



WORK AND ENERGY



In which case we will say that work is being done?



Definition of Work

- In Physics, work means *more* than something that requires physical or mental effort
- **Work** is done on an object when a **force** causes a **displacement** of the object
- Work is the product of the force applied to an object and the displacement of the object

$$W = Fd$$

Work

- ◆ Work is done when a task produces a change in energy
- ◆ Factors affecting work done:
 - The application of a force
 - The movement of the object by that force over a distance



What is Energy?



That which helps in doing work is ***Energy***

Energy is Capacity to do work

FORMS OF ENERGY :

- *Mechanical Energy**

- a. Potential Energy**

- b. Kinetic Energy**

- *Heat Energy**

- *Chemical Energy**

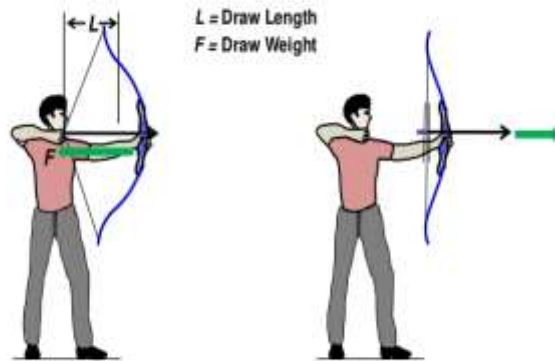
- *Light Energy**

- *Sound Energy**

- *Electrical Energy**

Potential and Kinetic Energy

1. Principle of Archery – Potential Energy to Kinetic Energy



L = Draw Length
 F = Draw Weight

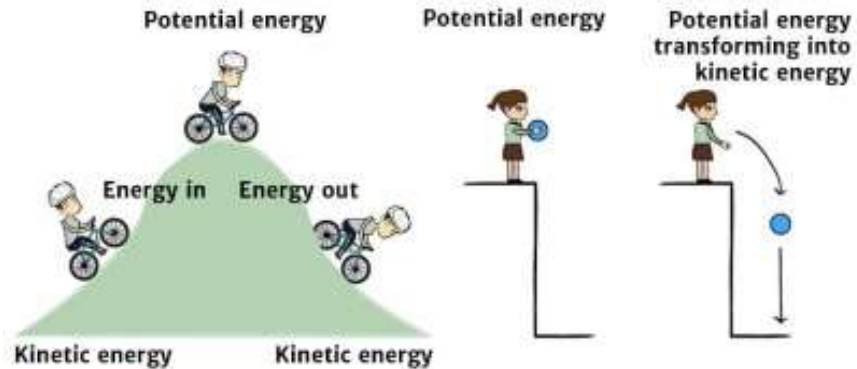
Drawn

Released

Energy is Stored in Bow When Drawn

Stored Energy is Transferred to Arrow When Released

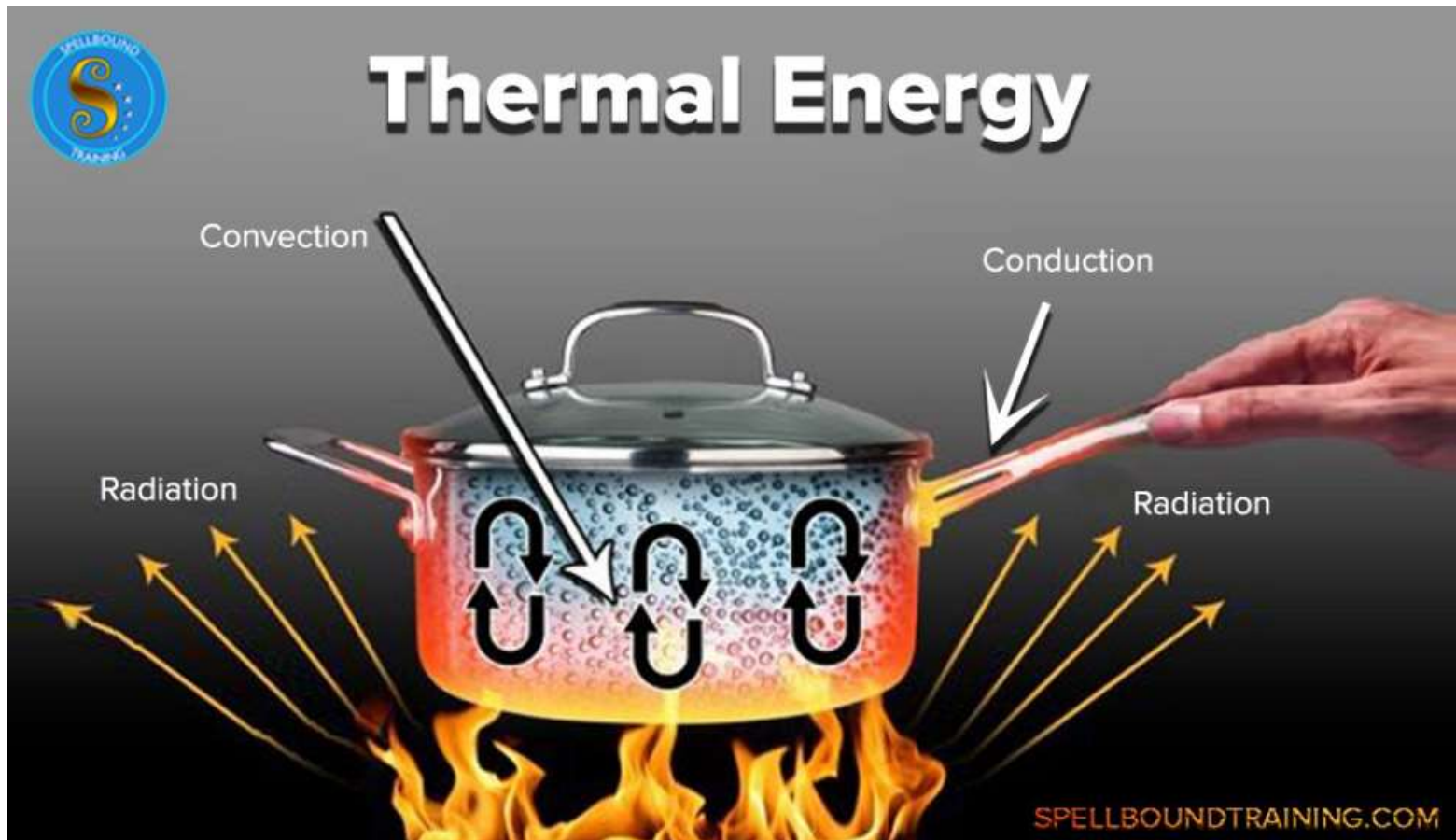
Forms of Energy



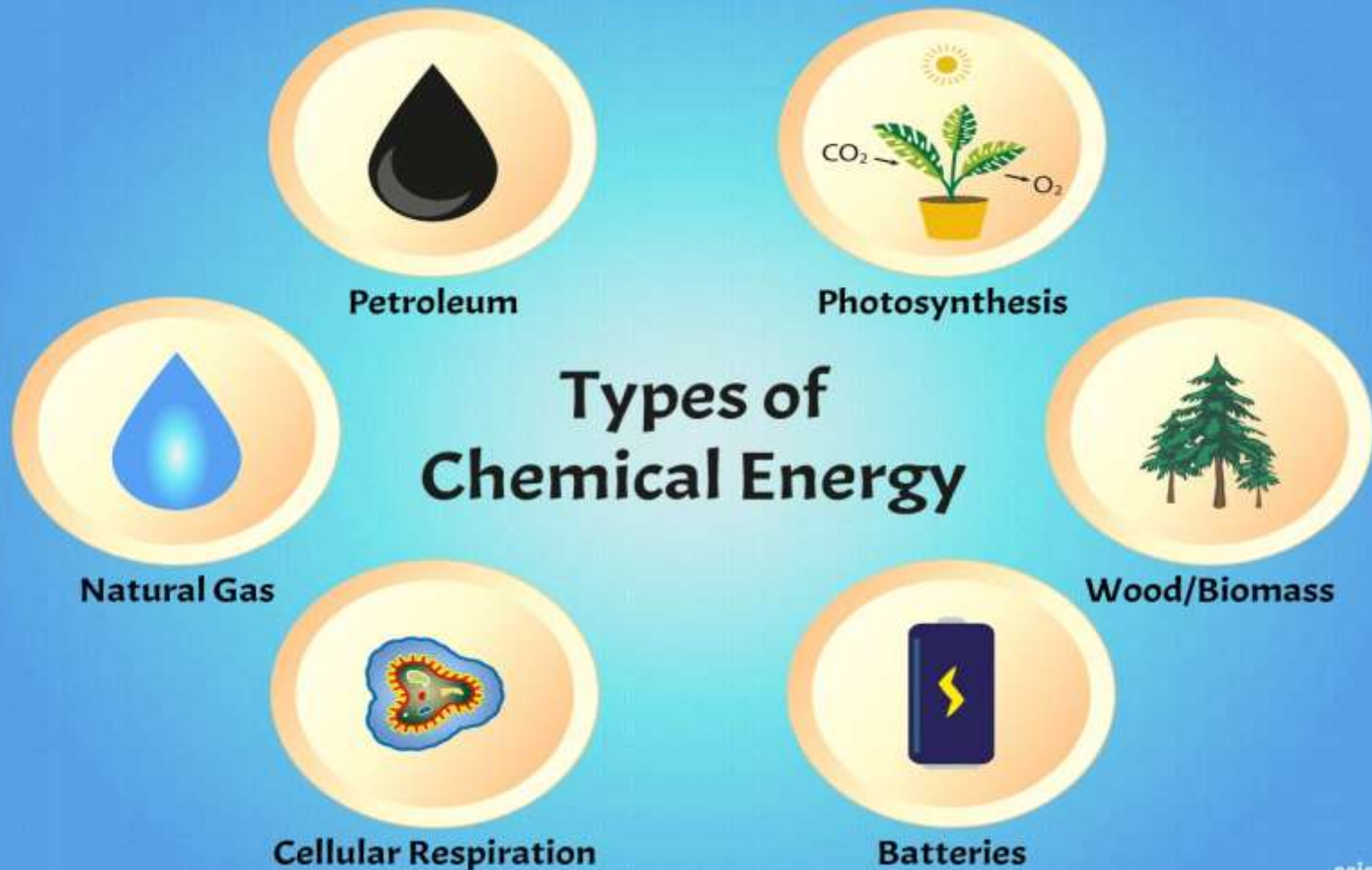
Going from potential energy...

to kinetic energy!

HEAT ENERGY/ THERMAL ENERGY



CHEMICAL ENERGY



Light Energy

Light Energy



Sound Energy

Sound Energy



When someone plays the guitar, the strings vibrate and transmit energy

LESSON SUMMARY



Electrical Energy:

ELECTRICAL ENERGY

