

# 5. Energy

Energy is the ability to do work. It is a scalar quantity, which means it has only magnitude and no direction. The SI unit of energy is the Joule (J). Energy can be stored in various forms, such as kinetic energy, potential energy, and thermal energy. Energy can also be converted from one form to another, but the total energy in a closed system remains constant, as stated by the law of conservation of energy.



Energy is a fundamental concept in physics and is essential for understanding the behavior of matter and the universe. It is a conserved quantity, meaning it cannot be created or destroyed, only transformed from one form to another. The total energy of a closed system remains constant over time. Energy is measured in Joules (J) in the SI system. There are many different forms of energy, including kinetic energy, potential energy, thermal energy, and electromagnetic energy. Energy is also a key concept in chemistry, where it is used to describe the energy changes that occur during chemical reactions. In biology, energy is used to describe the energy flow in ecosystems and the energy requirements of living organisms. Energy is a central concept in many fields of science and is essential for understanding the world around us.

## Temperature Tips

### Need to cool down?

- Turn down the thermostat: The most effective way to cool down is to turn down the thermostat. This will reduce the amount of energy used to cool the space and will help to lower the temperature.
- Use fans: Fans can help to circulate the air and cool the body. They can also help to cool the room by moving the air around.
- Open windows: Opening windows can help to cool the room by allowing fresh air to enter. This is especially effective if the outside temperature is cooler than the inside temperature.
- Use shade: If you have a car or a house, try to use shade to keep the interior cool. This can be done by using awnings, curtains, or trees.
- Drink water: Staying hydrated is important for staying cool. Drinking water can help to lower the body temperature and keep you feeling refreshed.
- Take a shower: Taking a cool shower can help to lower the body temperature and feel refreshed.

### Feeling chilly?

- Turn up the thermostat: If you are feeling chilly, turn up the thermostat to increase the temperature.
- Use blankets: Blankets can help to keep you warm and cozy. They can also help to keep the room warm by trapping the heat.
- Wear warm clothing: Wearing warm clothing can help to keep you warm and comfortable. This is especially important if you are outdoors or in a cold room.
- Use a heater: A heater can help to warm the room and keep you warm. There are many different types of heaters, including space heaters, radiators, and furnaces.
- Drink warm beverages: Drinking warm beverages like tea or coffee can help to warm the body and feel cozy.
- Take a warm shower: Taking a warm shower can help to warm the body and feel refreshed.

## ■ **Something broke! What do I do now?**

1. Stop

2. Assess

3. Notify

4. Document

5. Investigate

6. Resolve

7. Review