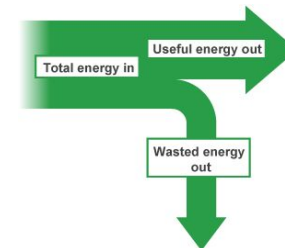


# Yr7 Energy stores and transfers knowledge organiser

| Energy store  | Description                                         | How to increase                                                |
|---------------|-----------------------------------------------------|----------------------------------------------------------------|
| Kinetic       | Stored in moving objects.                           | Move faster, or increase the mass.                             |
| Gravitational | Stored in lifted objects.                           | Lift higher, lift more mass, or a stronger gravity.            |
| Thermal       | Stored in objects due to their temperature.         | Heat up the object, or have more mass at the same temperature. |
| Chemical      | Stored in food, fuels and batteries.                | Increase the amount of food, fuels or batteries.               |
| Elastic       | Stored in stretched / compressed elastic materials. | Stretch / compress more.                                       |

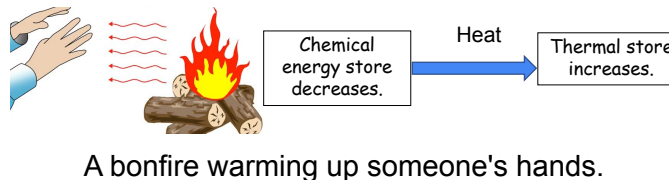
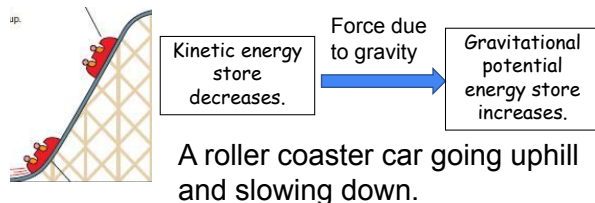
Efficiency is the % of energy usefully transferred. The less efficient a machine, the more energy it wastes.

$$\text{Efficiency} = \left( \frac{\text{Useful Output}}{\text{Total Input}} \right) \times 100\%$$



The law of conservation of energy states that energy cannot be created or destroyed, only transferred, in a closed system.

Energy can be transferred in several ways: Mechanically (forces), electricity, light, sound and heat.



Power is how much energy is transferred per second. It is measured in Watts.

$$\text{power (W)} = \frac{\text{energy transferred (J)}}{\text{time taken (s)}}$$