Microorganisms

A microorganism is a living thing that can only be seen with the aid of magnification, specifically a microscope. Some microorganisms are unicellular, or single-celled. These are the smallest unit of life. Others are multi-cellular, or many-celled.

Just like you, microorganisms have requirements to live. These are: food, air, water, ways to dispose of waste, and an environment in which they can live.

Some microorganisms are producers. This means they can make their own food from simple substances usually using sunlight like plants do (photosynthesis). Some are consumers. This means they eat other organisms to get their food.

Microorganisms live all around us. They are in the air we breathe. They live in water, soil, hot springs, ice, on the ocean floor, and high in the atmosphere. They are on everything we touch. They are on our skin and clothes. Many live inside our body. While they can grow and live everywhere, they prefer to grow in a warm, dark, moist place.

Microorganisms can be both helpful and harmful. The harmful ones can cause disease and make us sick, but most do not. The helpful ones we benefit from everyday. They are in the foods we eat, are in the products we use, help us digest our food, and decompose waste on Earth.

There are many different kinds. Scientists observe and classify them by: shape and structure, how they get food, where they live, and how they move. We study four groups: Bacteria, Protists, Fungi, and Viruses.
Bacteria are microscopic single celled organisms. They cannot move, so they stick to other things. They grow best at body temperature. They reproduce by splitting in half. They can double every 30 minutes. Bacteria are decomposers. They consume the remains of dead organisms and break down the organic matter and then it is carried into the ground where they nourish new plant growth. They are also helpful in sewage treatment, digesting food, nitrogen for plants, and make foods like yogurt and cheese. Some harmful diseases they cause are strep throat, food poisoning and the plague.

Protists are single celled organisms that usually live in water. They can move by one of three methods: Flagella- whip like tail, Cilia- hair-like extensions, Psudopod- false foot. They can be helpful because they make oxygen and are a food source. They are also harmful and cause malaria and giardia.

Fungi are neither plant or animal. They absorb food from organic sources they are growing on. They are decomposers. There are three groups of fungi: mold, mushrooms, and yeast. They are helpful because they are food and help to make vinegar, alcohol, and soy sauce. They are harmful because they can cause athlete's foot, ringworm, can be poisonous, and spoil food and farm crops.

Viruses are smaller than a cell. They attach to a cell and insert it's genetic material and then take over the cell. Then they begin making copies of themselves and spread in the body. They are contagious and are passed by air, body fluids, and touching. Your body has a defense system called the Immune System to help fight them. Viruses cause many diseases like: chicken pox, common cold, polio, measles, mumps, rabies, warts, flue etc.

Microorganisms can be harmful by spoiling food and making people sick. We can prevent food from spoiling by: canning, freezing, drying, add preservatives, and pasteurizing. We can prevent getting sick by washing our hands in warm,
soapy water, washing surfaces and utensils that touch our food, rinse fruits and vegetables, throw away old food, covering food in the fridge, covering our mouths and nose when we sneeze or cough, and staying home when we are sick.
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