

Algae Definition For Class 8

Algal bloom is often recognized by the discoloration in the water from the algae's pigments. The term algae encompasses many types of aquatic photosynthetic organisms, both macroscopic multicellular organisms like seaweed and microscopic unicellular organisms like cyanobacteria. Algal bloom commonly refers to the rapid growth of microscopic unicellular algae, not macroscopic algae. An example of a macroscopic algal bloom is a kelp forest. c96ed31043

Chlorophycean algae are eukaryotic organisms composed of cells which occur in a variety of forms. Depending on the species, Chlorophyceae can grow unicellular (e.g. Chlamydomonas), colonial (e.g. Volvox), coenocytic (e.g. Characiosiphon), or filamentous (e.g. Chaetophora). In their

vegetative state, some members have flagella while others produce them only in reproductive stages; still others never produce flagella. c96ed31043 Primary production in the ocean can be contrasted with primary production on land. Globally the ocean and the land each produce about... c96ed31043 In fungi, a sporangium is produced at the end of a sporangiophore that sheds spores. A fungus that forms zygospores is called a zygomycete, indicating that the class is characterized by this evolutionary development. c96ed31043 Consequences range from benign effects, such as feeding of higher trophic levels, to more harmful effects like blocking sunlight from reaching other organisms, causing a depletion of oxygen levels in the water, and, depending on the organism, releasing toxins into the water. Yet, algae also play a crucial role... c96ed31043

Zygosporangium to Fungi with CD. Zygospores are created by the nuclear fusion of haploid cells. In many eukaryotic algae, including many species of the Chlorophyta, zygospores are

formed by the fusion of unicellular gametes of different mating types. 52. ISBN 978-1-107-00676-8. In fungi, zygospores are formed in zygosporangia after the fusion of specialized budding structures, from mycelia of the same (in homothallic fungi) or different mating types (in heterothallic fungi), and may be chlamydospores. p. Definition of zygospore A more detailed description of a zygospore v t e A zygospore is a diploid reproductive stage in the life cycle of many fungi and protists. Cambridge University Press c96ed31043

Red algae form a distinct group characterized by eukaryotic cells without flagella and centrioles, chloroplasts without external endoplasmic reticulum or unstacked (stroma) thylakoids, and use phycobiliproteins as accessory pigments, which give them their red color. Despite their name, red algae can vary in color from bright green, soft pink, resembling brown algae, to shades of red and purple, and may be almost black at greater depths and are only called red algae due...

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Chlorophyceae They are a large assemblage of mostly freshwater and terrestrial organisms; many members are important primary producers in the ecosystems they inhabit. Their body plans are diverse and range from single flagellated or non-flagellated cells to colonies or filaments of cells. The class Chlorophyceae has been distinguished on the basis of ultrastructural morphology; molecular traits are also being used to classify taxa within the class. They are a large assemblage The Chlorophyceae, also known as chlorophycean algae, are one of the classes of green algae, within the phylum Chlorophyta. The Chlorophyceae, also known as chlorophycean algae, are one of the classes of green algae, within the phylum Chlorophyta c96ed31043

Glaucophyte The stated number of species in the group varies from about 14 to 26. Together with the much larger sister taxa

Rhodophyta (red algae) and Viridiplantae/Chloroplastida (green algae and land plants), they form the primary algae clade Archaeplastida. as glaucocystophytes or glaucocystids, are a small group of unicellular algae found in freshwater and moist terrestrial environments, less common today The glaucophytes, also known as glaucocystophytes or glaucocystids, are a small group of unicellular algae found in freshwater and moist terrestrial environments, less common today than they were during the Proterozoic c96ed31043

Marine primary production Almost all life on Earth relies directly or indirectly on primary production. in the same Kingdom as algae. It principally occurs through the process of photosynthesis, which uses light as its source of energy, but it also occurs through chemosynthesis, which uses the oxidation or reduction of inorganic chemical compounds as its source of energy. Biological pigments are Marine primary production is the chemical synthesis in the ocean of organic compounds from

atmospheric or dissolved carbon dioxide. The organisms responsible for primary production are called primary producers or autotrophs. Most authorities exclude all prokaryotes, and hence cyanobacteria from the definition of algae c96ed31043

Cyanobacteria are the first organisms known to have produced oxygen. Their photopigments can absorb the red- and blue-spectrum frequencies of sunlight (thus reflecting a greenish color) to split water molecules into hydrogen ions and oxygen. The hydrogen ions are used to react with carbon dioxide to produce complex organic compounds such as carbohydrates (a process known as carbon fixation), and the oxygen is released as a byproduct. By continuously producing and releasing oxygen over billions of years, cyanobacteria are thought to have converted the early Earth's anoxic, weakly reducing prebiotic atmosphere, into an oxidizing one... c96ed31043

Trebouxiophyceae A number of taxa have also lost the ability to photosynthesize, and have evolved to become parasitic; examples include Prototheca and Helicosporidium. Members of this class are single-celled, colonial, or multicellular The Trebouxiophyceae, also known as trebouxiophytes, are a class of green algae, in the division Chlorophyta. Members of this class are single-celled, colonial, or multicellular and are found in freshwater, terrestrial or marine habitats worldwide. also known as trebouxiophytes, are a class of green algae, in the division Chlorophyta. Many taxa in the Trebouxiophyceae form symbiotic relationships with other organisms; in particular, the majority of phycobionts within lichens are trebouxiophytes

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Green algae : green alga) are a group of chlorophyll-containing autotrophic algae consisting of the phylum Prasinodermophyta and its unnamed sister group that contains the Chlorophyta and Charophyta/Streptophyta. The green algae include unicellular

and colonial flagellates, most with two flagella per cell, as well as various colonial, coccoid (spherical), and filamentous forms, and macroscopic, multicellular seaweeds. Streptophytes. The land plants (Embryophyta) have emerged deep within the charophytes as a sister of the Zygnematophyceae. There are about 22,000 species of green algae, many of which live most of their lives as single cells, while other species form coenobia (colonies), long filaments, or highly differentiated macroscopic seaweeds. Since the realization that the Embryophyta emerged within the green algae, some authors are starting to include them. The algae of this paraphyletic group “Charophyta” were previously included in Chlorophyta, so green algae and Chlorophyta in this definition were synonyms. The green algae (sing. The completed clade that includes both green algae and embryophytes is monophyletic and is referred to as the clade Viridiplantae and as the kingdom Plantae.

Trebouxiophyceae was originally defined by ultrastructural characteristics, but is now generally circumscribed based on phylogenetics, particularly based on the 18S rDNA locus. As of 2024, Trebouxiophyceae contains 211 genera and about 925 species. A few other organisms rely on green algae to conduct photosynthesis for them. The chloroplasts in dinoflagellates of the genus *Lepidodinium*, euglenids and chlorarachniophytes... Members of the Trebouxiophyceae are microscopic or macroscopic organisms which exist in a variety of forms: non-flagellate coccoid or elliptical single cells, unbranched filaments, blades, or colonies of cells. Although most species are photosynthetic with chloroplasts, a few genera (*Helicosporidium* and *Prototheca*) lack them. Chloroplasts are diverse in morphology and... Unlike red and green algae, glaucophytes reproduce exclusively through asexual means.. They undergo open mitosis without centrioles, a trait shared with other basal eukaryotes. Reproductive modes include binary fission,

zoospore formation, and autosporation. For example, *Cyanophora paradoxa* divides longitudinally, producing two daughter cells, each inheriting a single cyanelle. Species of *Glaucocystis* reproduce via non-motile autospores. To date, there is no evidence of sexual reproduction... c96ed31043 Algal blooms are the result of a nutrient, like nitrogen or phosphorus from various sources (for example fertilizer runoff or other forms of nutrient pollution), entering the aquatic system and causing excessive growth of algae. An algal bloom affects the whole ecosystem. c96ed31043 A zygospore remains dormant while it waits for environmental cues, such as light, moisture, heat, or chemicals secreted by plants. When the environment is favorable, the zygospore germinates, meiosis occurs, and haploid vegetative cells are released. c96ed31043

Cyanobacteria classified as plants constituting the class Schizomycetes, which along with the Schizophyceae (blue-green algae/Cyanobacteria) formed the phylum Schizophyta

Cyanobacteria (sy-AN-oh-bak-TEER-ee-ə) are a group of autotrophic gram-negative bacteria of the phylum Cyanobacteriota that can obtain biological energy via oxygenic photosynthesis. They are probably the most numerous taxon to have ever existed on Earth. The name "cyanobacteria" (from Ancient Greek κύανος (kúanos) 'blue') refers to their bluish green (cyan) color, which forms the basis of cyanobacteria's informal common name, blue-green algae. Cyanobacteria originated in a freshwater or terrestrial environment, and first appeared in the middle Archean eon c96ed31043

== Description == c96ed31043

Algae Freshwater algae include Charophyta such as the filamentous Spirogyra and the grasslike stoneworts. : alga) are any of a large and diverse group of photosynthetic organisms. Such organisms range from microscopic unicellular microalgae (including cyanobacteria and phytoplankton) to seaweeds,

multicellular macroalgae which may grow up to 50 metres (160 ft) in length. of Nomenclature for algae, fungi, and plants, although a few authors exclude them from the definition of algae and reserve the term for eukaryotes only Algae (AL-jee, UK also AL-ghee; sing. Most algae are plankton carried passively by water, although some macroalgae have holdfasts for anchorage. Most algae are aquatic (especially marine), and some form cohesive colonies. It excludes the land plants (embryophytes) c96ed31043

Algae are polyphyletic as they have multiple evolutionary origins. Although algae with two-membraned chloroplasts seem to form a paraphyletic group within the clade Archaeplastida, other algae with chloroplasts that have three or more membranes evolved from protists that acquired photosynthesis after engulfing archaeplastids. Chlorophytes, rhodophytes (red algae) and glaucophytes (grey algae) have primary chloroplasts directly derived from endosymbiont cyanobacteria, while

diatoms, cryptomonads, euglenoids and phaeophyceae (brown algae) have secondary chloroplasts... c96ed31043 Most marine primary production is generated by a diverse collection of marine microorganisms called algae and cyanobacteria. Together these form the principal primary producers at the base of the ocean food chain and produce half of the world's oxygen. Marine primary producers underpin almost all marine animal life by generating nearly all of the oxygen and food marine animals need to exist. Some marine primary producers are also ecosystem engineers which change the environment and provide habitats for other marine life. c96ed31043 == Morphology == c96ed31043

Red algae 793) are in the class Florideophyceae, and mostly consist of multicellular marine algae, including many notable seaweeds. Red algae are abundant in marine Red algae, or Rhodophyta (, ; from Ancient Greek ῥόδον (rhódon) 'rose' and φυτόν (phutón) 'plant'), make up one of the oldest and largest

phyla of eukaryotic algae, containing over 7,000 recognized species within over 900 genera amidst ongoing taxonomic revisions. This may be due to an evolutionary bottleneck in which the last common ancestor lost about 25% of its core genes and much of its evolutionary plasticity. Approximately 5% of red algae species occur in freshwater environments, with greater concentrations in warmer areas. Red algae are abundant in marine habitats. The majority of species (6,793) are in the class Florideophyceae, and mostly consist of multicellular marine algae, including many notable seaweeds

The glaucophytes are of interest to biologists studying the evolution of chloroplasts as they may be similar to the ancestral algal type that led to the red algae and green plants, i.e. glaucophytes may be basal archaeplastids. c96ed31043 ==
Reproduction == c96ed31043

Algal bloom or relative concentration of the algae compared to the rest of the microbial community. It may be a benign or harmful algal bloom. For example, definitions of blooms have included: concentration An algal bloom or algae bloom is a rapid increase or accumulation in the population of algae in fresh water or marine water systems c96ed31043

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