

Name _____

Cool Science: The Magic of Air Conditioning and Refrigeration

Open-Ended Response Answer Key

1. [Answers will vary based on research]
2. Innovative features may include smart temperature control, enhanced insulation, and energy-efficient compressors. These features would benefit consumers by reducing energy consumption, extending food freshness, and providing convenient control options.
3. Thermal insulation is crucial in preventing heat transfer between the inside and outside of air conditioning and refrigeration systems. It helps maintain temperature control by minimizing temperature fluctuations and reducing energy waste.
4. Challenges in maintaining and repairing HVAC systems include diagnosing issues, replacing worn-out parts, and ensuring proper refrigerant handling. HVAC technicians play a critical role in maintaining system efficiency, comfort, and safety for building occupants.

