Name: \_\_\_Key\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PROTISTA AND FUNGI STUDY GUIDE**

Kingdom Protista

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Prokaryotes or Eukaryotes?** | **Unicellular or Multicellular?** | **Autotroph or Heterotroph?** | **Cell Walls? If so, composed of?** | **Methods of Reproduction** | **Main Groups or Phyla** |
| Eukaryotes | Mostly unicellular but most algae is multicellular | Both  (The animal-like and fungus-like are heterotrophs and the plant-like are autotrophs) | Plant like protists have cell walls of cellulose | Sexual- some can exchange DNA in a process called conjugation  Asexual- some can just split (no exchange) | 1. Animal like Know 4 Protozoan phyla  2. Plant like Know 2 algae groups (macro and micro)  3. Fungus like |

Important Vocabulary:

1. protozoan- animal-like protist (there are 4 groups of these)

2. phytoplankton- plant-like protist

3. cilia- many tiny, eyelash-like projections that some animal-like protists use for movement

4. flagella- a long, whip-like tail that some animal-like protists use for movement

5. pseudopod- “false foot” structure that is an extension of the cell membrane that some protists use for movement

6. contractile vacuole- a pump that continually pumps excess water from protozoans; helps them maintain homeostasis

7. pellicle- \_the term given to the cell membrane of certain protozoans

8. eyespot- a structure used in some photosynthetic protists that help them detect light

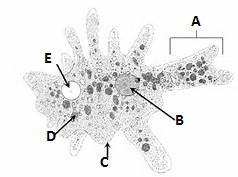
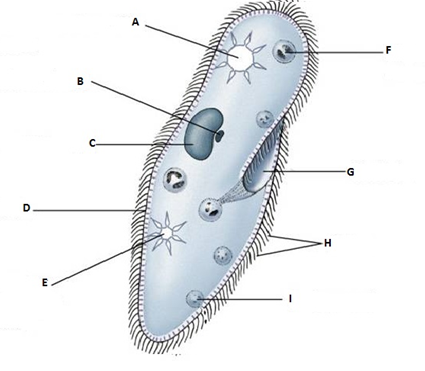
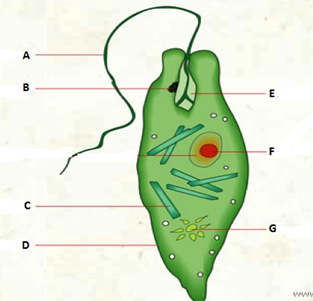
9. trichocysts- tiny projections present in some protozoans used for defense

10. gullet- another word for a mouth in certain protists

\*On a separate sheet of paper, concept map the main groups in Kingdom Protista. See separate page after Fungi below.

Examples: Label the vocabulary words above on the following organisms. Each word only applies to certain organisms.

*Amoeba sp. Paramecium sp. Euglena sp.*

A: Pseudopod A. Contractile Vacuole A. Flagella B: Nucleus C. Nucleus F. Nucleus C: Cell Membrane D. Cell Membrane/ Pellicle D. Cell Membrane D: Food Vacuole F. Food Vacuole G. Contractile Vacuole E. Contractile Vacuole E. Contractile Vacuole

Kingdom Fungi

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Prokaryotes or Eukaryotes?** | **Unicellular or Multicellular?** | **Autotroph or Heterotroph?** | **Cell Walls? If so, composed of?** | **Methods of Reproduction** | **Main Groups or Phyla** |
| Eukaryotes | Multicellular (except yeast is unicellular) | Heterotrophic Decomposers | Yes, cell walls composed of chitin | Sexual- reproduce by spores  Asexual- fragmentation | 1. Zygomycota  2. Ascomycota  3. Basidiomycota  4. Deuteromycota |

Important Vocabulary:

1. chitin- complex carbohydrate that makes up the cell walls of fungi

2. hyphae- tiny, thread-like filaments that are only one cell thick; may or may not contain cross walls; make up fungi

3. mycelium- mass of hyphae tangled underground

4. septa- a word that describes the cross walls inside the hyphae

5. spores- reproductive structures of fungi

6. lichen- \_mutualistic relationship between a photosynthetic organism (algae) and a fungus; pioneer species

7. mycorrhizae- mutualistic relationship between a plant and a fungus

8. alternation of generations- describes the reproductive cycle of a fungus and some plants; alternates between sexual and asexual parts of its life

Examples:

1. Basidiomycota (Club Fungi) mushrooms reproduce by basidiospores

2. Ascomycota (Sac Fungi) yeast, mildews reproduce by ascospores

3. Zygomycota (Molds) bread mold reproduce by zygospores

4. Deuteromycota (Imperfect) orange “mold” *Penicillium* reproduce asexually only



Cap

Gills

Basidiospores

Stalk or stipe

One Hyphae

Mycellium

Label the common mushroom parts to the left using the following words:

Mycelium

One hyphae

Cap

Gills

Stalk or stipe

Basidiospores

FUNGUS-LIKE PROTISTS

-heterotrophic decomposers

-Ex: slime molds and water molds

MICRO ALGAE

1. Dinoflagellates

2. Diatoms

3. Euglena

MACRO ALGAE

1. Green algae

2. Red algae

3. Brown Algae

PLANT-LIKE PROTISTS

-autotrophs

-cell walls of cellulose

SPOROZOA

-do not move

-Ex: *Trypanosoma* (causes African Sleeping Sickness)

ZOOFLAGELL-ATES

-move by flagella

-Ex: *Plasmodium* (causes malaria)

ANIMAL-LIKE PROTISTS

-also called protozoans

-classified based on how they move

-heterotrophs

SARCODINA

-move by pseudopods

-Ex: *Amoeba*

CILIOPHORA

-move by cilia

Ex: *Paramecium*

KINGDOM PROTISTA