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Transfer of Energy through a Food Chain

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If there were no plants, there would be little life on this planet. This unit covers the energy transfer through an ecosystem in three parts for fifth grade students. Electromagnetic radiation is energy created by the sun. Plants transform this energy into matter and store it as food. Finally, this food created by plants is the energy that the rest of the organisms on this planet use to sustain life.

First, life on Earth comes from the energy of the sun. We will discuss the electromagnetic spectrum putting emphasis on visible light, ROYGBIV, transverse waves, wavelengths, and frequencies. We will also explain the relationship between a photon and a wavelength.

Next, photosynthesis is the only process that can harvest the energy of the sun and store it into a chemical bond. We will cover photosynthesis in a secondary sense and explain it in a fifth-grade application. We will also discuss where it is made in the leaf and its uses as the main producer of food for all the life on this planet.

Then, we discuss the transfer of energy through plants producing it, consumers eating it, and decomposers recycling it. We will cover energy pyramids and relate them to food chains.

Last, we will use this information for a culminating activity for students to create a project with a diorama or power point explaining an organism of their choice modeling energy transfer through a food chain.

(Developed for Science, grade 5; recommended for Science, grades 5-8)