

Name _____

Cooling and Warming the World: How Heat Pumps and Refrigeration Cycles Work

Open-Ended Response Questions

1. Imagine you are explaining how a heat pump works to a friend. Describe the process, including the role of the compressor, condenser, expansion valve, and evaporator.
2. Investigate the environmental impact of using heat pumps compared to traditional heating and cooling methods. What are the long-term benefits?
3. Reflect on how heat pumps have evolved over the years to become more efficient and environmentally friendly. What technological advancements have contributed to these improvements?
4. Consider a scenario where heat pumps are widely adopted for heating and cooling in homes. How might this impact energy consumption and greenhouse gas emissions on a global scale?

