

Energy Loss in the Food Chain

What is energy?

Energy is the _____ that our bodies need to _____. We need it to _____, to pump our blood, to run, to speak, to think, and to do all of the wonderful things that we do. Plants and _____ need energy too, for the _____. No energy = no _____!

How do we measure energy?

Energy can be measured in either _____ or _____. Calories are more familiar to us; we can read _____ to figure out how much energy is in that delicious chocolate bar. The more _____, the more _____ we get from something.



Using _____ to measure _____ is actually an old way of doing things; it belongs with the _____ that uses feet, inches and pounds to measure things. We have switched to using the _____ - and now, instead of measuring in Calories, we measure in _____! How many Joules of energy are in that chocolate bar?



Just like there are _____ of _____ in everything we eat, there are also Joules of energy in everything that plants and animals _____ or _____.

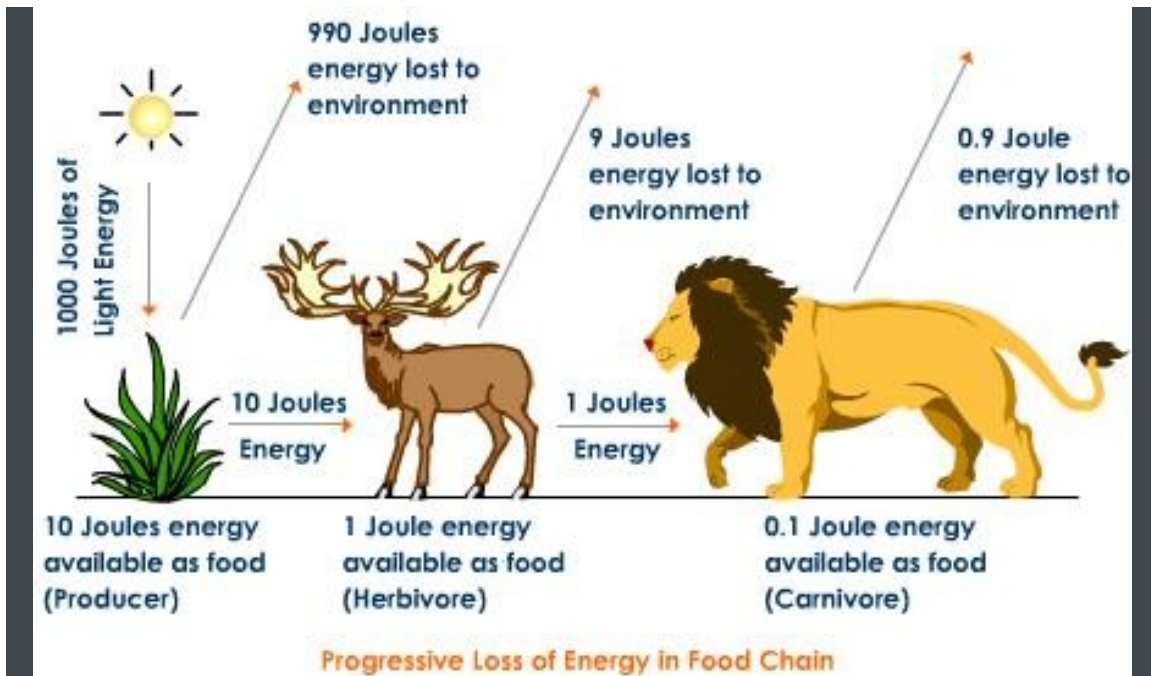
So...where do the Joules come from?

The answer: _____! Joules enter our food web as _____
_____. It's the only way! The plant uses _____
_____ to _____ its own food
(remember - plants are called _____). An animal eats the
plant, and the _____ keeps getting passed along the food
chain.

So, all of the energy gets passed from the plant to the top of the food web, right?

The system works pretty well, but it's not _____. A lot of
energy gets _____. We lose energy in a
lot of _____ ways. We can lose it as _____, if the
environment is colder than we are. We can use it up by
_____, by _____, by doing anything at all that
requires energy. Only a small bit (____%) gets _____ in the
body and is passed up the _____.

We call this the _____. 10% of the energy gets passed from
each stage. Let's look at the diagram on the next page:



The plant uses _____ from the sun to grow and _____ its own food. It starts with _____ Joules of energy, but uses up _____ of the _____ before it gets eaten.

The deer eats the _____ - which had _____ Joules of energy. The deer does lots of _____ and frolicking through the forest, and burns off _____ of the Joules. It stores _____ Joule of energy in its _____.

The hungry lion eats up the _____ - the deer had a total of _____ Joule stored up in its body. The lion uses up _____ of this energy, and only ends up storing _____ of a Joule.

So....we started with _____ Joules of energy in the plant...only _____ Joule is left by the time we get to the lion! A lot of energy gets _____ in the food chain!