

GENERALIZED PLANKTON CLASSIFICATION

PHYTOPLANKTON:

- I. **DOMAIN BACTERIA & ARCHEA: Single celled organisms without membrane-bounded nucleus, some in groups or chains**
 - A. Cyanobacteria: Blue-green algae, all autotrophic
- II. **DOMAIN EUKARYA: includes KINGDOM PROTISTA All Holoplankton, microscopic, mostly single celled organisms (Autotrophs / algae)**
 - A. **Phylum Chrysophyta:** Golden Brown and Yellow Algae, All Autotrophic
 - 1. **Diatoms** - important siliceous sediment contributors, produce up to 60% of O₂ on the planet
 - 2. **Coccolithophorids** (Coccoliths) - important Calcareous sediment producers
 - B. **Phylum Dinophyta:** fire algae, often bioluminescent, single cells with flagella
 - 1. **Dinoflagellates** - not important sediment contributors ~50% are autotrophic, and ~50% heterotrophic, some are both, usually considered phytoplankton

ZOOPLANKTON:

- II. **DOMAIN EUKARYA / includes KINGDOM PROTISTA: All Holoplankton, microscopic, mostly single celled organisms (heterotrophs / protozoa)**
 - A. **Phylum Sarcodina** - single cell organisms
 - 1. **Foraminifera** (Forams) - important calcareous sediment producers
 - 2. **Radiolaria** (Rads) - important siliceous sediment producers
 - III. **DOMAIN EUKARYA / KINGDOM ANIMALIA:**
 - A. **Phylum Arthropoda** - paired, jointed appendages
 - 1. Class Crustacea (Crustaceans) Holoplankton Members:
 - a. **Copepods** Both are herbivorous, not important sediment producers
 - b. **Euphausiids** (Krill)
- MEROPLANKTON** - Temporary Plankton from most other Phylums
(i.e. fish, clams, snails, crabs, barnacles, worms, lobsters, starfish, sea urchins)