

**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                       CO<sub>2</sub>                       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*)?