Chapter 20   Protists   Name _____

Worksheet   Reproduction in Algae and Fungi
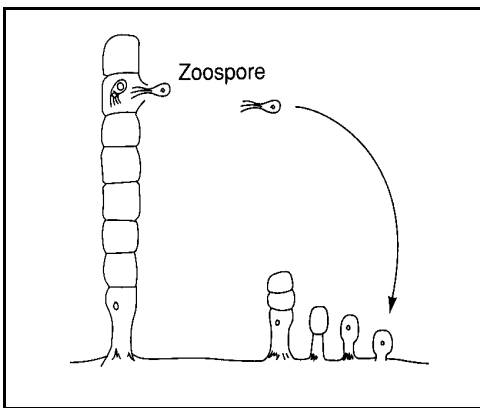
Background Information

Algae and fungi rely on both sexual and asexual means of reproduction. Unless these mechanisms are examined closely, their similarities and differences can be overlooked. In this activity you will compare the reproductive strategies of algae and fungi.
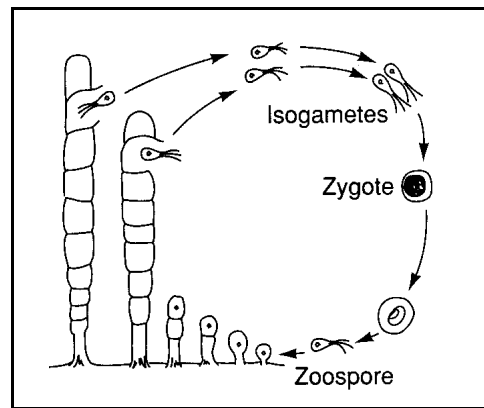
Procedure

Diagrams A, B, C, and D of Figure 1 show asexual and sexual reproduction in algae and fungi. Below each diagram indicate which type of reproduction is depicted.

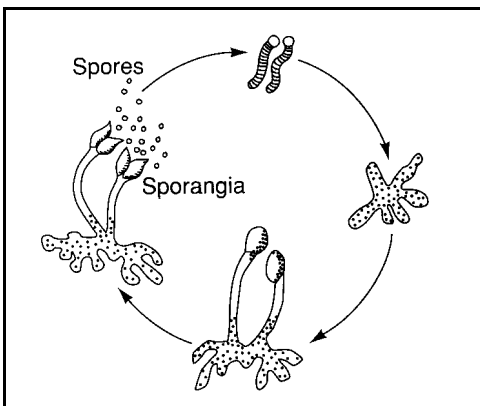**Figure 1**   **Reproduction in a Green Algae Called *Ulothrix***
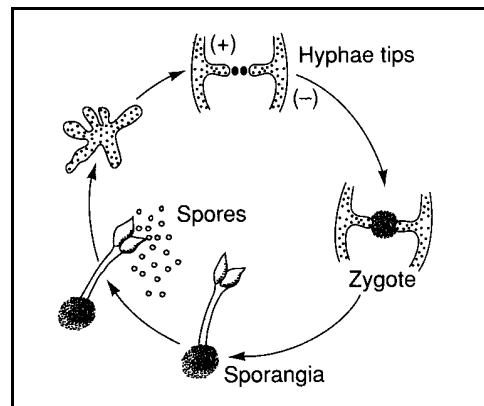

A. _____

B. _____

Reproduction in a Bread Mold Called *Rhizopus*

C. _____

D. _____

1. How does the zygote formation in algae differ from the zygote formation in fungi?

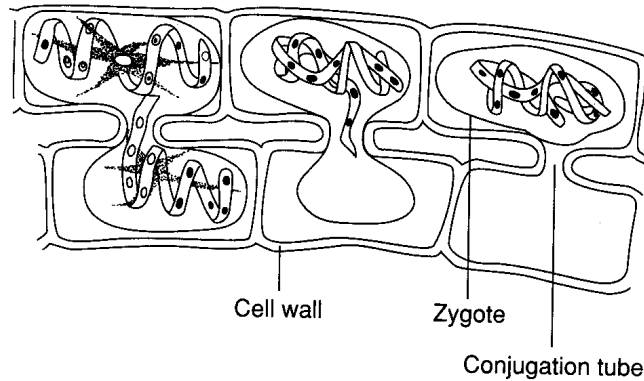2. What asexual structure in the alga corresponds to the spore in the fungus?

3. In the alga, sexual reproduction results in the development of the zoospore, which is also part of asexual reproduction. How does this compare with the same process in the fungus?

4. In which algal structure does meiosis occur?

   In which fungal structure?

Spirogyra is a filamentous green alga found in ponds, lakes, and streams. During sexual reproduction, two filaments come to lie side by side. Conjugation tubes grow to link cells in opposite filaments. Through the conjugation tubes, the cells of the "male" filament flow to fuse with the cells of the "female" filament. Each fusion results in a dark zygote in a chamber of the female filament. After a period of dormancy, the zygotes are released into the water. They then undergo meiosis and germinate to produce new haploid filaments.

Figure 2   **Sexual Reproduction in a Green Algae Called *Spirogyra***

Cell wall   Zygote

Conjugation tube

5. Compare the diagram of sexual reproduction of the alga *Spirogyra* in Figure 2 with the diagram of sexual reproduction of the bread mold in Figure 1. How are the processes the same?

How are they different?