

Plant Decomposition Lab

Prelab

Purpose

- To observe decomposers in action
- To compare aerobic vs anaerobic decomposition rates
- To see if moisture levels have impacts on decomposition.

Key Concepts

- **Saprotrophs/Decomposers:** orgs that feed off dead org. material and release nutrients back into soil.
- **Aerobic conditions:** those with oxygen
- **Anaerobic:** those without oxygen

Your CHALLENGE

- Your main objective is to figure out the relationship between plant decomposition rates, moisture levels, and aerobic (with oxygen) versus anaerobic (w/out oxygen) conditions.
- Design an experiment that will produce these results. This experiment will go on for two weeks. Observations will be made each day in class.

HYPOTHESIS

- Include into your lab report. Please report your hypothesis in an “If, then..” format.

Identify Roles

- Pick roles for your group. You need to have a Facilitator, Reporter, Recorder, and a Materialist. Record the roles in your lab report.

POSSIBLE MATERIALS

(Not limited to these)

- Small, clear plastic cups, Plastic food wrap, Distilled water, rubber bands, Freshly cut leaves, Tape, Graduated cylinder, Scissors, Digital Balances

Procedure

- Create your own procedure and place it in your lab report. Be as specific as possible so that if some one were to repeat your procedure, they would obtain the same results. The procedure needs to be sequential (1, 2, 3..) and extremely clear. Remember to have a control group!! Lastly, include a set-up diagram for clarity.

Data Collection

- Create your own graphs. Make sure to include data tables as well as linear/bar graphs. Also, include calculations of averages, percentages of decomposition rates (Willis can show you), daily observations, and pictures (you can include digital photos).

CONCLUSION

Follow Conclusion Prompt in your **Syllabus** and address objective “Are moisture levels, oxygen levels, and decomposition rates related?” If so, how? Make sure to detail what you observed, was your hypothesis right, and what you believe caused the outcome of this experiment. Reporter, be ready to share your procedure and results.