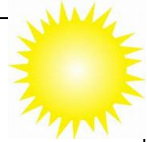


## Energy from the Sun

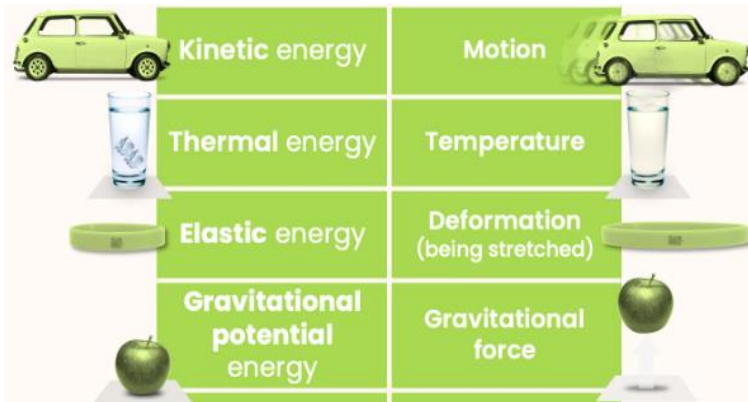
- Energy gives the ability to do things.
- Almost all of the energy on Earth comes from the Sun.



# Year 9 Energy

## Stores of energy

- chemical (e.g. fuel + oxygen)
- kinetic (in a moving object)
- gravitational (due to the position of an object in a gravitational field)
- elastic (e.g. in a stretched or compressed spring)
- thermal (in a warm object)

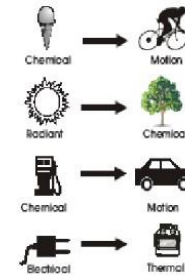


## Conservation of energy

### Law of conservation of energy

"Energy cannot be created or destroyed it only can be transformed from one form into another"

#### Energy Transformations



## Renewable energy sources

### Advantages

- Will not run out.
- Some of them do not generate greenhouse gases.
- Many will not have any fuel costs.

### Disadvantages

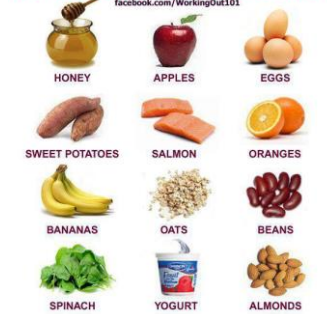
- They often require the right environmental conditions, which are variable (e.g. sunlight, amount of wind).



## Energy from food and fuels

- Energy is stored as chemical energy in food and fuels.
- We can find out how much energy is in food by reading the food labels.
- The unit for energy in foods is the kJ.

### 12 FOODS TO EAT FOR ENERGY



## Non-renewable energy sources

### Advantages

- Are readily available
- They are relatively inexpensive.
- They are easy to Transport.

### Disadvantages

- Highly polluting including, carbon dioxide and carbon monoxide
- Sulphur oxides, nitrogen oxides and PM 10s
- Limited supply (will eventually run out)
- Accidents during transportation and drilling can have catastrophic events.

### Fossil Fuels

- Definition: fuels such as wood, charcoal, peat, coal, oil, and natural gas that release energy when burned
- Considered nonrenewable because they take millions of years to form.
- Major fossil fuels in developed countries include:
  - Coal
  - Oil
  - Natural gas

