

Nutrition In Microscopic Organisms-amoeba,

Paramecium And Hydra LR

Nutrition in microscopic organisms. Objective, to understand the process of feeding and digestion in the amoeba, paramecium, and hydra. Some microscopic animals are the amoeba, paramecium, and hydra.

We're going to learn about their feeding habits. Amoeba. The amoeba is a single-celled organism, which constantly changes its shape and position.

It feeds on microscopic organisms, like bacteria. When the amoeba senses food, it pushes out one or more finger-like projections called pseudopodia, or false feet, to enable it to move towards the food, and it engulfs the food once it reaches it. The pseudopodia join together to form a cavity known as a food vacuole, where the food is digested with the help of digested juices.

The digested food is absorbed for growth by the amoeba. The undigested residue of the food is expelled out of the body. Paramecium.

The paramecium is also a unicellular organism, which feeds on microscopic organisms, like algae. It has stiff hair-like structures called cilia all over its body. These cilia constantly move and help push food into the mouth-like structure of the paramecium.

The food is then passed on to the gullet. As enough food accumulates in the gullet, it leads to the formation of a food vacuole. This food vacuole starts circulating inside the cell.

Digestive juices from the cytoplasm act on the food, helping with digestion. The digested food helps the paramecium to live and grow. Slowly, after digestion, the vacuole starts shrinking, and as it reaches the anal pore, it ruptures and expels the waste outside the body.

Hydra. The hydra is a simple multicellular organism, having a number of tentacles around its mouth. These tentacles entangle small aquatic animals, like water fleas, and help in the ingestion of food.

The tentacles push the food into the mouth from where it reaches the body cavity. Here, digestive juices act on the food, after which it is absorbed for growth and maintenance by the hydra. The indigested food is discharged by contractions through the mouth aperture.

To summarize, the amoeba is a unicellular organism, which captures its food with the help of pseudopodia. The paramecium is a unicellular organism, which uses its hair-like projections, called cilia, to capture food. The hydra is a multicellular organism, having tentacles around its mouth to capture food.

Summary: Nutrition in Microscopic Organisms

Microscopic organisms like **Amoeba**, **Paramecium**, and **Hydra** have unique feeding and digestion methods.

- **Amoeba**: A unicellular organism that **engulfs food** using **pseudopodia (false feet)**. The food is digested inside a **food vacuole**, and undigested waste is expelled.
- **Paramecium**: A unicellular organism with **cilia (hair-like structures)** that help push food into the **mouth**. The food is digested in a **food vacuole**, and waste is expelled through the **anal pore**.
- **Hydra**: A **multicellular** aquatic organism with **tentacles** around its mouth. It captures small organisms, digests food inside its **body cavity**, and expels waste through its mouth.

Conclusion:

- Amoeba uses **pseudopodia** to capture food.
 - Paramecium uses **cilia** to push food into its mouth.
 - Hydra uses **tentacles** to catch prey.
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Quiz: Nutrition in Microscopic Organisms

1. How does an amoeba capture its food?

- ☒ a) By using pseudopodia (false feet)
- ☐ b) By sucking food through its tentacles
- ☐ c) By filtering food through gills
- ☐ d) By using a sharp beak

2. What helps a paramecium push food into its mouth?

- ☒ a) Cilia
- ☐ b) Pseudopodia
- ☐ c) Tentacles
- ☐ d) Gills

3. What is the function of Hydra's tentacles?

- ☒ a) To capture and push food into its mouth
- ☐ b) To help it swim
- ☐ c) To produce food like plants
- ☐ d) To remove waste from its body

4. Where is food digested in microscopic organisms like Amoeba and Paramecium?

- ☒ a) In a food vacuole
- ☐ b) In a stomach
- ☐ c) In a separate digestive organ
- ☐ d) In a blood vessel