Unicellular Organism Cheat Sheet

by Elf (Elf Fatmawati) via cheatography.com/213487/cs/46473/

Black Death

Victims developed painful, swollen lumps called **buboes**, usually in the armpits, groin, or neck.

It caused high fever, chills, vomiting, and dark patches on the skin, which gave it the name "**Black Death**."

The disease spread rapidly and widely, often wiping out entire villages within days.

Caused by the bacterium **Yersinia pestis**, which was primarily spread through **fleas on rats**.

Tackling Diseases

Antibiotic -> Kill bacteria

Vaccines -> Substances introduces into the body that activates specific white blood cells to eliminate virus or bacterium

Soap -> Keep microorganism away from skin, Disinfectants -> Kill bacteria

Aerobic & Anaerobic in Fungi (Yeast) and Bacteria

Yeast (Aerobic) -> Uses oxygen to break down sugar. Helps bread to **rise when baking**.

Yeast (Anaerobic) -> Without oxygen, yeast does **fermentation**. Used in **making wine and beer**.

Bacteria (Aerobic) -> Some bacteria **use oxygen to get energy**. They produce carbon dioxide and water. These bacteria live in places with air.

Bacteria (Anaerobic) -> Some bacteria **don't need oxygen to live**. They use nitrate instead of oxygen. They live in places like mud or inside the body.

Causes of Dough Rising

Fermentation by yeast: Yeast consumes sugar in the flour and produces carbon dioxide (CO_2) and alcohol.

Carbon dioxide production: The CO_2 gas creates bubbles that cause the dough to expand and rise.

Chemical leavening (baking soda/powder): These ingredients react with moisture or acids to also release CO_2.

Gluten development: Gluten forms an elastic network in the dough that traps the gas, allowing it to rise.

Warmth and time: A warm environment helps yeast or chemical reactions work faster, making the dough rise effectively.

Kingdoms

Fungi -> **Eukaryotic organisms** that **absorb nutrients** from other materials and often act as decomposers. Most are multicellular, except for yeast. Examples: Mushroom, Yeast, Penicillium.

Plants -> **Multicellular, autotrophic organisms** that make their own food through photosynthesis and have cell walls made of cellulose. Examples: Sunflower, Oak tree, Fern.

Animals -> **Multicellular, heterotrophic organisms** that usually move and rely on other organisms for food. They don't have cell walls. Examples: Human, Elephant, Butterfly.

Bacteria -> **Unicellular prokaryotic** organisms that reproduce quickly and live in many environments. Some are helpful, while others cause diseases. Examples: Escherichia coli (E. coli), Streptococcus, Lactobacillus.

Protists -> **Mostly unicellular eukaryotes** that don't belong to plants, animals, or fungi. Examples: Amoeba, Paramecium, Euglena.

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Growth Curve of Yeast

Shows how its **population changes over time** in a culture.

It has four phases: lag phase (**adjusting to the environment**), exponential phase (**rapid growth**), stationary phase (**growth slows as nutrients run out**), and death phase.

Helps understand yeast's behavior in baking and fermentation

Pyramid of Organisms In Sea

Pyramid of numbers shows the number of individual organisms at each trophic level in a food chain.

Producers (phytoplankton) are usually the most numerous and form the base of the pyramid.

Primary consumers (zooplankton) feed on producers and are fewer in number than phytoplankton.

Secondary and tertiary consumers (like small fish, larger fish, and sharks) decrease in number at each higher level.

Inverted pyramids can occur in the sea, where a few large producers (like a single kelp or phytoplankton) support many consumers.

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