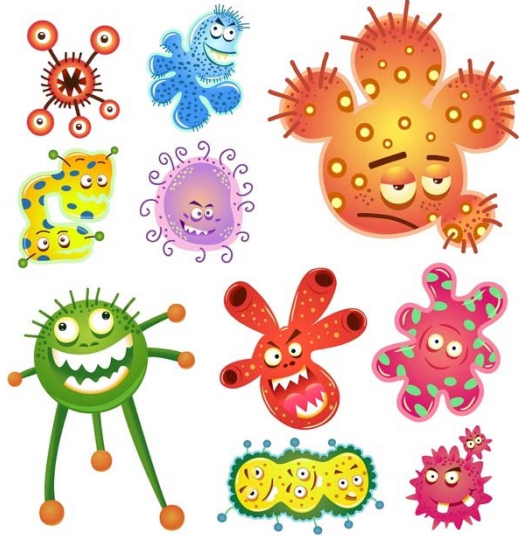


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The Microscopic Showdown: Bacteria vs. Viruses



In the world of microscopic organisms, two mighty forces reign supreme: bacteria and viruses. While both are invisible to the naked eye, they possess unique characteristics that set them apart. Let's dive into the fascinating world of these tiny beings and explore how they differ.

Bacteria are single-celled organisms that can be found virtually everywhere, from the depths of the ocean to the soil beneath our feet. They come in a variety of shapes, including spheres, rods, and spirals. Despite

their small size, bacteria play crucial roles in ecosystems, aiding in processes such as decomposition and nutrient cycling.

Unlike bacteria, viruses are not considered living organisms. Instead, they are tiny infectious agents that can only replicate inside the cells of other organisms. Viruses come in a multitude of shapes, ranging from simple helical structures to more complex geometric forms. They are responsible for causing various diseases in plants, animals, and humans, from the common cold to more severe illnesses like COVID-19.

One key difference between bacteria and viruses lies in their structure. Bacteria are surrounded by a cell wall and contain genetic material in the form of DNA or RNA. They also have the ability to reproduce independently through binary fission, where one cell divides into two identical cells.

On the other hand, viruses consist of genetic material (either DNA or RNA) surrounded by a protein coat called a capsid. Some viruses also have an outer envelope derived from the host cell's membrane. Unlike bacteria, viruses cannot reproduce on their own and instead hijack the machinery of host cells to multiply.

Despite their differences, both bacteria and viruses have significant impacts on the world around us. Understanding their unique characteristics is crucial for combating infectious diseases and maintaining ecosystem balance.