Protista Guided Notes

Objectives:

1. I should be able to explain the origin of eukaryotic organelles
2. I should be able assign protists into one of two groups based on mode of nutrient
3. I should be list the 5 supergroups of Protista and know exemplars within each
4. I should be able to distinguish the general characteristics of all 5 supergroups
5. I should be to draw the life cycles of *Ulva* aka Sea lettuce
6. I should be able to identify the anatomical structures of both Euglena and Amoeba

General Characteristics:

The Protista Kingdom has been a dumping ground for many simple (yet complex) life forms that are difficult to place. Many are too simplistic to be called plants or animals as they lack many of the characteristics associated within the Kingdom Plantae and Animalia such as cell walls, xylem, leaves, lysosomes, etc.

1. Protista can be a combination of **single celled, colonies of cells, or multi-cellular**
2. Protista can be grouped by how the acquire nutrients

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-protist that undergo photosynthesis

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-protists that must obtain organic compounds through their environment

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-protist that are able to be both autotrophic and heterotrophic

1. Protist reproduce \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with majority reproducing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Sexual reproduction in protist generally occur when environmental conditions are bad and form spores also known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Many protist cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in humans, but man others have significant \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_roles.
4. Aquatic photoautotrophic protist produces about \_\_\_\_\_\_\_\_\_ percent of the world’s oxygen supply. They are a part of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that also serve as one of the most important players in the food chain.
5. Protist were once classified as single kingdom, but recent genetic evidence suggest that protist are not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Meaning that they do not all belong to the same evolutionary lineage. In fact, protist, plants, fungi, and animals are currently classified into \_\_\_\_\_\_\_\_\_ supergroups.

**Supergroups**

1. **Archaeplastida**
2. Archaeplastids include \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ algae.
3. Green algae contain both chlorophyll \_\_\_\_\_\_ and \_\_\_\_\_\_ and as such are not always green in color.
4. Red algae have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Draw the Alterations of Generation for *Ulva* (Sea lettuce)**

1. **Supergroup- SAR**
2. SAR is comprised of three subgroups: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Stramenopiles include: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Red tides are harmful algae blooms from the dinoflagellate *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*that secretes a neurotoxin.

**Sketch the Anatomy of *Laminaria.* Include the holdfast, stipe, gas bladder, and blade.**