

Preparing Petri Dishes:

Control Group:

1. Put spring water to the 10 mL line of the graduated cylinder
2. Using the pipette, add at least 10 Daphnia to the cylinder
3. Gently pour contents into petri dish
4. Seal petri dish with two layers of tape
5. Write on the tape, labeling that it has 0 mL of caffeine

2 mL of Caffeine:

1. Put spring water to the 8 mL line of the graduated cylinder
2. Using pipette, add 2 mL of pure caffeine to the graduated cylinder
3. Using pipette, add at least 10 Daphnia to the cylinder
4. pour contents into petri dish
5. Seal petri dish with two layers of tape
6. Write on the tape, labeling that it has 2 mL of caffeine

1 ½ mL of Caffeine:

1. Put spring water to the 8 ½ mL line of the graduated cylinder

2. Using pipette, add 1 ½ mL of pure caffeine to the graduated cylinder
3. Using pipette, add at least 10 Daphnia to the cylinder
4. Gently pour contents into petri dish
5. Seal petri dish with two layers of tape
6. Write on the tape, labeling that it has 1 ½ mL of caffeine

1 mL of Caffeine:

1. Put spring water to the 9mL line of the graduated cylinder
2. pipette, add 1 mL of pure caffeine to the graduated cylinder
3. Using pipette, add at least 10 Daphnia to the cylinder
4. Gently pour contents into petri dish
5. Seal petri dish with two layers of tape
6. Write on the tape, labeling that it has 1 mL of caffeine

Preparing to Record Data:

1. Take compound microscope and turn it on
2. Set up tripod and camera so that capturing heart of magnified Daphnia is possible

Recording Data:

1. Take petri dish marked without any caffeine and place under microscope
2. Never turn on light because temperature has an effect on heart rates of Daphnia
3. Make sure the camera can record all of the Daphnia
4. Start recording + stop after one minute
5. Remove petri dish and dispose of the solution with Daphnia
6. Repeat steps 1-5, changing the petri dish to the one marked with 1 mL of caffeine
7. Repeat steps 1-5, changing the petri dish to the one marked with 1 ½ mL of caffeine
8. Repeat steps 1-5, changing the petri dish to the one marked with 2 mL of caffeine
9. Take videos from camera and slow them down
10. Record the heart rate of each Daphnia
11. Only keep 10 of the results for each petri dish