Simple Science: Saline Levels and Plant Growth

Instructions:

1. Your instructor will give you one or more dried beans. Soak them overnight in enough water to cover them completely.
2. The next day, drain off the water and place the bean(s) on layers of damp (not soaked) paper towels. Top with additional layers and place the wrapped beans in a plastic zip bag. Seal the bag, leaving a small opening for just a little air to circulate.
3. In 2-3 days, check for sprouting. If no roots appear, dampen the paper towels again, if necessary, and reseal. (If roots still don't appear after several more days, start over with new beans.)
4. Once green shoots appear, remove the beans from bag.
5. Your instructor will give you a pot. Fill it with soil, "drill" a hole in the soil with your finger and plant one sprouting bean about 2 in. deep.
6. To give your plant a good start, water it with plain tap water for one week when the soil feels dry. Place the pot in a sunny window or under a plant light.
7. Measure the height of your plant at the end of the week.
8. After Week 1, you'll be placed into a group according to the solution you'll use to water your plant from this point forward.
9. Each group will measure one quart of tap water and pour it into a 2-liter bottle. Each group will add the amount of salt the instructor indicates, then cap and shake the bottle to dissolve the salt. Clearly label your saline solution's container to identify it from other groups' containers.
10. Track your plant's growth over several weeks.
11. Compare your plant's growth with other plants within your group:
    - Did all the plants have similar patterns of growth? If not, what might have influenced the variations?
12. Compare your group's plants with plants from other groups:
    - Which saline solution fostered the most growth? The least growth?