



INVERTEBRATES

PROTOZOA (4)

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Subphylum Sarcodina

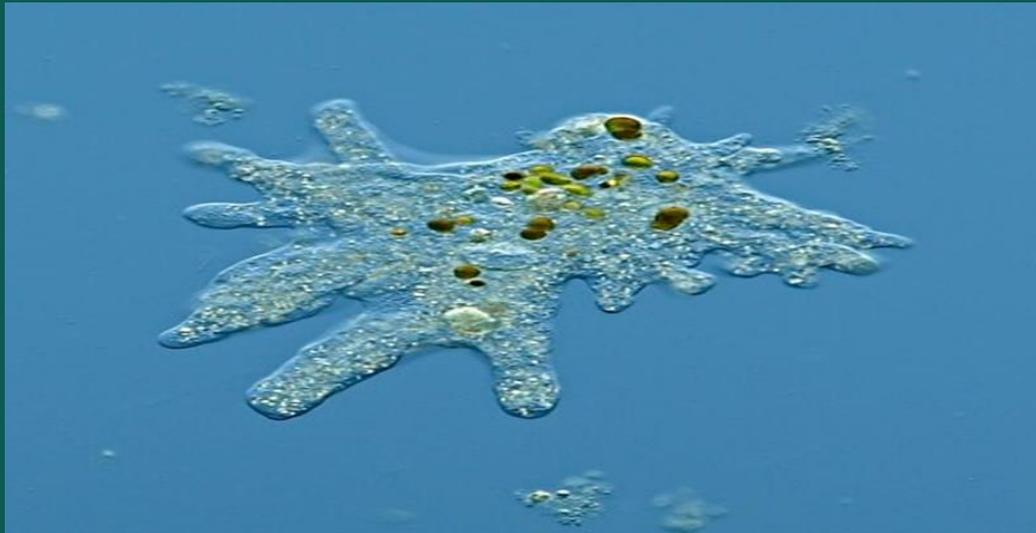
General Characters:

- **The body is amoeboid.**
- **Locomotion and feeding by pseudopodia.**
- **Single nucleus.**
- **Nutrition is holozoic and saprozoic.**
- **Reproduction mostly by binary fission.**
- **Most species are solitary and free-living, but some species are parasitic.**

Amoeba

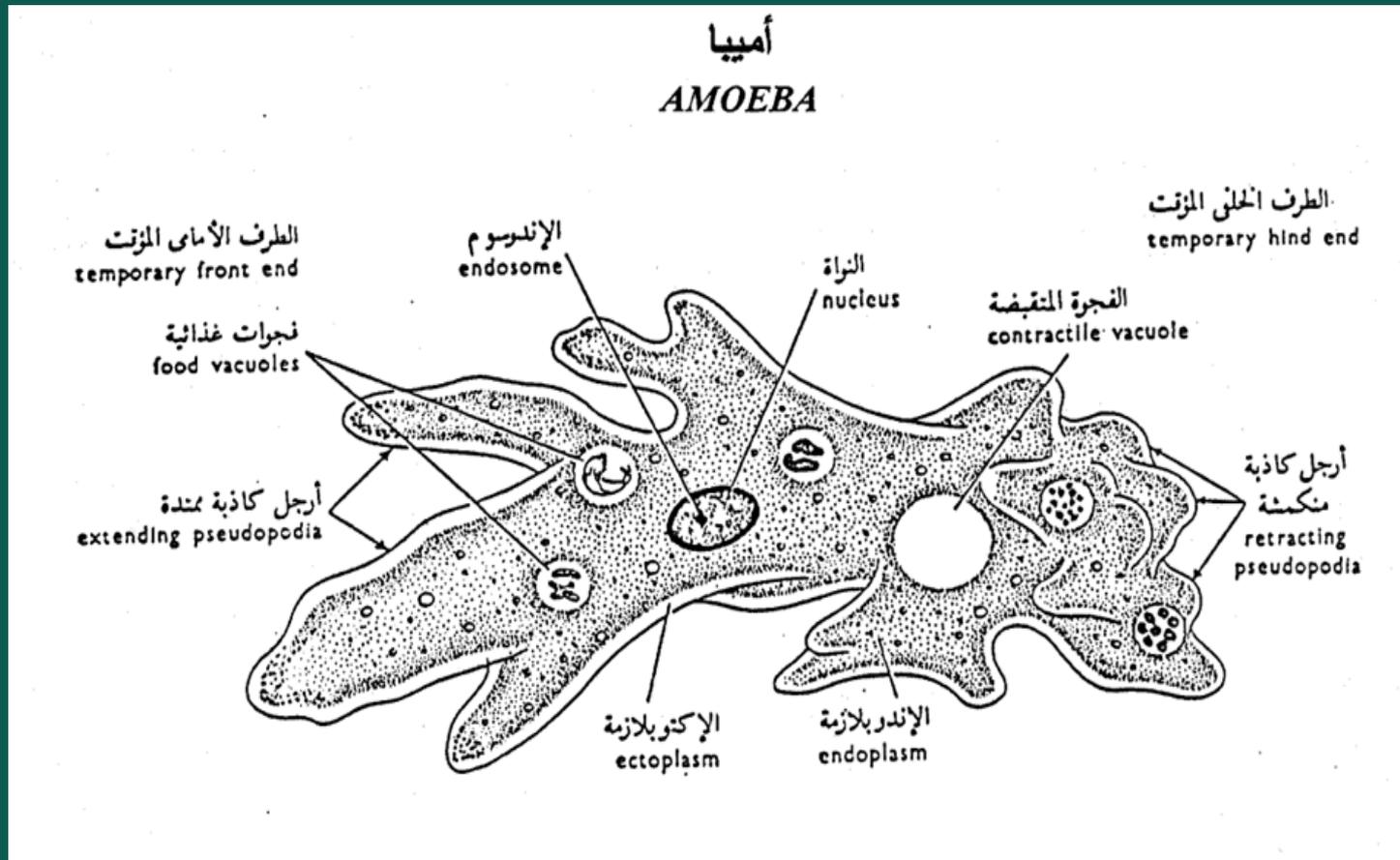
Habitat:

Amoeba proteus lives mainly in clean freshwater ponds with high oxygen levels. Unlike some amoebae that live in the human body or salt water, *Amoeba proteus* is primarily restricted to freshwater environments.



Amoeba

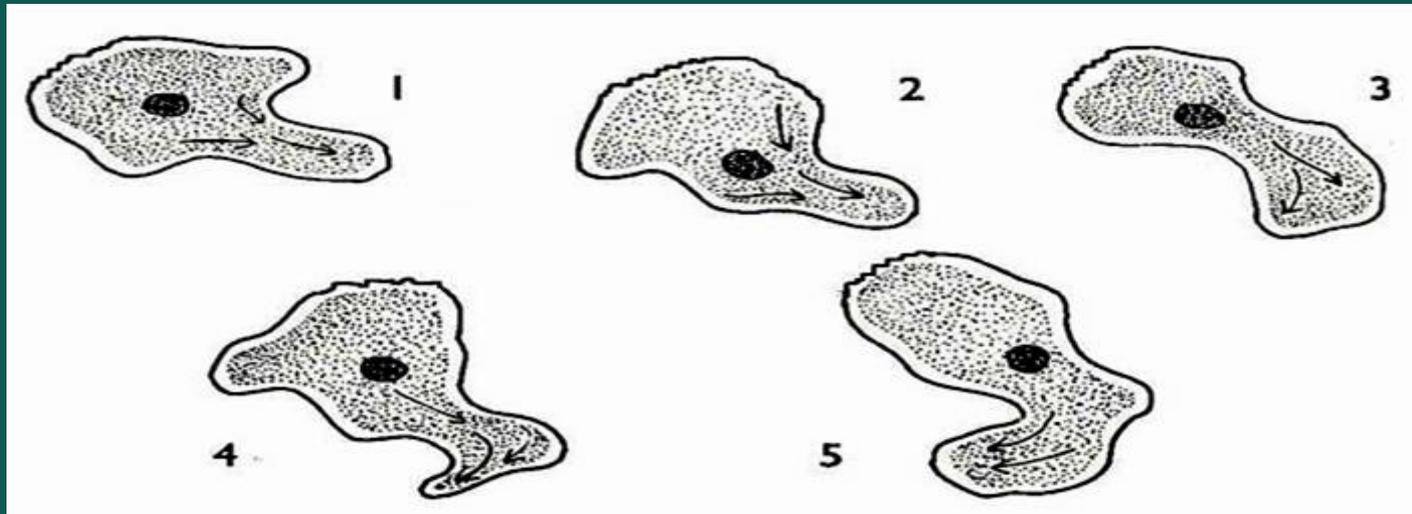
Morphology:



Amoeba

Locomotion:

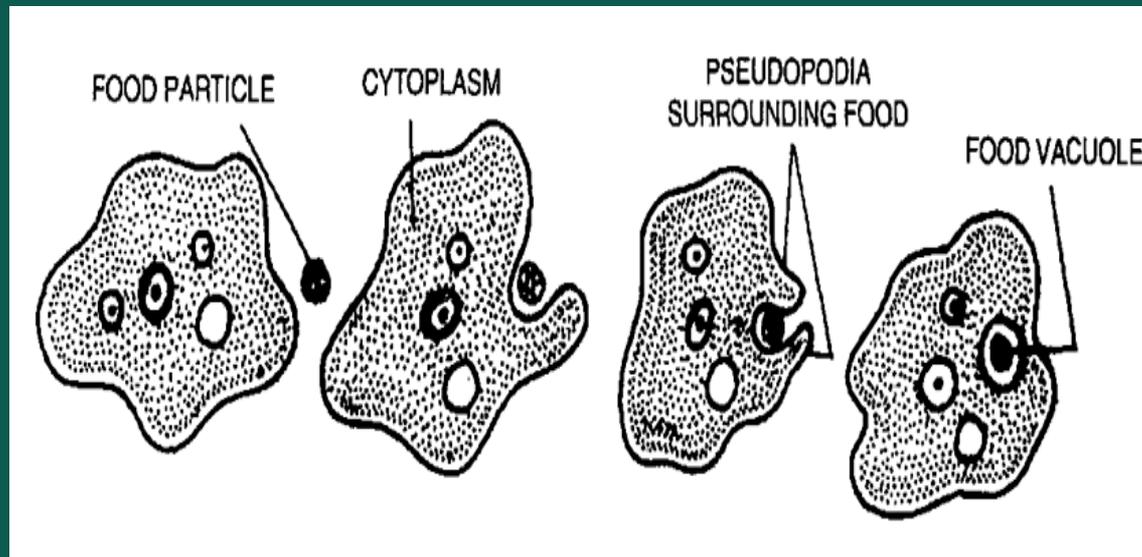
Amoeba moves by amoeboid movement, which occurs through pseudopodia (the fluid state into the gel state).



Amoeba

Nutrition:

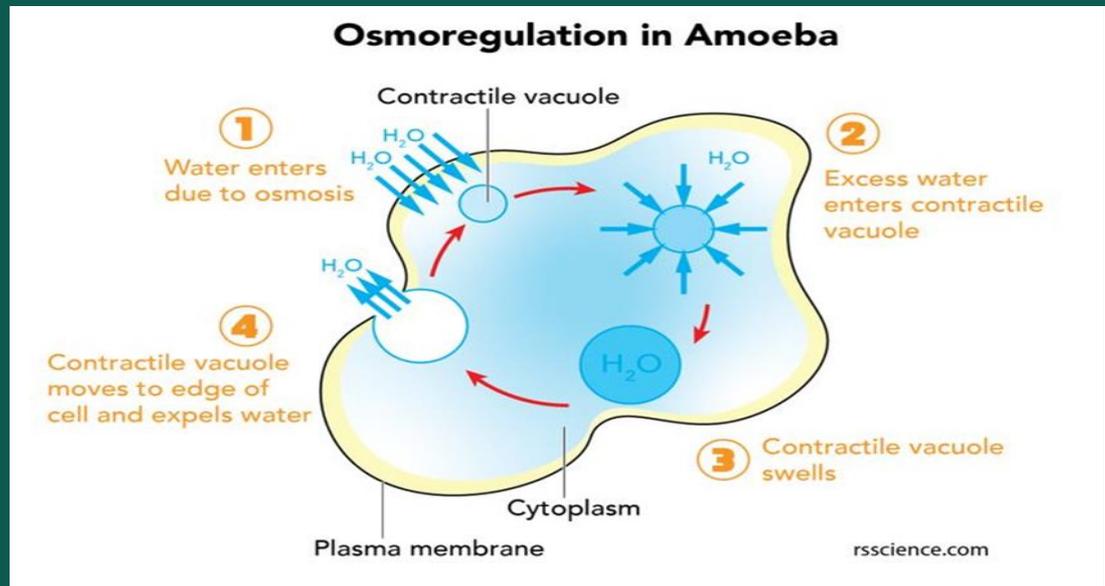
Amoeba shows holozoic nutrition, feeding mainly on small protozoans and bacteria in water. Amoeba can also absorb dissolved organic substances by pinocytosis.



Amoeba

Water Balance (Osmoregulation):

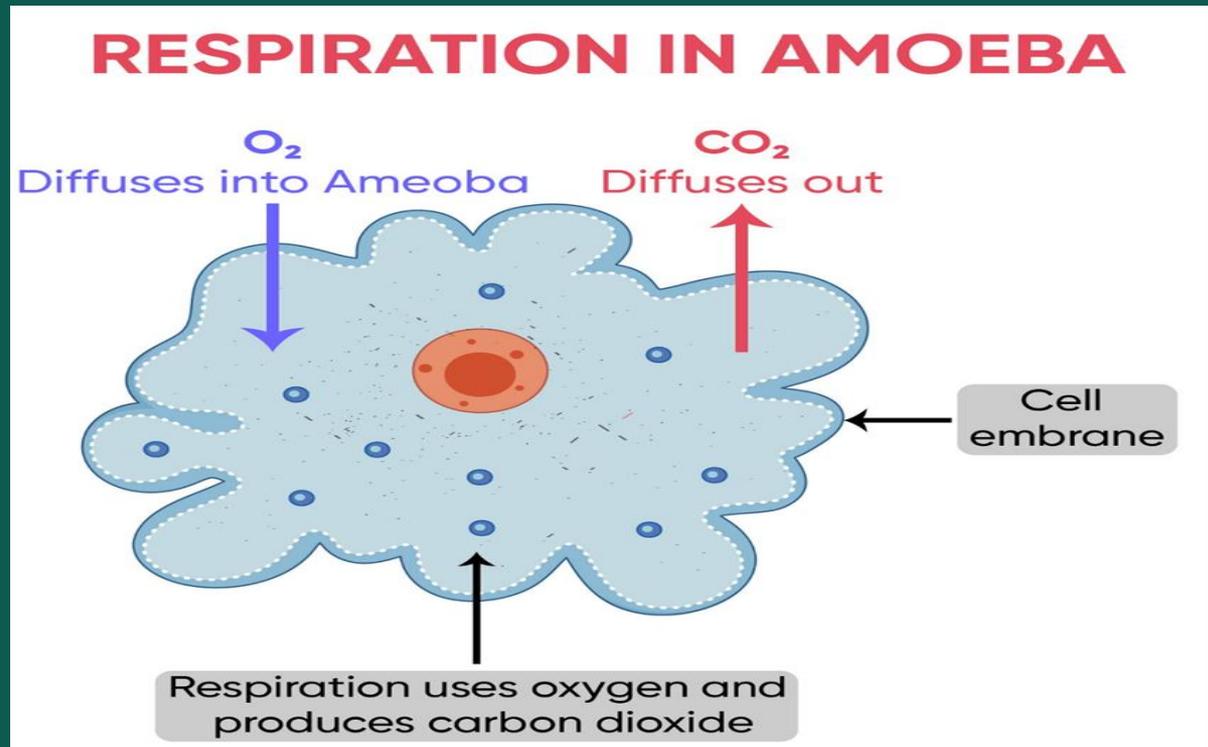
In freshwater *Amoeba*, excess water is removed by contractile vacuoles. Small water droplets combine to form small vacuoles, which merge into a large contractile vacuole that contracts and expels the water outside the cell.



Amoeba

Respiration and Excretion:

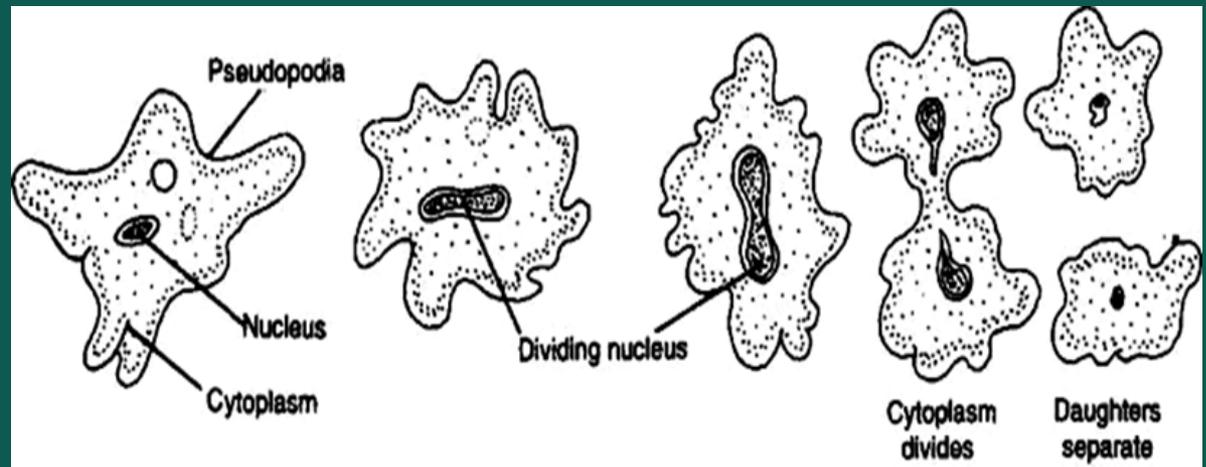
Respiration and excretion occur mainly by simple diffusion.



Amoeba

Reproduction:

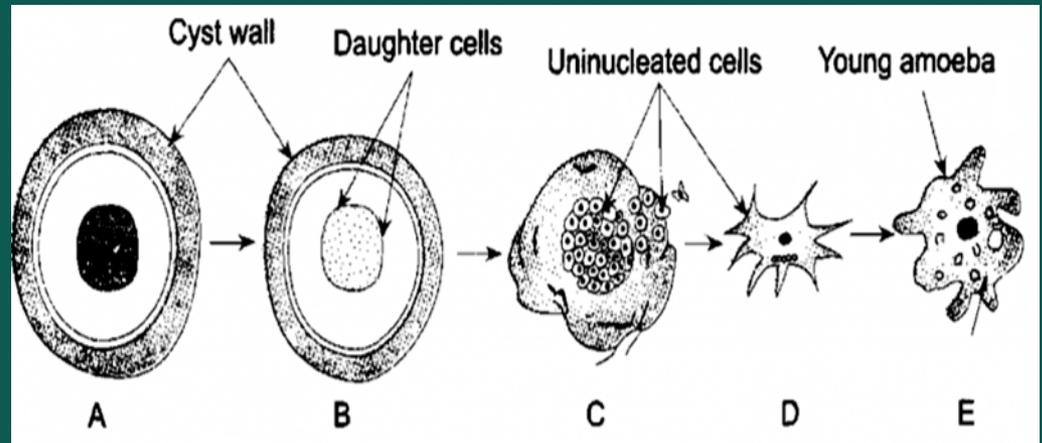
When food is abundant, *Amoeba* grows by increasing its protoplasm. After reaching a certain size, it reproduces asexually by binary fission. The nucleus divides mitotically, followed by cytoplasm division, producing two daughter amoebae. The whole process takes about 30 minutes.



Amoeba

Encystment:

Under unfavorable conditions, Amoeba forms a protective cyst by withdrawing pseudopodia and becoming spherical. Inside the cyst, the nucleus divides repeatedly, forming many daughter amoebae. When conditions improve, the cyst ruptures, releasing the young amoebae, which feed and grow to normal size.





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