

Name \_\_\_\_\_

## Crypto Mining and Environmental Concerns: Unveiling the Energy Debate

### Short Answer Key

1. (Sample answer) Cryptocurrency mining is the process by which new digital coins are created, and transactions are verified on blockchain networks. Miners use high-powered computers to solve complex mathematical puzzles, and the first miner to succeed adds a new block of transactions to the blockchain, earning rewards in cryptocurrency coins and transaction fees.
2. (Sample answer) The energy consumption of Bitcoin mining is comparable to that of some entire countries. For example, at times, Bitcoin's annual energy consumption has been similar to that of the Netherlands or Argentina.
3. (Sample answer) Sustainability concerns related to cryptocurrency mining include the depletion of non-renewable energy resources, the carbon emissions associated with electricity generation from fossil fuels, and the potential contradiction with global sustainability goals.
4. (Sample answer) Cryptocurrency mining operations can reduce their carbon footprint by investing in carbon offset initiatives. These initiatives support projects that reduce or capture an equivalent amount of carbon emissions elsewhere, thus neutralizing the mining operation's impact.
5. (Sample answer) The transition to Proof of Stake (PoS) addresses environmental concerns by replacing the energy-intensive Proof of Work (PoW) consensus mechanism. PoS requires users to "stake" cryptocurrency as collateral instead of solving puzzles, significantly reducing energy consumption.

