

Lab Report Template

Toree Hiebert, Julie Harris

7.3.3 Needs of Seeds

Problem

What question are you investigating?

How do oxygen levels in air affect germination?

Hypothesis

What are your predictions? What do you expect the results to be?

If we increase oxygen levels surrounding seeds then the seeds with the higher oxygen levels will have a faster germination rate because seeds respire during germination to meet the high energy demands of growing.

Materials

- List the supplies needed to conduct the experiment.
- Large plastic bags
- Plastic straw or tube
- Paper towels
- Hand lens
- One potted mature plant
- Water
- Radish seeds
- Vernier LabQuest
- Oxygen sensor
- Carbon Dioxide sensor
- Tube clamp
- Parafilm
- Tape

Procedures

1. Gather all materials.
2. Read seed package and determine days to germination. Record in lab notebook.
3. Wet 3 paper towels and place 20 radish seeds evenly spaced on each.
4. Observe what seeds look like and record in Table 1.
5. Place in 1 bag the paper towel with seeds and the mature potted plant. Label Bag with date and Bag A.
6. Place in second bag another paper towels with seeds. Label this bag with date and Bag B.
7. In third bag cut a small slit in corner. Insert straw or plastic tube. Seal hole around straw with Parafilm and tape.
8. Place seeds inside that bag and label with date and Bag C.
9. Take a deep breath and exhale into bag. Seal bag.
10. Take initial carbon dioxide and oxygen readings using the Lab quest sensors. Record in Table 1.
11. Wait 1 day and observe seedlings. Record in Table 1.
12. Every other day take LabQuest readings for Carbon dioxide and Oxygen. Record in Table 1
13. Using hand lens look for cracking of seed coat or emergence of radicle or cotyledons. Be sure to note what day seedlings begin to emerge.

Data Collection

What data did you collect? Use graphs, charts, and illustrations to communicate your results.

Analysis of Results

Explain the results and data collected. Be descriptive and complete in your discussion.

Conclusions

Based on the results, what inferences can you make? Describe how your predictions were proven or disproven. What were possible sources of error? What questions arise based on your results?