Name _____

Unlocking the Mystery of Absolute Zero and Entropy: The Third Law of Thermodynamics

1. What is absolute zero?

a) The highest possible temperature

b) The point where a substance is extremely hot

c) The lowest possible temperature

d) The temperature where water freezes

2. What does the third law of thermodynamics state?

a) As a system approaches absolute zero, its entropy remains constant.

b) As a system approaches absolute zero, its entropy increases.

c) As a system approaches absolute zero, its entropy decreases indefinitely.

d) As a system approaches absolute zero, its entropy becomes chaotic.

3. What does entropy measure?

a) The amount of heat energy in a substance

b) The disorder or randomness of particles in a system

c) The speed of particles in a substance

d) The density of particles in a substance

4. What happens to entropy as a substance is cooled down?

a) Entropy increases

b) Entropy decreases

c) Entropy remains constant

d) Entropy becomes chaotic

5. Why is achieving absolute zero challenging?

a) Because it requires adding heat energy to a substance

b) Because it's practically impossible to remove all heat energy from a substance

c) Because it's easy to achieve with common household appliances

d) Because it only exists in theory