

Information Sheet No. 15

Experiments for the Classroom

Here are some examples of conch experiments that can be conducted in your classroom. Many of these experiments can be combined. You will see results within a few weeks of running these experiments, although it would be ideal to run the experiments throughout the entire semester/year if possible.

1. Density. The aquarium is divided into separate parts or there are multiple aquariums for each density. The experiment should be run in triplicate for statistical purposes. The juvenile queen conch can be placed in varying densities and the students can observe their growth rate. Optimal densities to examine would be 75 conch/m² versus 150 conch/m², although you can choose a wider range as well. You will need to figure out the surface area of the bottom of your tank in m² to determine the number of conch needed. The juvenile queen conch may climb the sides of the aquarium, however, just use the bottom of the tank for the surface area, as you can assume all of the conch in each treatment will climb the sides. Have the students measure the length (mm) and weight (g) of the conch on a weekly or biweekly basis.

2. Substrate. Similar to the density experiment, the students can observe the effects of sand versus other substrates (pebbles, glass, plastic, coral rubble) on the shell growth of the juveniles. Have the students measure the length (mm) and weight (g) of the conch on a weekly or biweekly basis.

3. Food Types. The juvenile queen conch can be fed several different types of food. The animals can be weighed at the beginning and end of the experiment, and the amount of food fed to the animals should be weighed daily. This way the students can determine the Feed Conversion Ratio (FCR) for the different types of food. If the length of the animals is measured as well (on a weekly basis) the students can compare the growth rates with the different diets. Contact the CHN headquarters for information about purchasing conch food.

4. Water quality parameters. -- The students can adjust the temperature or salinity in their aquariums and compare growth rates to those in a well-conditioned tank. You will need at least two aquariums for this. Have the students measure the length (mm) and weight (g) of the conch on a weekly or biweekly basis. You will probably want to make sure each treatment is being fed the same amount of food, to remove food as a factor, therefore, have the students weigh out the amount of food fed each day.

5. Calcium. The students can examine the effect of calcium on the growth rate. You will need separate aquariums for this experiment as well as a calcium test kit. You can add a calcium supplement to the water to increase the amount of calcium in the water. Have the students measure the length (mm) and weight (g) of the conch on a weekly or biweekly basis, and also measure the amount of calcium in the water on a weekly basis.