

Name _____

Nutrient Acquisition in Protists: Unlocking Nature's Pantry

Open-Ended Response Answer Key

1. Phagocytosis allows amoebas to obtain nutrients from their environment by engulfing food particles through the extension of pseudopods, forming food vacuoles within the cell where digestion takes place.
2. Saprophytic protists contribute to ecosystem health by decomposing dead organic matter, recycling nutrients, and facilitating nutrient cycling within ecosystems. By breaking down complex organic molecules into simpler forms, saprophytic protists release nutrients back into the environment, making them available for other organisms.
3. Parasitic protists obtain nutrients from host organisms by invading host tissues or cells and feeding on their contents. Through this parasitic lifestyle, they obtain the necessary nutrients for their survival and reproduction at the expense of the host organism's health.
4. Photosynthesis is essential for sustaining ecosystems as it serves as the primary process by which energy from sunlight is captured and converted into chemical energy in the form of organic compounds. Photosynthetic protists play a crucial role in this process by utilizing chloroplasts to carry out photosynthesis, synthesizing sugars and releasing oxygen as byproducts, which are then utilized by other organisms in the ecosystem.

