

Causes and spread of infection



**ASSIGN
BUSTER**

Identify the differences between bacteria, viruses, fungi and parasites What is a Bacteria? A bacteria is a living things that are neither plants nor animals, but belong to a group all by themselves. They are very small individually not more than one single cell however there are normally millions of them together, for they can multiply really fast. Bacteria are prokaryotes (single cells that do not contain a nucleus). Every species has a great ability to produce off spring and its population expands until it runs out of food or it is limited by competition, its own waste products, or some other factor. Changes in climate or introduction of a new species from elsewhere can greatly affect the balance of nature.

What is a virus?

A virus is a small infectious agent that can replicate only inside the living cells of organisms. Most viruses are too small to be seen directly with a light microscope. Viruses infect all types of organisms, from animals and plants to bacteria and archaea. All viruses have genes made from either DNA or RNA, long molecules that carry genetic information; all have a protein coat that protects these genes; and some have an envelope of fat that surrounds them when they are outside a cell.

What is a fungus? These are Eukaryotes when compared to bacteria (prokaryote) and virus. Like plants and animals, fungi are eukaryotic multicellular organisms. One major difference is that fungal cells have cell walls that contain chitin, unlike the cell walls of plants, which contain cellulose. The chitin adds rigidity and structural support to the thin cells of the fungus, and makes fresh mushrooms crisp. Most members of the kingdom Fungi lack flagella; the structures are completely absent in all

stages of their life cycle. The only exception are the chytrids, which produce flagellated gametes.

What is a parasite? A parasite is an organism that lives on or inside another organism to the detriment of the host organism. These are of various forms and types. A parasite is an organism that lives on or in a host and gets its food from or at the expense of its host. Parasites can cause disease in humans. Some parasitic diseases are easily treated and some are not. The burden of these diseases often rests on communities in the tropics and subtropics, but parasitic infections also affect people in developed countries.

The parasites may be bacteria, fungi, algae, plants, animals etc..... True parasites usually weaken but rarely kill their hosts.

Common Illnesses and Infections

Describe what is meant by “infection”? It is an invasion of the body by a foreign substance such as germs. Describe what is meant by the term “colonisation”? The presence of bacteria on a body surface (like on the skin, mouth, intestines or airway) without causing disease in the person.

Explain what is meant by the term “systemic infection”? Systemic infection means it has infected the whole body, spreading possibly through the blood to all parts of the body causing an all over infection. 1. 4 Explain what is meant by the term “localised infection”? A localised infection is an infection that is limited to a specific body part or region.

Identify 5 behaviours or actions that could lead to the spread of infection 1. Not using protective clothing 2. Using dirty equipment sharing personal

items 3. Incorrect cooking 4. Incorrect storage of food 5. Poor personal hygiene and not covering your nose or mouth when sneezing or coughing.

What conditions do micro-organisms need to grow? Microorganisms need heat, water and food to survive, much like humans. In order to continue living and reproducing, it is integral that there is a source of food for the microorganisms. Bacteria vary from species to species in regards to their food requirements and condition requirements, but all of them require a form of nutrition from an external source.

Food sources that are widely used by human beings are particularly vulnerable to bacterial growth given that they are nutritious and perfect for microorganisms as well as humans. Some bacteria species don't require food per se, however, but can instead produce their own nutrition just like a plant does during photosynthesis. These kinds of microorganisms are much less common, however.

Bacteria need moisture to thrive, too. It cannot live on cold and hard surfaces that do not have any moisture, and food that is freeze dried is no good to microorganisms. The physiological tolerances of microorganisms can vary from species to species, too, and some kinds of bacteria will thrive in really saline conditions. Others, however, will die immediately. Some bacteria will thrive in oxygen-free conditions, whereas some will just die if there is no oxygen present. There are huge differences between microorganisms and hence the environmental conditions that are required from them to grow properly are very different.