

## QUIZ GUIDE Mr. Galloway Life Science Ch 7 Protists & Fungi

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### Protists (“Odds & Ends”, or “Junk Drawer” Kingdom)

**Creatures** created by our Creator, God, come in all sizes, shapes, and colors.

The kingdom, “Protists”, covers many “Kinds” of creatures, that don’t fit in other kingdoms.

- \* All are eukaryotes.
- \* Some are unicellular, others are multicellular like giant sea weed over 100 meters long.
- \* Some are heterotrophs, others are autotrophs, and some are both.

#### Three Groups of Protists:

1. Animal-Like Protists
2. Fungus-like Protists
3. Plant-like Protists

#### 1. Animal-Like Protists: Called Protozoans

- \* Heterotrophic, unicellular creatures
- \* Grouped by scientists by the way they move:
  - **Pseudopod Movement (Ameba**, which is a sarcodines)  
(pseudopod means false foot, & is like the blob on movies)  
(**contractile vacuole** – used to squirt out extra water)
  - **Cilia Movement (cilia** are hairlike projections that move in waves)  
(These protists are called ciliates, and the paramecium is an example.)  
(Paramecium reproduce by either binary fission or conjugation.)
  - **Flagella Movement** (Protists called zooflagellates, using 1 to 8 flagella.  
(**Symbiosis** is a close relationship between to creatures where at least one of them benefits. Termites have a zooflagellate creature living in its intestines to help in digestion. They live in a symbiotic relationship called **mutualism**, where both creatures benefit.
  - **Sporozoans** (are characterized by the way they live, not how they move)  
They are parasites feeding on the cells and body fluids of hosts.  
Some have many hosts, like the malaria disease parasite (plasmodium).  
(It uses both mosquitos and people.)

#### 2. Fungus-like Protists:

- \* Like fungi, they are heterotrophs, have cell walls, use spores to reproduce.
- \* Unlike fungi, they can move at some points in their life cycle.

#### 3. Plant-like Protists: Called algae & are autotrophs using pigment .

- \* Pigments are chemicals producing color that help in photosynthesis.
- \* Some algae are unicellular, living unconnected from other algae cells.
- \* Others form colonies together with a few cells specializing for reproduction, etc.  
(Most colony cells continue to carry out all normal functions.)
- \* Some algae are multicellular like seaweed, where all cells are specialized.

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# Fungi

## Fungi Characteristics:

- \* Eukaryotes
- \* Use spores to reproduce
- \* Heterotrophs

## Cell Structure:

- \* **Hyphae** = are branching, threadlike tubes that make up the bodies of most fungi.
- \* Some hyphae are a continuous thread of cytoplasm with many nuclei.
- \* The appearance of a fungus depends on the arrangement of the hyphae.
  - Some loosely tangled as fuzzy molds. Others packed into cap (mushrooms).

## How Do Fungi Get Food?

- \* Heterotrophs, but unlike humans, they absorb food through hyphae.
  - The hyphae grow all over the source of food
  - Then digestive chemicals ooze out of the hyphae into the food.
  - These chemicals breakdown the food into small, absorbable compounds.
  - Examples: some feed on dead plants, others feed on our skin.

## Reproduction in Fungi:

- \* Most fungi reproduce both asexually and sexually.
- \* **Asexual** Reproduction occurs when there is plenty of moisture and food.
  - "**Fruiting Bodies**" are reproductive hyphae in the fungus that produce **spores**.
  - Yeast do not make spores, but reproduce by "**budding**", where a small yeast grows from the single cell body of a "parent" yeast.
- \* **Sexual Reproduction** occurs if conditions become too harsh.
  - Hyphae of two fungi grow together and exchange genetic material.

## Fungi and the Living World:

- \* **Decomposers** – many fungi break down the chemicals in dead organisms. This returns nutrients to the soil, and gets rid of dead plants and animals.
- \* **People Food** – We eat many kinds of fungi.
  - Yeast make bread rise, due to the carbon dioxide gas they make.
  - We eat mushrooms from the store (DON'T ever eat the ones your yard!)
- \* **Disease Causing Fungi** – attack plants, animals, and humans.
  - Athlete's foot fungus makes feet itch.
  - Ringworm is NOT a worm, but a fungus that makes a red ring on the skin.
- \* **Disease Fighting Fungi** – *Penicillium* is a fungus that produces a chemical which kills bacteria. We make the antibiotic Penicillin from this chemical.
- \* **Some Fungi help Plants** by growing around the plant roots and absorbing extra moisture and nutrients from the soil. The plant then absorbs these into its roots.
- \* **Lichens** – are a combination of a fungus and either algae or autotrophic bacteria.
  - They live in a mutualistic relationship.
  - The fungus benefits from the food produced by the autotrophic organism, while it, in turn, gets water and minerals from the fungus.
  - Lichens break down the rocks into soil. are very sensitive to pollution, so we can watch their growth to monitor air quality in an area.