Review Sheet for Fruit Lab

1. What is the difference between a vegetable and a fruit:

: from a botanical point of view? A vegetable is any herbaceous plant grown for its edible portions (roots, tubers, stems, leaves, seeds). A fruit is the ripened ovary of a female flower. So, botanically speaking, many plants we think of as vegetables are actually fruits.

: from a nutritional point of view? Nutritionally, vegetables and fruits are usually categorized more by their usage. We consider vegetables to be main meal items, while fruits are for dessert or snacks. Generally, vegetables are less sweet, contain less juice, and contain some protein. Vegetables are especially associated with folate and vitamin A. Fruits contain no appreciable protein, more water, and are sweeter. Fruits are associated with vitamin C.

2. Name a vitamin C-rich "vegetable." Tomatoes and sweet bell peppers are rich in vitamin C. These are actually fruits, though. True vegetables high in vitamin C include broccoli, cauliflower, spinach, and potatoes. Name a vitamin A-rich fruit. Mango, papaya, pumpkin, peaches, and apricots are examples of vitamin A-rich fruits.

3. What is the “Fruits and Vegetables: More Matters” campaign? Why do dietitians encourage people to eat more fruits and vegetables?

This is the campaign led by the Centers for Disease Control and Prevention and the Produce for Better Health Foundation to encourage Americans to eat more fruits and vegetables for good health. Intake of fruits and vegetables is positively correlated with maintaining healthy weight and reducing the risk of cancer. This campaign replaces the “5 A Day” program. See <www.fruitsandveggiesmatter.gov>.

4. Give an example of a vegetable for which people eat the:

--seeds: peas, beans, corn
--root: carrot, beets, sweet potatoes
--stem: asparagus, rhubarb, celery
--tuber: potatoes, turnips
--leaves: lettuce, kale, cabbage, spinach

5. What causes the discoloration of sliced fruit? Name two strategies to use to keep sliced fruit from discoloring. Enzymatic oxidation—enzyme changes occurring from exposure to oxygen. Protect fruit from browning by dipping slices in an acid such as lemon juice or orange juice or by using a commercial antioxidant. Immersing the slices in water will work for a while, too.

6. How are fruit pigments different from vegetable pigments? The pigments are the same.
7. **What effect does cooking fruit in a sugar solution have on the texture/shape of most fruits? Why?** If the sugar solution is more concentrated than the sugar content of the fruit, sugar will move into the plant cells and water will move out. The result is a firm product.

8. **What effect does cooking fruit in water have on the texture/shape of most fruits? Why?** Cooking fruit in water will soften the fruit because the water will move into the plant cells, causing them to lose shape and texture. The migration of water across a semi-permeable membrane due to differences in concentration of solutes in the water is called **osmosis**.

9. **What effect does sprinkling sugar on top of fruit have on the fruit? Why?** Water will leach out because the sugar draws the water out of the cells. This can impart a nice texture to certain foods.

10. **Do you think it is difficult to make a pie shell?** Of course not!! Don’t let advertisements convince you that you can’t successfully bake your own pie crusts! 😊