

Blue-Green Algae (Cyanobacteria)

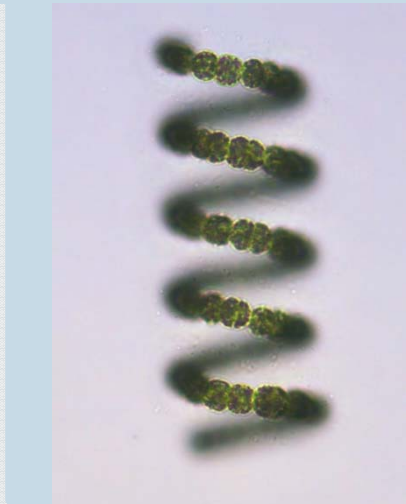
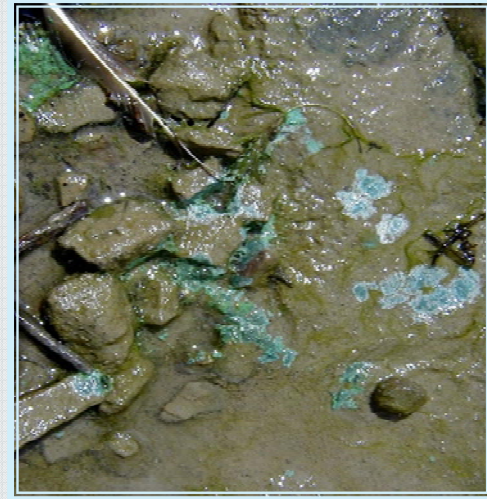
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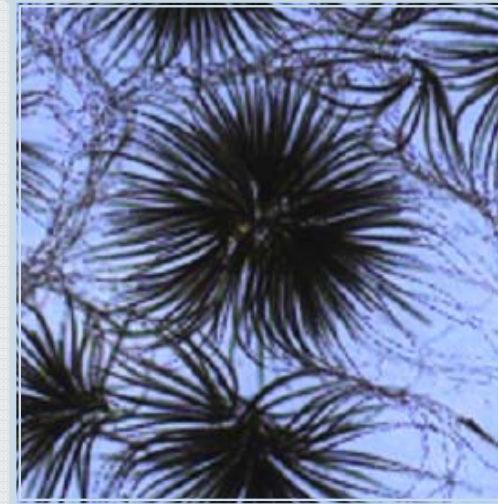
Blue-Green Algae: "*Pond Scum*"



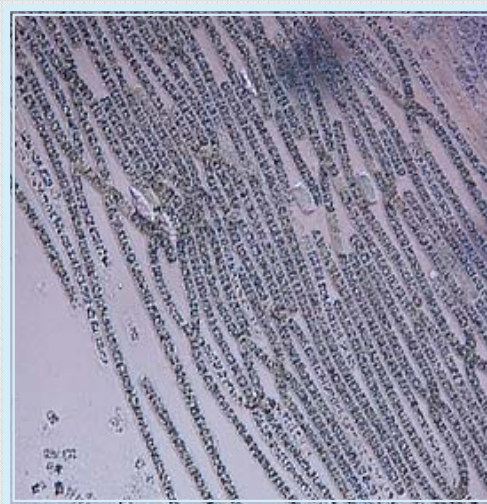
Blue-Green Algae



Dolichospermum crassum



Gloeotrichia sp.



Aphanizomenon sp.

Algae: The World's Most Important Plants



Images: Sarah Rushforth, Mindy Morales, and Kalina Monoylov

	Prokaryotes	Eukaryotes
Development	400 million years ago	150 million years ago
Cell structure	No nucleus, chloroplasts or mitochondria (Bacteria)	Nucleus, chloroplast, range of developed cell structures
Cell wall	Proteins and carbohydrates	Cellulose, silica
Movement	Gliding, mucilage and pores in cell wall (few are motile)	flagella
Specialized cells	Heterocytes Akinetes	Varies by class and genera
Algae type	Cyanobacteria	All other classifications

Blue-Green Algae: The “A” that shouldn’t be in “Harmful Algal Bloom”

Prokaryotes

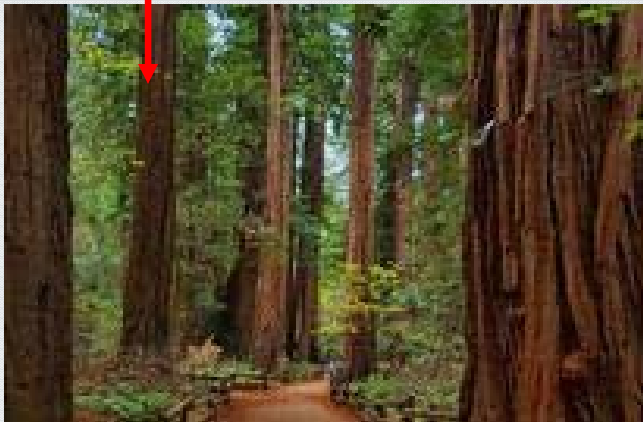
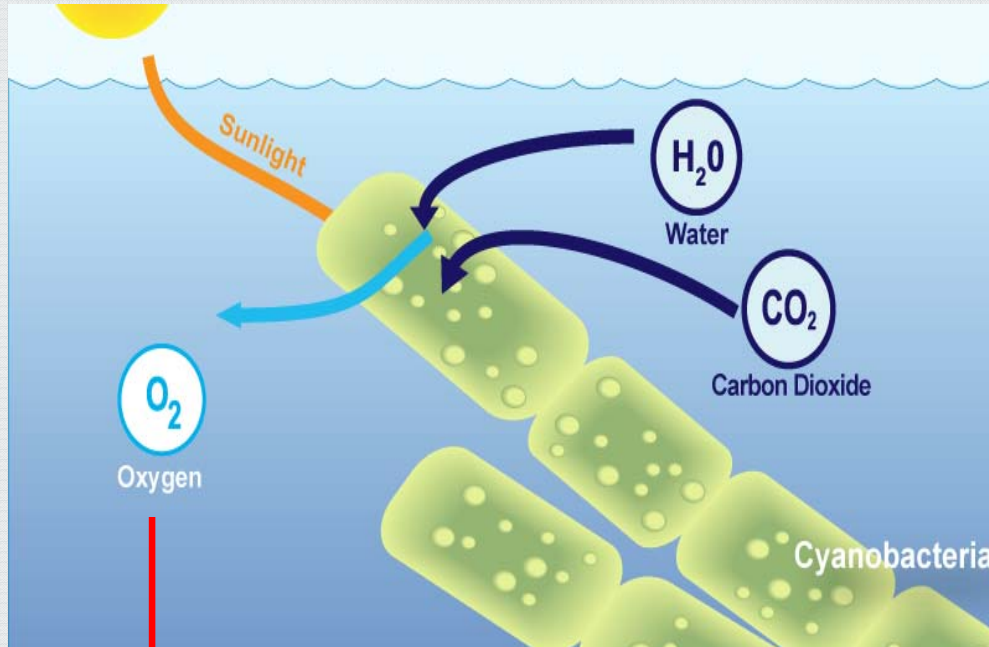
- Only organisms within all types of algae that are prokaryotes
- *Bacteria*
- Conduct photosynthesis
 - Primary producers
 - Produce oxygen



Snowella species

Blue-Green Algae = Cyanobacteria
Not an “A” at All

Cyanobacteria and *OXYGEN*



- Cyanobacteria release oxygen through photosynthesis
- Only producers of oxygen over several hundreds million years in the biosphere.
- No life on land prior to release of oxygen into atmosphere by cyanobacteria