



4. Species diversity of lichens

5. Growth forms

A. Crustose

B. Foliose

C. Fruticose

6. Substrate preferences

A. Saxicolous

B. Corticolous

C. Terricolous

7. Anatomical structure

A. Stratified

B. Unstratified

8. Reproduction

A. Sexual

B. Asexual

9. Ecological attributes

- A. Tolerate stressful condition
- B. Arctic species
- C. Colonizers of exposed rock and volcanic ash
- D. Sensitive to urban pollution

10. Economic attributes

- A. Dyes
- B. Perfumes
- C. Food
- D. Damage caused by lichens

11. Lichens in Pennsylvania

## Questions

1. Lichens are often characterized as mutualistic associations between a mycobiont and a phycobiont. What does that mean? Do you agree?
2. How are lichens classified taxonomically? Do biologists recognize species diversity in the group?
3. Compare and contrast crustose, foliose, and fruticose lichens
4. What is a saxicolous lichen, and how does it compare to a terricolous and corticolous lichen?
5. Explain the structural features of a stratified lichen.
6. How do lichens reproduce?
7. Where would be the best place to find lichens in nature? How are they important ecologically?
8. List and discuss three ways in which humans use lichens
9. Explain how lichens are important in Pennsylvania