

## Protist Review- Answer Key

1. How do moneran and protist cells differ?
  - Moneran cells are prokaryotic – no membrane bound organelles, no nucleus, they reproduce via binary fission, spore formation and conjugation, they are very small
  - Protist cells are eukaryotic – have membrane bound organelles and a defined nucleus, they can reproduce via 3 different life cycles
2. What three groups make up the kingdom Protista?
  - Algae
  - Protozoans
  - molds
3. What characteristics distinguish plantlike protists (algae) from animal-like protists (protozoans)?
  - Plant like protists may be autotrophic- capable of producing nutrients via photosynthesis, most are non-motile
  - Animal like protists are typically heterotrophic and motile
4. What are some similarities between plants and algae?
  - Photosynthesis
  - Presence of chloroplasts
5. Unlike the higher plants, plantlike protists do not have roots, stems, or leaves. Explain why they do not require these structures?
  - They live in moist or aquatic environments
  - These structures in plants conduct water and nutrients through the organism, this is not necessary for plant like protists
6. List the four types of green algae and their distinguishing characteristics. To which of these groups does *Ulva*, *Volvox*, *Spirogyra* and *Chlamydomonas* belong?
  - Unicellular- *Chlamydomonas*, single celled, haplonitic life cycle
  - Multicellular- *Ulva*, alternation of generations, 2 cells thick, 1 m long
  - Filamentous- *Spirogyra*, end to end chain of cells, asexual and sexual reproduction
  - Colonial- *Volvox*, thousands of flagellated cells arranged in a single layer, sexual reproduction and asexual reproduction
7. How are Dinoflagellates and Euglenoids similar? How are they different?
  - Both have flagella (Dino have 2 Eug has 1)
  - Both are classified as "algae"
  - Both can have chloroplasts