GEOLOGY OF THE WORLD’S OCEANS

Survey of Marine Life
Domain Bacteria
(Monera)

• Procaryotic
• Unicellular
• Photosynthetic or Heterotrophic
• Planktonic or benthic

Base of many marine food chains
Kingdom Protista

- Eucaryotic
- Unicellular (tiny)
- Planktonic or Benthic
- Photosynthetic
  - Diatoms
  - Coccoliths
  - Dinoflagellates
- Heterotrophic
  - Forams
  - Radiolarians
**Diatoms**

- Siliceous
- Photosynthetic
- Planktonic or Benthic
- Base of many marine food chains
- Main component of many deep-sea siliceous oozes
Coccoliths

- Calcareous
- Photosynthetic
- Planktonic

Form chalks – Kansas and England, France
Dinoflagellates

- Organic Walled
- Photosynthetic
- Planktonic or Endosymbiotic

Responsible for red tide and phosphorescence. Some are symbiotic with corals.

Life saving tip #7 avoid seafood during a red tide
Forams

- Calcareous
- Heterotrophic
- Planktonic and Benthic
- Amoeba-like

Main component of many deep-sea calcareous oozes
Radiolaria

- Siliceous
- Planktonic
- Heterotrophic
- Amoeba-like
Kingdom Plantae (Macrophytes)

- Eucaryotic
- Multicellular
- Photosynthetic
- Mainly benthic
- Algae and marine angiosperms (flowering plants)

Kelp
Phaeophyta (Brown Algae)
Kelp
Phaeophyta
(Brown Algae)
Chlorophyta (Green Algae)

Rapidly-growing green alga that indicates eutrophication

*Halimeda*
Chlorophyta
Calcereous (Green Algae)
Coralline Algae
Rhodophyta
(Red Algae)

Secrete hard, calcareous skeletons
Mangrove
(Marine Angiosperm)

Important shoreline protector – S Florida and elsewhere
Thalassia
“Turtle Grass”
(Marine Angiosperm)

Important “nursery”
Phylum Porifera
“Parazoa”

- Simple – no true tissues
- Filter feeders
Phylum Cnidaria (Coelenterata)

- Very simple - Two tissue layers, incomplete gut
- Stinging cells
- Suspension feeders
- Corals, sea fans, anemones, jellyfish, hydroids
Cnidaria
Scyphozoa - Jellyfish
Cnidaria
Anthozoa -
Coral, Soft Coral, Anemones, Octocorals (Sea Fans)
Cnidaria
Anthozoa  -  Anemones
Cnidaria
Anthozoa - Octocorals (Sea Fans)
Cnidaria
Hydrozoa -

Hydroids, Fire Coral, Portuguese Man-o-War

Stylaster

Hydroid
Portuguese Man-of-War ("Blue Bottle")

Life saving tip #9, do not let the tentacles wrap around your neck!