

Lesson 9: *Daphnia* Observations

Purpose: To study the parts of the microcrustacean *daphnia*.

Guiding Questions:

- How are *daphnia* similar to and different from crustaceans?
- What structures do *daphnia* have that help them live and reproduce?

Scientific Drawing.

- Use your microscope to focus on the *Daphnia* under the highest power at which you can see the entire organism.
- Draw the *Daphnia* in as much detail as you can in the space below. Follow the rules of drawing found on handout 12.
- Title your drawing "*Daphnia*: The Water Flea." Refer to pages 132-133 in the IBI book and the *Daphnia* Resource Sheet on your table for information about how to label your drawing.

Insert Your Picture Here

Observing and Inferring.

1. Look for the intestine, which runs from the mouth to the anus. Discuss with your partner what you think gives the intestine its color. Write down your ideas in the space below.
2. Locate the *Daphnia*'s heart. Notice how it beats rapidly. Discuss with your partner the function of the heart. Write down your ideas in the space below.
3. Find the "brood chamber," a sac located just below the heart of the female *Daphnia*. Discuss with your partner what might be found inside the brood chamber. Write down your ideas in the space below.

4. Focus on the *Daphnia*'s eye. Switch to a higher power (if possible) to observe the eye in greater detail. Discuss with your partner how its structure differs from that of a human eye. Write down your ideas in the space below.
5. Focus on one of the antennae under high power (if possible). Discuss with your partner one possible function of the antennae. Write down your ideas in the space below.
6. Focus on one of the legs under high power. Notice the bristles. Discuss with your partner what you think the function of the bristles may be. Write down your ideas in the space below.

Concluding

You and your partner have written your initial ideas of some of the *Daphnia*'s structures. Now use the *Daphnia* Resource Sheet to match the following structures to their function.

Structure	Function
1. ____ Intestine	a. Sends blood throughout the body.
2. ____ Heart	b. Act as filters to remove algae and other microorganisms from the water.
3. ____ Brood Chamber	c. Digests food.
4. ____ Compound Eye	d. Allows the organism to see.
5. ____ Antennae	e. Sense the environment and function in movement.
6. ____ Bristles (on legs)	f. Holds the eggs

7. *Daphnia* are crustaceans, a type of arthropod. What do *Daphnia* have in common with crustaceans? (See p. 132 in the IBI book.)