Name:
Teacher:
Class:
Date:

REMEMBER:
# of ounces X 28.35 = # of grams
mL = cm^3
Volume = length x width x height using cm
1000 mL = 1 Liter

SAMPLING FISH

TANK # _____

Objective

To calculate average fish weight, feed rates, and stocking rates of fish within a tank. All of these factors are important in managing an aquaponics ecosystem.

Definitions

- **Average Weight –** Total weight of all fish *divided* by the total number of fish in the tank
- **Feed Rate –** Rate of food to feed per day
  - To determine Feed Rate *multiply* total weight by 3 % or by .03
- **Stocking Rate –** Number of fish OR the Average Weight of fish divided by the Liters in the tank

Materials

- Digital Scale
- Tray or small bowl
- Damp paper towels, 2
- Hand Net
- Clean bucket
- Plastic tubing, ≈2 feet long

Procedure

1. Set up weigh station: scale, tray (or small bowl), and damp towel in tray (or small bowl).
2. Zero out scale with tray and damp paper towel.
3. Fill clean bucket with 3 – 4 Liters of water from tank by siphoning.
4. Gently capture fish with net, place on scale. Use damp towel to cover fish.
5. Record weights and number of fish in Data section. **Label the unit of measurement (g for gram)**
6. Put weighed fish into bucket.
7. Repeat steps 4 – 6, until all the fish are weighed.
8. When all fish have been weighed, carefully pour all fish and water from bucket into the tank.

Data

Fish	Weight (g)

Total Weight of all Fish: _____
(show work in space below)

Total Number of Fish: _____

Average Weight of Fish: _____
(show work in space below)

Work space

Total Weight of all Fish

Average Weight of Fish

SAMPLING FISH

TANK # _____

Record Data from side 1 into the Data section below.

Data

Fish	Weight (g)

Total Weight of all Fish: _____

Total Number of Fish: _____

Average Weight of Fish: _____

Questions

1. **Fish should eat 3% of their body weight each day. Use their Total Weight to determine the Feed Rate (see definition on page 1) for the fish per day.**

2. **If fed, in the morning and the evening, how much food should the fish eat at each meal?**

3. **Determine the Volume (in Liters) of water in the tank. Show work.**
   a. **Volume = Length x Width x Height of the water line in mL (Remember mL = cm^3)**
   b. **Divide mL by 1000 to Convert mL to Liters**

4. **What is the Stocking Rate (see definition on page 1) in fish per Liter? Label answer *fish/L***

5. **What is the Stocking Rate in grams (use Average Weight of fish) per Liter? Label answer *g/L***

6. **Make an observation of your calculations and the Aquaponic ecosystems.**