Name _____ Date _____ Class _____

DATASHEET 30 STUDENT WORKSHEET

DISCOVERY LAB

The Cricket Caper

Insects are a special class of invertebrates with more than 750,000 known species. Insects may be the most successful group of animals on Earth. In this activity you will observe a cricket's structure and the simple adaptive behaviors that help make it so successful. Remember, you will be handling a living animal that deserves to be treated with care.

MATERIALS

- crickets (2)
- 500 mL beakers (2)
- plastic wrap
- apple
- hand lens (optional)
- masking tape
- aluminum foil
- sealable plastic bags (2)
- lamp
- crushed ice
- hot tap water

Procedure

1. Place a cricket in a clean 500 mL beaker, and quickly cover the beaker with plastic wrap. The supply of oxygen in the container is enough for the cricket to breathe while you complete your work.
2. While the cricket is getting used to the container, examine the data table below.

Cricket Body Structures

Structure	Number	Description
Body Segments		
Antennae		
Eyes		
Wings		

3. Without moving the beaker around too much, begin to examine the cricket. Fill in the data table with your observations of the cricket's structure.
4. Place a small piece of apple in the beaker, and set the beaker on a table. Sit quietly still for several minutes and observe the cricket. Record your observations.

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5. Remove the plastic wrap from the beaker, remove the apple, and quickly attach a second beaker. Join the two beakers together at the mouths with masking tape. Handle the beakers carefully, so as not to disturb the cricket.

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Cricket (alone)

15 s	
30 s	
45 s	
60 s	
75 s	
90 s	
105 s	
120 s	
135 s	
150 s	
165 s	
180 s	

Cricket A and Cricket B

	A	B
15 s		
30 s		
45 s		
60 s		
75 s		
90 s		
105 s		
120 s		
135 s		
150 s		
165 s		
180 s		

13. Set the beakers on one end. Carefully remove the masking tape and separate the beakers. Quickly replace the plastic wrap over the beaker containing the cricket.

14. Observe the cricket's movement in the beaker every 15 seconds for 3 minutes. Fill in the Cricket (alone) data table using the following codes: 0= no movement, 1= slight movement, and 2 = rapid movement.

15. Obtain a second cricket from your teacher, and place this cricket in the container with the first cricket . Every 15 seconds, record the movement of each cricket in the Cricket A and Cricket B data table using the codes given in step 14.

Analysis

16. Do crickets prefer light or dark? Explain.

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17. From your observations, what can you infer about a cricket's temperature preferences?

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18. Describe crickets' feeding behavior. Are they lappers, suckers, or chewers?

_____

19. Based on your observations of Cricket A and Cricket B, what general statements can you make about the social behavior of crickets?

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Going Further

Make a third data table titled "Cricket and Another Species of Insect." Introduce another insect, such as a grasshopper, into the beaker. In your ScienceLog, record your observations for 3 minutes. Write a short summary of the cricket's reaction to another species.

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6. Wrap one of the joined beakers with aluminum foil.
7. If the cricket is hiding under the aluminum foil, gently tap the sides of the beaker until the cricket is exposed. Lay the joined beakers on their sides, and shine a bright lamp on the uncovered side. Record your observations below.

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8. Observe and record the cricket's location after 5 minutes. Without disturbing the cricket, carefully move the aluminum foil to the other beaker. (This should expose the cricket to the light.) After 5 minutes, observe the cricket and record its location. Repeat this process one more time to see if you get the same result.

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9. Fill a sealable plastic bag halfway with crushed ice. Fill another bag halfway with hot tap water. Seal each bag, and arrange them side by side on the table. The edges of the bags should be touching.
10. Remove the aluminum foil from the beakers. Gently rock the joined beakers from side to side until the cricket is in the center. Place the joined beakers on the plastic bags, so that one beaker is over the hot bag and the other beaker is over the cold one.
11. Observe the cricket's behavior for 5 minutes. Record your observations.

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12. Set the beakers on one end for several minutes to allow them to return to room temperature. Then repeat steps 10 and 11. (Why do you think allowing the beakers to return to room temperature is a necessary step?) Perform this test three times, recording your observations each time.

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