Seed Germination

Name _____ Date __/__/__

For this investigation you will be observing seed germination and calculating germination rates.

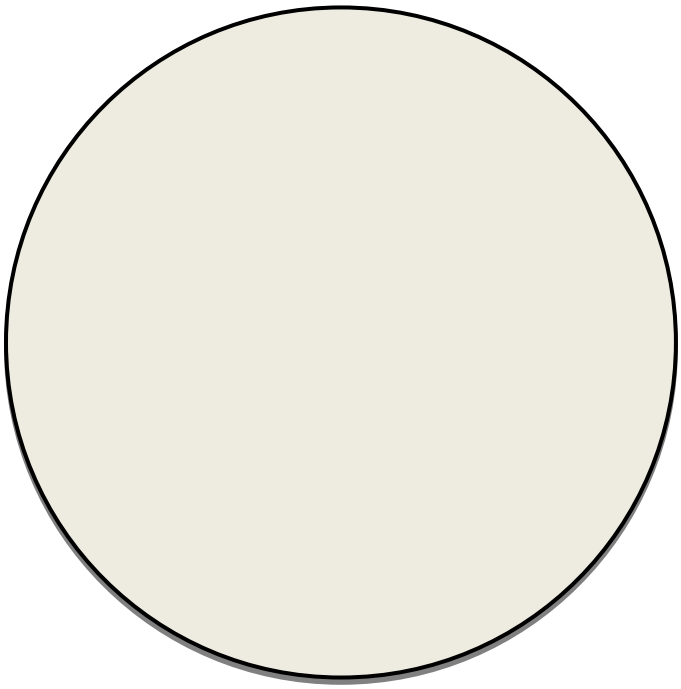
Materials

- Tree seeds, pine, fir, alder, etc.
- Quart size plastic freezer bag with a Ziploc closure
- Purified water
- Paper towels
- Tape
- Marking pen
- Scalpel or razor blade
- Forceps or tweezers
- Dissecting/Stereo Microscope or Hand Lens

Procedures

1. Work with a partner.
2. Obtain the plastic, seeds, paper towel, tape
3. Wet the paper towel, make sure to wring so that there is no excess water.
4. Line the plastic bag with the wet paper towel.
5. Place 30 seeds on top of the paper towel.
6. Seal the plastic bag and write your names on the bag with the marker.
7. Store the bag according to instructor's directions.
8. Watch the corn and sunflower germination videos at http://plantsinmotion.bio.indiana.edu/plantmotion/earlygrowth/germination/germ.html
9. Obtain a seed.
10. Carefully cut the seed open.
11. View the seed under the dissecting/stereo microscope.
12. Sketch what you see in the space provided.
13. Read the following article about seed germination and the answer the questions one the last page of this lab sheet: http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/G/Germination.html
14. After 10 to 14 days retrieve your plastic bag of seeds.
15. Determine your germination percentage by dividing the number of seeds that germinated by the total number of seeds. Record your answer in the appropriate spot.
16. Sketch and label one of your germinated seeds.

Sketch your seed below and label the following: testa, embryo, cotyledon



Seed Germination Rate _____

Sketch germinated seed below. Label the following; radical, hypocotyls, true leaves, roots

Read the following article about seed germination and the answer the questions.
http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/G/Germination.html

1. What is germination?

2. List the requirements for germination to take place.

3. What causes germination to take place?

4. Compare and contrast dicot and monocot seed germination.

5. Why can't a dry seed germinate?