present-day ecosystems and climate patterns.

3. Discuss the impact of human activity on Antarctica and the implications for global climate change.

Solution: Human activities, particularly the burning of fossil fuels, contribute to climate change that affects Antarctica. Increased greenhouse gases in the atmosphere lead to warming, which can result in the melting of the West Antarctic Ice Sheet. This melting contributes to rising sea levels, threatening coastal cities worldwide. Additionally, Antarctica's ecosystem, including phytoplankton, is sensitive to temperature changes, affecting the entire Southern Ocean food chain. Understanding these connections emphasizes the importance of protecting this unique environment as part of global climate action.



Check your answers with the solutions below.

4. What lessons can be drawn from studying phytoplankton, and why is their health critical for the Southern Ocean?

Solution: Phytoplankton are essential to the marine ecosystem, serving as the primary producers in the food chain. They convert sunlight into energy through photosynthesis, supporting marine life from tiny fish to large whales. Their health is crucial; if the ozone layer depletes and affects phytoplankton, it can have cascading effects on the entire marine food web. For instance, a decline in phytoplankton could lead to reduced fish stocks and alter predator-prey dynamics in the Southern Ocean. This illustrates the interconnectedness of ecological health and climate sustainability.

5. Reflect on the author's journey to Antarctica. What emotional and intellectual realizations did she experience?

Solution: The author describes feelings of wonder and relief upon arriving in Antarctica, stressing its vastness and isolation. She reflects on the experience of crossing numerous time zones and checkpoints, emphasizing a sense of immersion in geological history. Encountering the tranquil yet powerful landscape sparks thoughts about climate change and humanity's fleeting presence compared to Earth's long timeline. One realization is the beauty of balance in nature and how small environmental changes can have monumental impacts. These thoughts lead to introspection about future generations and their role in planetary stewardship.

6. Analyze the phrase 'a lot can happen in a million years, but what a difference a day makes' in the context of the text.

Solution: This phrase captures the essence of geological time versus human time. In geological terms, million-year changes are common, such as the continental drift that shaped Earth's geography. However, in a single day, human actions can have immediate and profound consequences, especially in sensitive environments like Antarctica. This juxtaposition highlights the urgency of addressing climate change—while the Earth's systems operate on long timescales, humans must act swiftly to mitigate impacts. The phrase emphasizes the responsibility we hold to safeguard the planet for future generations.



Check your answers with the solutions below.

7. What role does the 'Students on Ice' program play in educating future generations about the environment?

Solution: The 'Students on Ice' program aims to provide high school students with firsthand experiences of Antarctica, fostering a connection to the planet and its ecosystems. By immersing students in such an environment, the program emphasizes the importance of understanding climate change and biodiversity. Participants are encouraged to engage critically with environmental issues and see the live impacts of global warming. This education fosters not only awareness but also inspires students to become future policymakers who can make informed decisions to protect the environment.

8. Discuss the geological phenomena mentioned in the text such as Cordilleran folds and pre-Cambrian granite shields. What do they signify?

Solution: Cordilleran folds and pre-Cambrian granite shields are significant geological formations that provide insight into Earth's tectonic history. Cordilleran folds signify areas where tectonic plates have collided, causing mountains to rise, a process vital for understanding the formation of the Himalayas. Pre-Cambrian granite shields represent some of the oldest rock formations, revealing a history of Earth's crustal development. These geological features are essential in studying Earth's evolution, climate changes, and how such processes impact biodiversity and human habitation over millions of years.

9. What are the potential consequences if Antarctica becomes a warmer place? Speculate on the environmental impact.

Solution: If Antarctica were to become warmer, it could lead to significant environmental consequences. Melting ice sheets would contribute to rising sea levels, impacting coastal regions and cities worldwide. Warmer temperatures could disrupt the delicate ecosystems, affecting species that depend on ice for breeding and feeding, such as seals and penguins. Additionally, increased melting would release stored carbon, further accelerating climate change. Changes in ocean currents due to the influx of freshwater from melting ice may also alter global weather patterns, resulting in extreme weather events. This chain reaction underscores the critical need for climate action.



Check your answers with the solutions below.

10. Examine the imagery used by the author to describe Antarctica. How does it contribute to the overall theme of the narrative?

Solution: The author employs vivid imagery to depict Antarctica's striking landscape—expansive ice, vibrant blue horizons, and a stark environment devoid of human markers. This imagery evokes a sense of awe and isolation, reinforcing the themes of nature's grandeur and the fragility of our planet. By illustrating the vastness and pristine quality of Antarctica, the author underscores its importance as a case study for environmental changes. This creative use of imagery helps readers connect emotionally with the narrative, making the themes of climate urgency and stewardship resonate more powerfully.



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