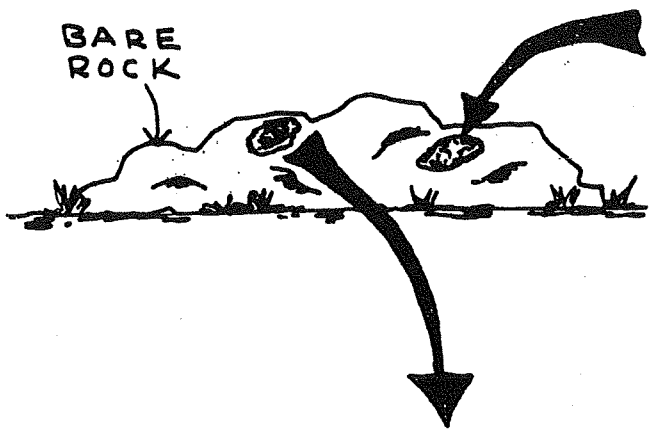
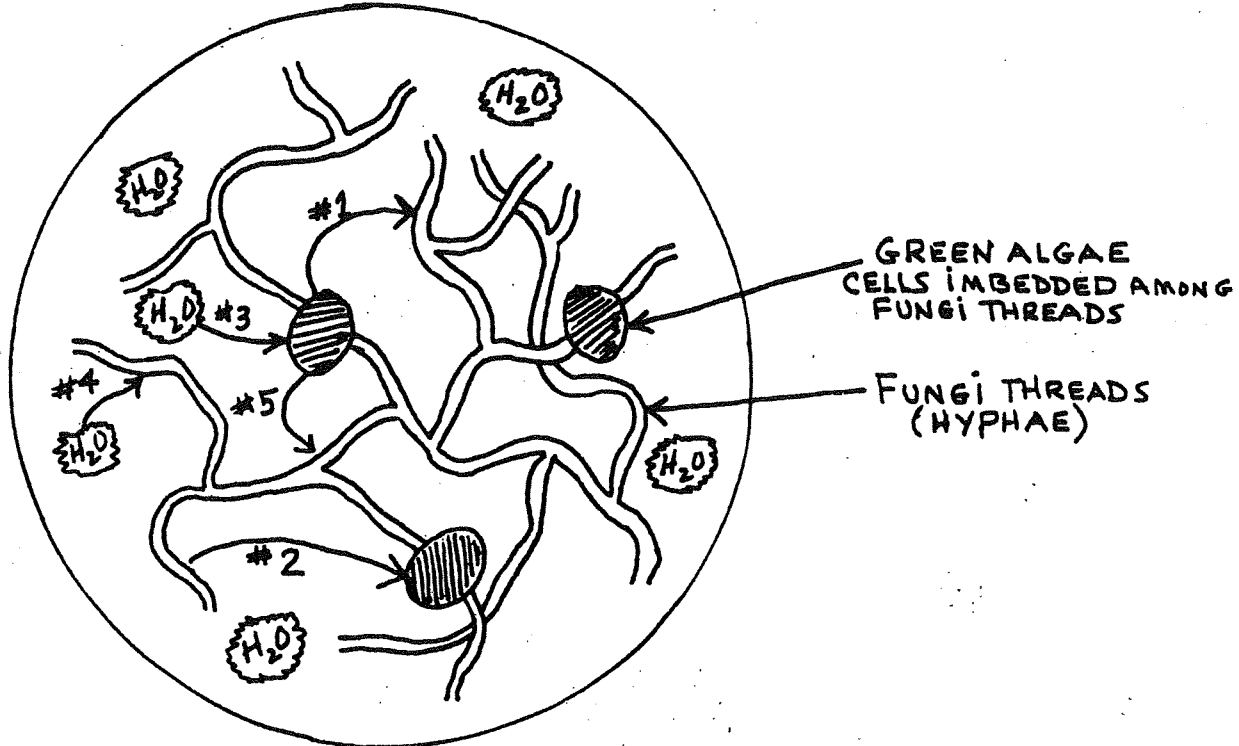


NATURAL HISTORY OF LICHENS



LICHEN COLONY - COMPOSED OF BOTH _____ + _____, FORMING AN INTERDEPENDENT RELATIONSHIP CALLED _____. (ALSO KNOWN AS MUTUALISM, WHERE BOTH ORGANISMS BENEFIT, BUT NEITHER IS HARMED.)

WATER - H_2O
 OXYGEN - O_2
 CARBON DIOXIDE - CO_2

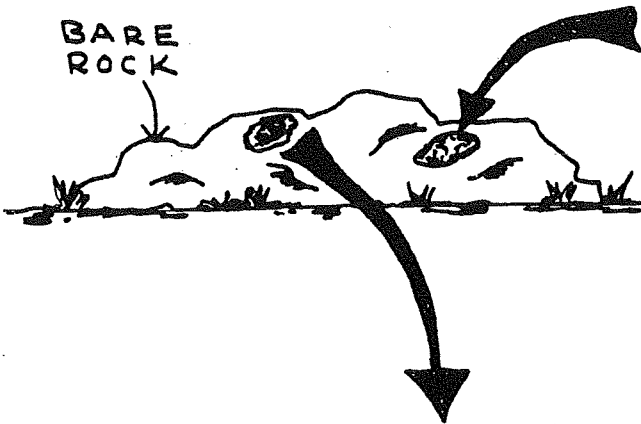


- #1. ALGAE CELLS RELEASE _____ DURING PHOTOSYNTHESIS, AND THE FUNGI USE IT DURING CELL RESPIRATION.
- #2. THE FUNGI RELEASE _____ DURING CELL RESPIRATION, AND THE ALGAE USE IT DURING PHOTOSYNTHESIS.
- #3. BESIDES CARBON DIOXIDE, ALGAE USE _____ FOR PHOTOSYNTHESIS, AND FROM THE TWO PRODUCE _____ ENERGY FOOD. THE FUNGI ALSO ACT LIKE A "SPONGE" TO HELP CONTAIN THE _____ WITHIN THE LICHEN COLONY.
- #4. FUNGI ABSORB _____ FOR LIFE PROCESSES IN THEIR CELLS.
- #5. DEAD ALGAE CELLS ARE _____ BY THE FUNGI, IN ORDER TO OBTAIN ENERGY FOR REPRODUCTION AND GROWTH.

QUESTION?? WHY ARE LICHENS ABLE TO ESTABLISH THEMSELVES ON BARE ROCK SURFACES WITHOUT SOIL TO ROOT THEM, AND FROM WHICH TO OBTAIN NUTRIENTS FOR SURVIVAL? (ANSWER ON BACK)

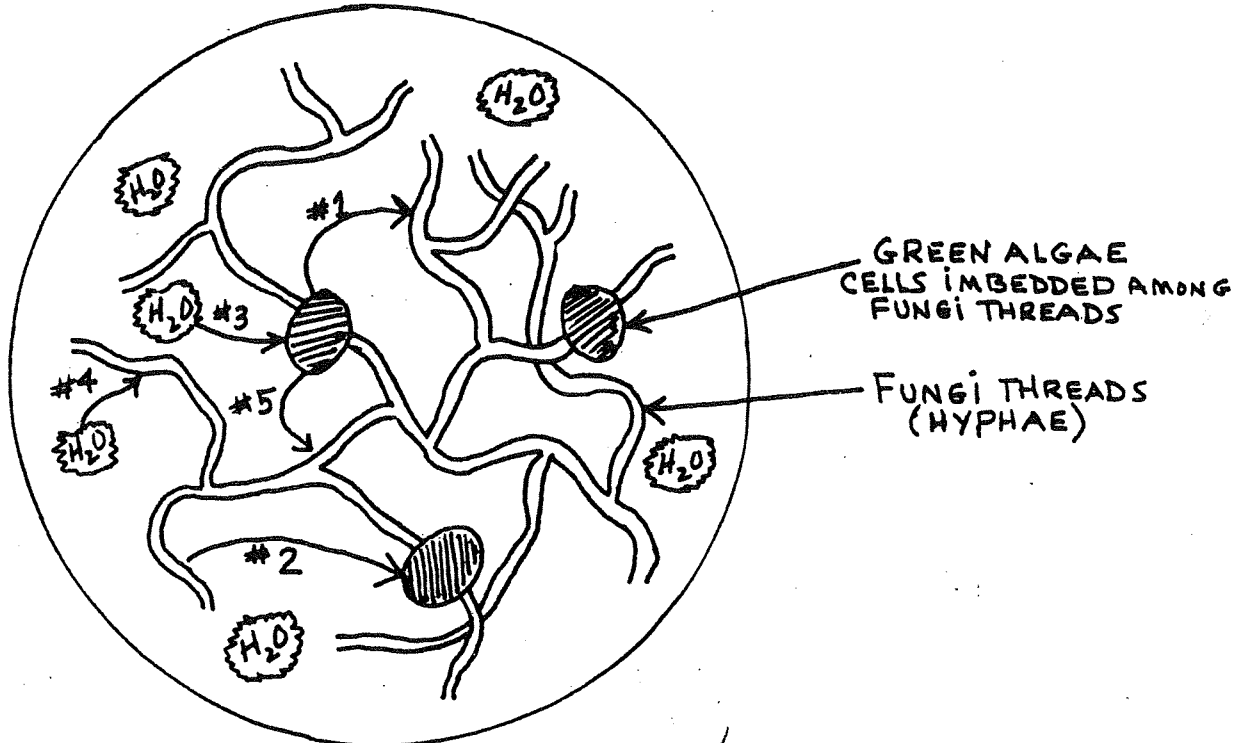
NATURAL HISTORY OF LICHENS

(KEY)



LICHEN COLONY - COMPOSED OF BOTH ALGAE + FUNGI, FORMING AN INTERDEPENDENT RELATIONSHIP CALLED Symbiosis. (ALSO KNOWN AS MUTUALISM, WHERE BOTH ORGANISMS BENEFIT, BUT NEITHER IS HARMED.)

WATER - H_2O
 OXYGEN - O_2
 CARBON DIOXIDE - CO_2



- #1. ALGAE CELLS RELEASE OXYGEN DURING PHOTOSYNTHESIS, AND THE FUNGI USE IT DURING CELL RESPIRATION.
- #2. THE FUNGI RELEASE CARBON DIOXIDE DURING CELL RESPIRATION, AND THE ALGAE USE IT DURING PHOTOSYNTHESIS.
- #3. BESIDES CARBON DIOXIDE, ALGAE USE WATER FOR PHOTOSYNTHESIS, AND FROM THE TWO PRODUCE GLUCOSE ENERGY FOOD. THE FUNGI ALSO ACT LIKE A "SPONGE" TO HELP CONTAIN THE WATER WITHIN THE LICHEN COLONY.
- #4. FUNGI ABSORB WATER FOR LIFE PROCESSES IN THEIR CELLS.
- #5. DEAD ALGAE CELLS ARE DECOMPOSED/CONSUMED BY THE FUNGI, IN ORDER TO OBTAIN ENERGY FOR REPRODUCTION AND GROWTH.

QUESTION?? WHY ARE LICHENS ABLE TO ESTABLISH THEMSELVES ON BARE ROCK SURFACES WITHOUT SOIL TO ROOT THEM, AND FROM WHICH TO OBTAIN NUTRIENTS FOR SURVIVAL? (ANSWER ON BACK)

Note:
 Consumers are
 not necessary
 in ecosystems

Algae + Fungi provide each other with their essential needs (O_2 , CO_2 , H_2O , FOOD ($C_6H_{12}O_6$)). "A Self-contained mini-ecosystem with Producer (Algae) & Decomposer (Fungi)"