

## Effects of Diet Coke on Plant Growth Lab

### Question:

How does Diet Coke affect the growth of radish plants?

### Hypothesis:

Diet Coke will increase the growth of radish plants.

### Variables:

Independent Variable: Liquid given, diet coke or water

Dependent Variable: Height of plant measured in cm

Control Group: plants given water

Constants: amount of light, species of plant, amount and type of soil

### Materials:

- Radish plants (*Raphanus sativus*) in soil
- Graduated Cylinder
- Diet Coke
- Spring Water

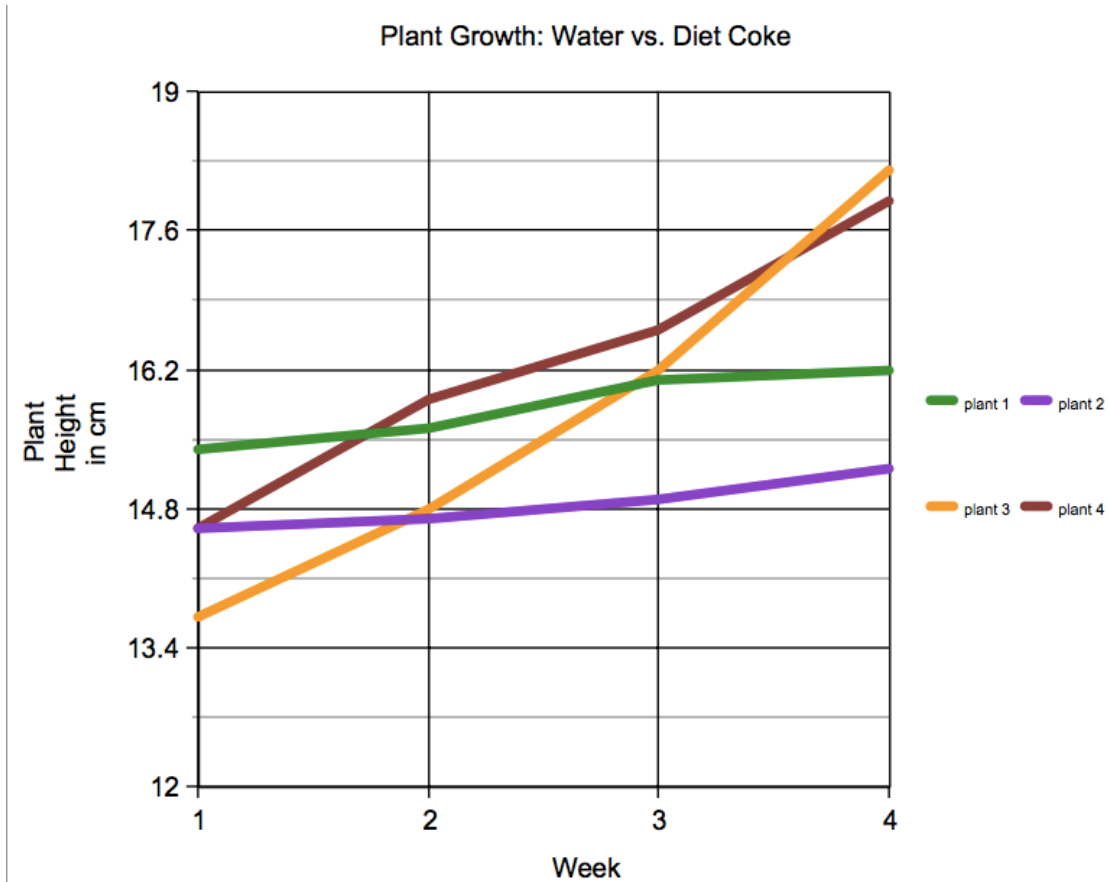
### Procedure:

1. Obtain 4 radish plants that have been grown in the same type of soil.
2. Label the plants 1,2,3, and 4 with the materials provided.
3. Measure 20mL of Diet Coke and pour this into the soil of plants 1 and 2.
4. Measure 20mL of Spring Water and pour this into the soil of plants 3 and 4.
5. Measure the height of each plant in centimeters and record in the data table.
6. Place the plants under the grow light in the back of the classroom.
7. Repeat steps 3 – 6 every week for 1 month.

### Results:

Plant Growth Water vs. Diet Coke

|                                      | Plant 1 Height<br>in cm | Plant 2 Height<br>in cm | Plant 3 Height<br>in cm | Plant 4 Height<br>in cm |
|--------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Week 1                               | 15.4                    | 14.6                    | 13.7                    | 14.6                    |
| Week 2                               | 15.6                    | 14.7                    | 14.8                    | 15.9                    |
| Week 3                               | 16.1                    | 14.9                    | 16.2                    | 16.6                    |
| Week 4                               | 16.2                    | 15.2                    | 18.1                    | 17.9                    |
| Change in height<br>in cm in 1 month | 0.8                     | 0.6                     | 4.4                     | 3.3                     |



**Conclusion:**

During this lab the height of plants was measured to compare the growth of plants when they were given diet coke or spring water. The data showed that the plant given Diet Coke grows less than those given water. On average the growth of the plants given Diet Coke was 3.2 cm less than those given water. This data indicates that Diet Coke has a negative affect on plant growth. The lab adequately answered the question of whether Diet Coke has an affect on plant growth. The hypothesis that Diet Coke increases plant growth was not supported by the experiment. During this experiment the plant may have been given different amounts of light during the day. To correct this problem the light the plants are under should be on a timer to insure the plant receive the same amount of light each day.