Energy Transformations Study Guide

**Chapter Five:**

* What is energy?
	+ kinetic
	+ potential
* Forms of energy
	+ solar
	+ thermal
	+ wind
	+ geothermal
	+ chemical
	+ nuclear
* Energy conversions
	+ Input
	+ Converter
	+ Output
* Law of Conservation of Energy

**Chapter Six:**

* Generating electric energy
	+ Faraday’s law of induction
	+ Generator
* Coal fired thermo-electric generation
* Electric energy from water
* Solar cells
* Energy from splitting atoms
	+ Nuclear fission
* Calculating power
* Calculating efficiency

**Percent Efficiency = useful energy output x 100**

 **total electric energy input**

**Chapter Seven:**

* Natures energy conversions
	+ Photosynthesis
		- Chlorophyll
		- chloroplasts
	+ Cellular respiration
	+ Input, converter, and output for each
* Ecological pyramid
	+ Amount of energy passed on
* Homeostasis
	+ When it’s hot
	+ When it’s cold
* Sources of energy
	+ Carbohydrates
		- Simple
		- Complex
		- Glycogen
	+ Fats
		- Saturated
		- unsaturated
	+ Proteins
* Metabolic needs
	+ How do they change through life?

**Chapter Eight**

* How coal developed
	+ Lack of oxygen
	+ Peat, lignite, sub-bituminous, bituminous, anthracite
* Crude oil also called\_\_\_. World’s most important source of energy
* Mining coal
* Drilling for oil
	+ Reservoir rock
	+ Seismic survey
	+ Pump jack
	+ Lift pump
* Refining oil
	+ Distillation
* Natural gas
* Combustion of hydrocarbons
* Compare combustion of hydrocarbons to cellular respiration
* Non-renewable
* Oil spills
* Greenhouse gasses
* Acid deposition
* Global climate change