



Note-taking Worksheet

Protists and Fungi

Section 1 Protists

- A. _____—eukaryotic one- or many-celled organism which lives in a moist or wet environment; some are plant-like and contain chlorophyll while others are animal-like and can move.
- Protists are difficult to _____; they are usually grouped based on characteristics shared with plants, animals, or fungi.
 - The _____ of protists is studied through fossils and genetic material.
- B. _____ protists are called **algae** and they all contain chlorophyll to make food.
- _____, found in fresh and salt water, make glasslike boxes which can form fossils.
 - _____ use flagella (singular **flagellum**), long, thin, whiplike structures to move in their saltwater environment.
 - _____ have characteristics of both plants and animals.
 - When _____ is present, they can make their own food; an eyespot helps them move toward light.
 - In the absence of light, they can eat _____ or other protists.
 - _____, also called seaweeds, are usually many-celled, can live at depths of 175 m, and contain chlorophyll and large amounts of red pigment.
 - _____ contain large amounts of chlorophyll and can be one-celled or many-celled; some scientists hypothesize that plants evolved from green algae.
 - A many-celled, saltwater form of _____ called kelp is an important source of food and shelter for aquatic organisms.
- C. Algae, source of food for ocean organisms, are called the grasses of the _____.
- Algae have an _____ impact.
 - Algae produce oxygen through _____.
 - A result of imbalances, an algae _____ can cause environmental problems.
 - Some people _____ algae; algae are used in many cosmetic and food products.
- D. One-celled animal protists called _____, are classified by to how they move.
- Ciliates—threadlike structures called _____ extend from their cell membranes
 - A *paramecium* has two _____; the micronucleus is involved in reproduction while the macronucleus controls other cell functions.
 - Ciliates usually eat _____.

Note-taking Worksheet (continued)

2. _____ move by whipping their long flagella.
- Many flagellates live in _____, but some are parasites.
 - Proterospongia* grow in _____ and have structures like sponges.
3. Some protozoans move and eat using, “false feet,” _____, temporary extensions of their cytoplasm.
- An _____ traps its food with its pseudopods.
 - _____ protozoans can push a pseudopod through a hole in the shell.
4. One group of protozoans has no way to _____ on its own.
- These protozoans are _____ in humans and other animals.
 - Their _____ life cycle may have them living a part of their life in one animal and another part in a different animal.
- E. Protozoans are important _____ sources for many animals.
- Shelled protozoans become a part of _____ layers; geologists can use them as an indicator species to help locate _____ reserves.
 - Some parasites can cause _____ in humans.
- F. Funguslike protists produce _____ and must consume food; many can move using pseudopods like the amoeba.
- _____ are often found on decaying vegetation in moist, cool, areas.
 - _____ molds live in wet places; downy mildews can weaken or kill plants.

Section 2 Fungi

- A. _____ can be food sources or ingredients; they can also grow on spoiling food or in damp places like a shower curtain.
- Scientists are not sure how fungi are _____ to other organisms; most fungi have _____ cells.
 - Threadlike tubes called _____ produce enzymes for digestion.
 - Most fungi are _____, feeding on dead or decaying material; some fungi are parasites, obtaining their food directly from living things.
 - Fungi grow anchored in _____ like plants, but do not make their own food; they grow best in warm, humid places.

Note-taking Worksheet (continued)

3. Fungi can _____ both sexually and asexually.
- In asexual reproduction, cell division produces _____.
 - In sexual reproduction, the hyphae of two _____
_____ fungi of the same species produce spores that differ genetically from both parents.
- B.** Fungi are classified into three groups based on the spore forming _____.
- _____ fungi produce spores in a club-shaped structure called a **basidium**.
 - _____ fungi produce spores in a small, saclike structure called an **ascus**; yeasts can also reproduce by _____.
 - A _____ fungus produces spores in a round case called a **sporangium**.
 - Some fungi, like penicillin, are called _____ because they have never been observed reproducing sexually or they only reproduce asexually.
- C.** _____ are organisms composed of a fungus and either a green alga or a cyanobacterium; they can appear crusty, leafy, or grow upright.
- Lichens can be an important _____ source for animals.
 - Lichens help rocks _____, or break down.
 - Since lichens are sensitive, they help scientists monitor _____ levels.
- D.** Some fungi form a hyphae network with plant roots called _____; this may have allowed plants to move from water to land about 500 _____ years ago.
- E.** Some fungi, such as _____ mushrooms, are food sources.
- Many fungi cause animal and plant _____, but they also produce _____, such as penicillin, which can fight diseases.
 - Fungi are important as _____, recycling organic matter.