

Symbiosis 😊 😐 😞

1. How does amensalism differ from comensalism?

Give an example of each type of symbiosis:

2. In the Fall, we have many species of fungi growing around the campus. Why do you find *Chroogomphus* growing under the pine trees on campus?

3. What is unique about crown galls—unlike any other symbiosis?

What type of symbiosis is this?

- mutual commensal protocooperative amensal parasitic

4. The koala is a leaf-eating animal. What predictions can you make about its digestive system?

5. Many bacteria make antibiotics. Of what advantage is this to the bacteria?

6. How does rice get sufficient nitrogen to grow?

7. Which of the following does a deer get from rumen its bacteria?

- cellulase CO₂ fermentation methane
 cellulose fatty acids glucose

8. Consider the symbiotic relationship between *E. coli* and humans. Which organism can live without the other one? _____

9. What are two essential growth factors for humans provided by bacteria?

_____ and _____

10. Make a salt-marsh food chain consisting of the following organisms: (Organisms may be used more than once.) Bacteria, Crab larva, Fish, Great Blue Heron, *Spartina*

11. How is the original bacterial microbiota (*Lactobacillus*) of a baby's intestine established?

How does the *Lactobacillus* population change (to *E. coli*)?