

1. Describe the symbiotic relationship that makes up a lichen. How does each participant contribute?

FACTS:

Fungus → Shelter, structure

Algae → Uses photosynthesis to
make sugar (food energy)

What if ... somebody "zapped" all
the algae in a piece of Lobaria?

Prediction: Lobaria would die

Support: Fungus provides shelter,
algae provides food.

* reproduction

* water, air,
nutrients

Lichen needs BOTH.

It would starve (no food)

2. Explain, in general, the relationship between lichens and air quality. What are some lichens (of the ones we studied) that are most sensitive to air pollution?

FACTS:

- Lichens absorb nutrients from air
- They aren't selective - so they are vulnerable to pollutants
- Usnea, Ramalina M., Lobaria ←

What if the fungal body could selectively filter nutrients?

Prediction: {Overpopulation of lichens} they would survive poor air quality.

Support:

* Usnea, Ram. m., and Lobaria would benefit the most

- With filtering, they could take good w/out bad
- Survive in a wider range of environments (air quality)

6. What does the data table below indicate?

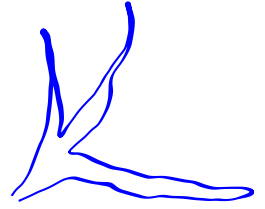

	Amount of Parmelia (mm)	
	Medium Diameter Branches	Large Diameter Branches
	15	10
	22	11
	31	16
	10	27
	41	31
	52	17
	31	11
average	28.8571	17.5714286
t-test	0.1083	

FACTS:

- Looks like there's more Parmelia on med. diameter branches
- Could just be random ($t\text{-test} > 0.05$)

What if data was collected at different times of the year?

4. What are the scientific and common names of the seven lichens we've studied? How can you identify them visually?

Ramalina f. } → 
Evernia } → 
Hypogymnia } → Looks inflated
Parmelia } → Flattened