

Cryptocurrency and the Natural World

Cryptocurrency · Answer Key · 8 Questions

1. Certain cryptocurrencies' Proof-of-Work (PoW) consensus mechanisms, like Bitcoin's, consume significant energy. Which of these animals is known to have a metabolic rate that, per unit of mass, is exceptionally high, comparable to the energy demands of some mining operations?

- A) Giant Panda
- B) Blue Whale
- C) Hummingbird**
- D) Sloth

2. The mining of certain cryptocurrencies can lead to increased electronic waste. Electronic waste is a significant environmental concern, impacting soil and water quality. Which of the following is a known bioaccumulator in aquatic ecosystems, meaning it can concentrate in organisms and move up the food chain, often found in areas affected by pollution?

- A) Diatoms
- B) Plankton
- C) Mercury**
- D) Corals

3. The global energy consumption of some blockchain networks has been compared to the energy usage of entire countries. Considering the impact of energy production on greenhouse gas emissions, which of these geographical features is most directly threatened by rising sea levels due to climate change, a consequence exacerbated by energy-intensive industries?

- A) The Sahara Desert
- B) The Amazon Rainforest
- C) The Maldives**
- D) The Himalayas

4. The environmental footprint of cryptocurrency mining is often linked to the demand for specialized hardware. The extraction of rare earth elements, crucial for many electronic components, can have significant ecological consequences, including habitat destruction. Which of these countries is a leading global producer of rare earth elements, often through mining processes with environmental impacts?

- A) Brazil
- B) Canada
- C) China**
- D) Russia

5. Decentralized finance (DeFi) platforms built on blockchains aim to disintermediate traditional financial systems. Some proponents suggest that the energy efficiency of certain blockchain technologies, like Proof-of-Stake (PoS), could reduce environmental impact. In terms of natural resource dependency, which of these ecosystems is most vulnerable to water scarcity exacerbated by climate change, a concern that resonates with the need for energy-efficient technologies?

- A) Temperate Forests
- B) Tropical Rainforests
- C) Mediterranean Ecosystems**
- D) Boreal Forests

6. The scalability trilemma in blockchain refers to the challenge of achieving decentralization, security, and scalability simultaneously. Efforts to improve scalability can sometimes lead to trade-offs. Consider the impact of large-scale infrastructure development. Which of these natural phenomena, vital for global weather patterns and marine ecosystems, is being increasingly affected by ocean acidification, partly driven by increased CO2 emissions from industrial activity, including energy production?

- A) Aurora Borealis
- B) Tidal Waves
- C) Coral Reef Bleaching**
- D) Geyser Eruptions

7. The creation of new units in some cryptocurrencies is often referred to as 'mining'. This term draws an analogy to the extraction of physical resources. Which of these animal species is critically endangered primarily due to habitat loss caused by deforestation, a process sometimes linked to the expansion of industries requiring significant land and energy resources?

- A) African Elephant
- B) Orangutan**
- C) Polar Bear
- D) Great White Shark

8. The immutability of blockchain transactions has implications for record-keeping. In environmental science, accurate tracking of emissions and resource usage is crucial. Which of these is a naturally occurring greenhouse gas, whose atmospheric concentration is significantly influenced by human activities such as the burning of fossil fuels, a concern for industries that consume substantial energy?

- A) Nitrogen
- B) Oxygen
- C) Carbon Dioxide**
- D) Argon