Energy Flow Through the ecosystem

– with ScientistCindy @ WWW.ScientistCindy.Com

* All living things need energy to power the processes of life.
	+ For example, it takes energy to grow.
	+ It also takes energy to produce offspring.
	+ In fact, it takes energy just to stay alive.
	+ Remember that energy can’t be created or destroyed.
	+ It can only change form.
* Energy changes form as it moves through ecosystems.
* The Flow of Energy
* Most ecosystems get their energy from the Sun.
* Only producers can use sunlight to make usable energy.
* Producers convert the sunlight into chemical energy or food.
* For example: Plants create chemical energy from abiotic factors that include solar energy.
* The food energy created by producers is passed through the food chain.
* Producers – Make their own energy (food)
* Consumers – Must consume other organisms to gain energy
* In this way, energy flows from one living thing to another.
* Food Chains
* A food chain is a simple diagram that shows how energy flows through an ecosystem.
* Producers form the base of **all** food chains.
* The consumers that eat producers are called primary consumers.
* The consumers that eat primary consumers are secondary consumers.
* The consumers that eat secondary consumers are tertiary consumers.
* At each level of a food chain, a lot of energy is lost.
* Only about **ten percent** of the energy passes to the next level.
* Where does that energy go?
	+ Some energy is given off as heat.
	+ Some energy goes into animal wastes.
	+ Energy also goes into growing things that another consumer can't eat, like fur.
* It's because so much energy is lost that most food chains have just a few levels. *There’s not enough energy left for higher levels.*
* **Food Webs**
* **Food chains are too simple to represent the real world.**
* They don’t show all the ways that energy flows through an ecosystem.
* A more complex diagram is needed called a food web.
* A food web consists of many overlapping food chains.