

LICHENS

Lichens are made of a fungi that is living symbiotically with an algae, and/or a cyanobacteria ("blue-green algae")
 In other words, a lichen can be either two or three organisms living together in mutualism. (Lichens living on trees is commensalism.)

MICROSCOPIC CROSS SECTION:

Tiny pieces can tear off, allowing asexual reprod.

CLOSE-UP:

Hyphae penetrate the cell wall but not the plasma membrane. The "holes" allow the sugars from photosynthesis to leak out.

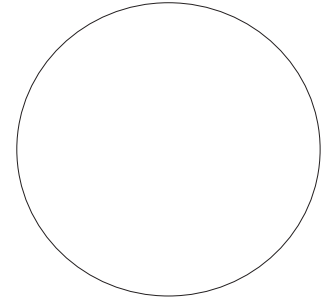
Upper cortex (hyphae)

Photobiont layer
 (green algae, maybe some cyanobacteria)

Medulla (hyphae)

Lower cortex (hyphae)

Rhizines (used ONLY for attachment, not absorption)



NOTE: The fungus is also capable of producing spores for sexual reproduction

The fungus does this: _____

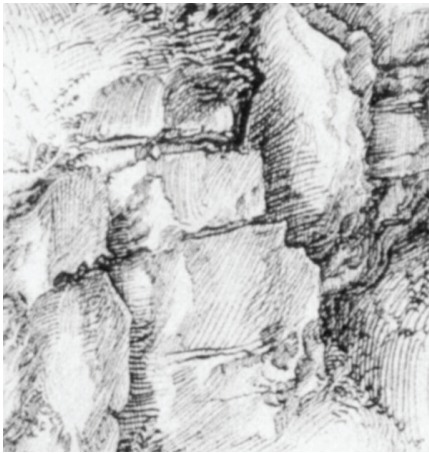
The algae does this: _____

Cyanobacteria can also provide _____ but less is known about other contributions.

Lichen morphology (morphology = description of form/shape)

Crustose

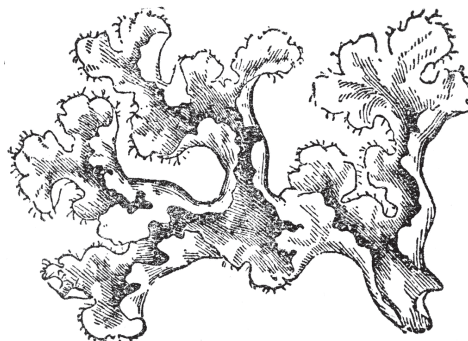
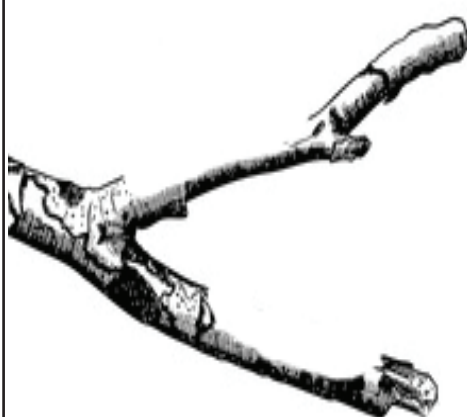
Forms a crust on surfaces



One variety of crustose is "sunburst."

Foliose

Forms leaf-like shapes (folio= leaf)



Fruticose

Forms bushy/stringy shapes (frutic= bush)



Lichens can survive very harsh conditions. They simply go dormant until conditions improve.