

Energy

- Energy is the ability to do work – it makes things happen, like moving objects or heating things up.
- Energy comes in many forms, such as kinetic (movement), thermal (heat), chemical, light, sound, gravitational, and elastic.
- The unit of energy is the joule (J) – just like meters measure length, joules measure energy.
- Energy can't be created or destroyed, only transferred or transformed (this is called the conservation of energy).
- Kinetic energy is the energy of moving things – the faster or heavier something is, the more kinetic energy it has.
- Thermal energy is related to how hot something is – more heat means more thermal energy.
- Chemical energy is stored in fuels and food – it's released during chemical reactions, like burning or digestion.
- Energy transfers happen when energy moves from one place to another, like from the Sun to the Earth as light and heat.
- Energy transformations occur when energy changes form, such as electrical energy turning into light and heat in a bulb.
- Efficient energy use means less energy is wasted – many devices lose energy as heat or sound, which we try to reduce.