Homeostasis in Goldfish Lab Procedures

MATERIALS: (for each team)

live *Carassius auratus*

500 mL beaker

thermometer

ice cubes

hot (or warm) water

clock (or watch) with second hand

PROCEDURES

1. Fill a 500 mL beaker with clean tap water, and measure its temperature in °C. This will be called the “starting temperature." Record this temperature on your data chart.
2. Place one *Carassius auratus* specimen in the beaker and observe the specimen for 2 or 3 minutes as it acclimates to the new beaker environment. Locate the gill operculum and observe how it moves naturally.
3. Working with your team partner, count the number of times the gill operculum beats (moves in and out) for a period of exactly one minute. Record this on your data table.
4. Repeat your gill cover beat measurement two more times with your specimen at the starting temperature. Record these data and calculate the average of all three room temperature measurements.
5. Next, add warm water to the beaker and gently stir it using your thermometer. Raise the temperature by exactly 5oC.
6. Repeat steps 3 and 4.
7. Next add one ice cube to the beaker and gently stir it around using your thermometer. Remove the ice cube immediately when the water temperature reaches 0oC. You may have to remove some water to fit enough ice cubes.
8. Repeat steps 3 and 4.

Homeostasis in Goldfish Lab Procedures

MATERIALS: (for each team)

live *Carassius auratus*

500 mL beaker

thermometer

ice cubes

hot (or warm) water

clock (or watch) with second hand

PROCEDURES

1. Fill a 500 mL beaker with clean tap water, and measure its temperature in °C. This will be called the “starting temperature." Record this temperature on your data chart.
2. Place one *Carassius auratus* specimen in the beaker and observe the specimen for 2 or 3 minutes as it acclimates to the new beaker environment. Locate the gill operculum and observe how it moves naturally.
3. Working with your team partner, count the number of times the gill operculum beats (moves in and out) for a period of exactly one minute. Record this on your data table.
4. Repeat your gill cover beat measurement two more times with your specimen at the starting temperature. Record these data and calculate the average of all three room temperature measurements.
5. Next, add warm water to the beaker and gently stir it using your thermometer. Raise the temperature by exactly 5oC.
6. Repeat steps 3 and 4.
7. Next add one ice cube to the beaker and gently stir it around using your thermometer. Remove the ice cube immediately when the water temperature reaches 0oC. You may have to remove some water to fit enough ice cubes.
8. Repeat steps 3 and 4.