

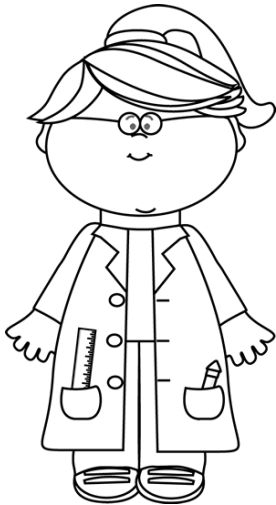
# Lesson 2 Energy stores and Transfers

LO: To understand how energy can be transferred from one type to another

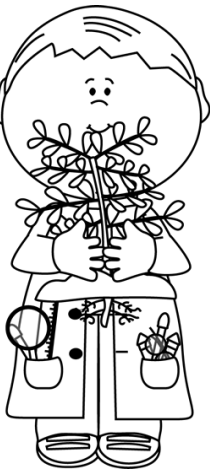
Recall some types of energy	
Identify examples of energy stores and transfers	
Investigate energy transfers	

# Key word

## Chemical Energy



A store of energy  
in food and  
batteries



Energy is like water... It can be stored many different ways



Sometimes there's more, sometimes there's less...

... it can be moved from one store to another



... but it is always water.

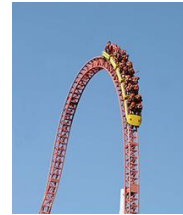


# Types of energy

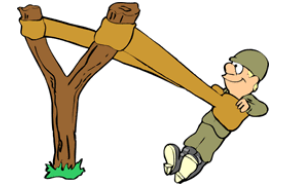
what do  
you  
know?



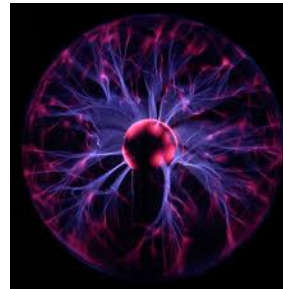
Chemical  
Kinetic



Gravitational  
Elastic



Thermal  
Magnetic



Electrostatic  
Nuclear



Type of energy	Example
Heat	
Sound	
Light	
Electrical	
Kinetic (movement)	
Potential (stored)	
1. Chemical	
2. Nuclear	
3. Strain	
4. Gravitational	

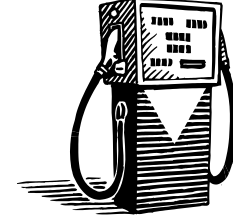
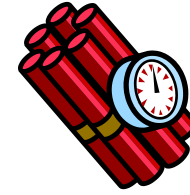
# Potential Energy

Energy can be stored as potential energy until it is needed.

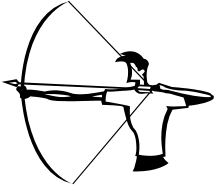
There are a few different types of potential energy....



## *Chemical Potential Energy*



## *Strain or Elastic Potential Energy*



## *Nuclear Potential Energy*

## *Gravitational Potential Energy*

# Gravitational Potential energy

- Potential energy is stored energy.
- Stored because of height like this water.
- Sometimes we call this Gravitational Potential energy.



# Gravitational Potential energy in the water behind a dam

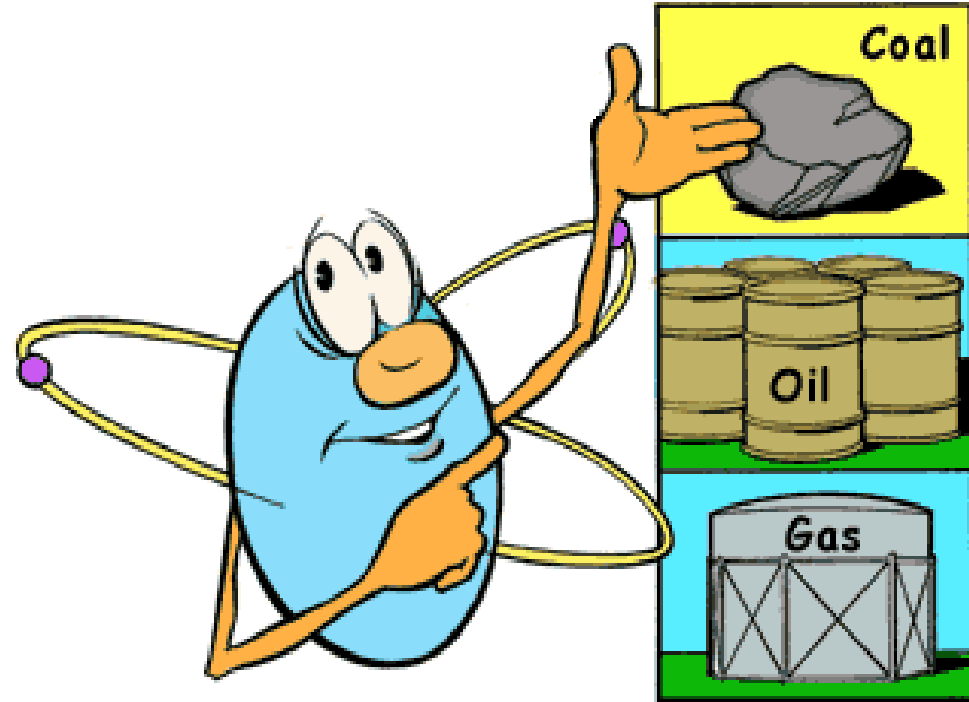


Loch Laggan , Western Highlands

# Chemical Stored Energy

This is the energy stored inside chemicals.

We often use these chemicals as fuels which we burn to keep us warm (heat energy).





# Chemical Stored Energy

Batteries are also stores of chemical energy.



Battery	Duracell Alkaline	Energizer e2 lithium	Energizer Alkaline Max	Panasonic Evolta	PenesamiG General Purpose
Price	\$0.93	\$3.80	\$0.83	\$1.73	\$0.04
Camera shots	187	1,354	297	425	0
Cost per shot	2.0¢	1.1¢	1.1¢	1.6¢	n.a.
Flashlight time (mins)	115	274	105	125	3
Cost per minute	0.8¢	1.4¢	0.8¢	1.4¢	1.3¢

# Chemical Stored Energy

- Food is fuel for humans.
- Food gives us energy to do things.
- What kinds of things do we need energy for?
- A handful of peanuts contains enough energy to boil a litre of water



flickr.com



visualphotos.com

- When energy is moved from a store it is transferred
- Chemical energy stored in fireworks is transferred when they explode.
- What kinds of energy does it get changed into?
- Light, sound, heat and Kinetic







- What kinds of energy does it get changed into?
- When the carriage is stopped at the top of the ride it has stored energy
- When the carriage starts to move again it transfers its energy
- Sound, heat and Kinetic