

Energy from the Sun

Energy is the ability to make things happen. It's the ability to do work. It isn't difficult to look around and see all kinds of examples of energy. Bulldozers need energy to lift heavy loads. The fuel that the bulldozer burns provides the necessary energy. Animals need energy for just about everything they do. Their energy comes from the food they eat. All plants and animals need food to live. Plants are the only organisms that can make their own food. They need the sun to do that. So when we eat food we are really using the energy from the sun that was stored in the plant.

Almost all the energy on Earth comes from the sun. The sun's energy travels 93 million miles or 149 million kilometers through the emptiness of space to reach our planet in the form of light, heat, and other forms of energy. The sun is important to all living things on Earth. Plants use the sunlight, water, and minerals from the soil to make food in a process called photosynthesis. Animals depend on the plants. Some animals eat them to get energy, while other animals eat the plant eaters to get energy. The process of energy transfer from the sun to plants to animals is called a food chain. Some animals, such as humans, eat both plants and animals for food. The food is used by the body to do things such as exercise, work, and just move.

Food is chemically broken down and mixed with oxygen to release the energy needed to do things. The amount of energy food contains is measured in calories. And a special piece of equipment is used to determine this. A sample of the food is burned inside a sealed container, which captures the heat energy released, and uses it to heat a known amount of water. The temperature before and after burning the food is recorded and then used to figure out how many calories of heat energy are released by the food.

Our bodies need a certain amount of these food calories to operate throughout the day. If you aren't active and just sit around, the extra food calories are changed to fat for use later. Remember that most of the energy of our planet actually comes from the sun. Food contains stored energy from the sun. Even the gasoline that trains, trucks, and cars use has energy from the sun stored in it. These fuels come from fossil fuels that were formed over millions of years. During prehistoric times, the plants soaked up and used the energy of the sun. Then these plants died and were buried beneath huge layers of Earth over a long period of time. These plants changed into natural gas and oil which are then mined and made into fuels for our machines.
