

Algae (Chapter 20)

PART 1: CHARACTERISTICS OF ALGAE

Key Characteristics

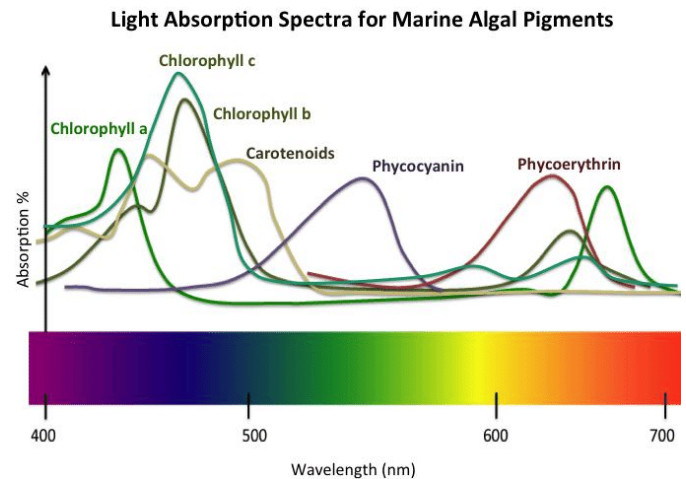
- Photosynthetic, have _____ (and sometimes other photosynthetic pigments)
- Eukaryotic
- _____ or _____
- Aquatic
- Classification debated; no clear definition on what 'algae' are

Adaptations for Aquatic Living

- Thin leaf-like structures; exchange gases and nutrients directly with surroundings
- No _____ to transport water
- No _____ (water provides sufficient support)

Chlorophyll and Accessory Pigments

- All algae have chlorophyll *a*, which uses red and violet light (scarce underwater)
- Algae often use different forms of chlorophyll (*b*, *c*, *d*) and/or _____
_____ to use other wavelengths of light



- 1) Why do leaves appear green to our eyes?
- 2) The leaves of trees have chlorophyll and carotenoids. In the fall, green leaves break down and recycle their chlorophyll, leaving the carotenoids behind. Why does this cause the leaves to change colour to yellow, orange, and red?
- 3) Water filters out long-wave visible light like red, orange, and yellow. Some algae live on the sea floor.
 - a) What pigments are these algae likely to utilize? _____
 - b) What colour are these algae likely to be? _____

PART 2: GROUPS OF ALGAE

Chlorophyta (Green Algae)

- Have _____
- Colour: _____
- Store food as starch
- Habitat: _____
- Solitary or colonial

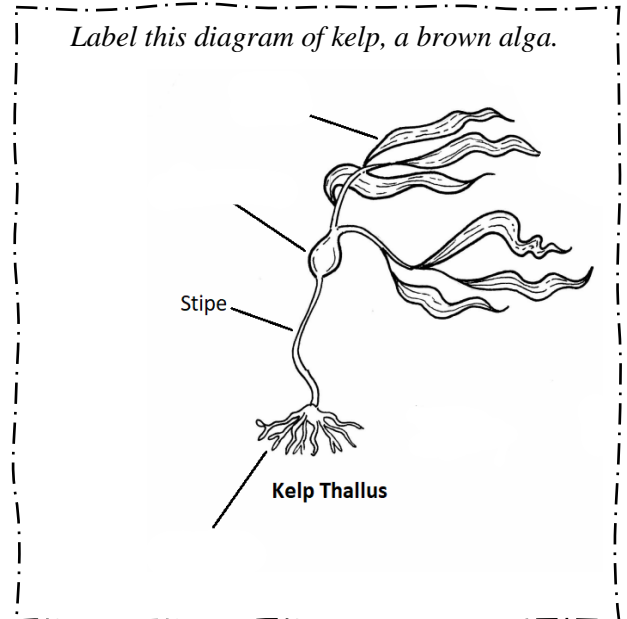
Some green algae are colonial. What is a **colony**? What are three examples of colonial green algae?

Phaeophyta (Brown Algae)

- “Seaweeds”
- Chlorophylls ____ and ____, accessory pigment _____
- Colour: _____
- Store food as starch and oil
- Habitat: _____, arctic areas
- Can grow to very large in size (_____), with complex structures

Brown Algae: Fucus Anatomy

- Blade: used for _____
- Gas bladder: filled with gas for _____
- Holdfast: _____ algae down to rock or other substrate



Rhodophyta (Red Algae)

- Chlorophyll _____, accessory pigment _____ (absorbs _____ light)
- Colours: _____
- Live at greater depths than other algae (up to _____)
- Store food as starch
- E.g. *Porphyra* (_____)

PART 3: WHERE ALGAE FIT INTO THE WORLD

4) Why are algae important for the world and other living things overall?

5) Why are algae important to humans?