Sample Lab Reports

➢ **Prepare Students to Write Science Labs**
  o The sample lab reports included show that all students, including English learners, can write lab reports successfully.

➢ **Motivate Students to Write**
  o Give students an interesting question that they will be able to test – but students do the activity only after writing the standard, their hypothesis, the procedure and the materials.
  o Emphasize that they spell words correctly, especially those in the rubric or in the lesson.
  o After everyone writes what is required, then they all do the lab at the same time, so no one spoils the outcome for the others.
  o The excitement of discovering what will happen on your own or with a partner is what gets students to write.
  o Students write their results and conclusion before they draw the results of the lab. Most students enjoy drawing, so this will motivate students to write.

➢ **Quick and Easy Grading Rubric**
  o Students have a copy of the grading rubric to help them write a complete lab report.
  o Words in bold remind students to pay attention to the spelling and to spell these words correctly in their reports.
  o The rubric simplifies the grading because the reports are generally complete, organized, and reasonably well written.

**Note:** For the Eco Peanuts lab, the results and conclusions written by the students were limited in terms of the scientific concepts discussed. Students were assigned to write a letter to Assembly member Pedro Nava not only to learn how to write a persuasive letter but also to discuss the scientific concepts in the lab and their results more extensively.

Nancy Escamilla  
E.P. Foster Elementary School  
Nancy.Escamilla@venturausd.org  
ghmnme@aol.com

August 2007
Science Lab Writing Rubric
Each category is worth 0-6 points

<table>
<thead>
<tr>
<th>0 = off topic/no evidence</th>
<th>4 = proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = minimal evidence of proficiency</td>
<td>5 = exceeding expectations</td>
</tr>
<tr>
<td>2 = some evidence of proficiency, but weak</td>
<td>6 = outstanding</td>
</tr>
<tr>
<td>3 = developing proficiency</td>
<td></td>
</tr>
</tbody>
</table>

Content

____ The writer includes the title of the lab and the science standard, neatly and clearly written at the top of the page and refers back to the science standard in the results.

____ The writer includes the hypothesis and the materials used.

____ The writer clearly states the procedure in the imperative form.

____ The writer uses adjectives and/or adverbs to describe

____ The writer uses scientific terms presented in this lesson or in previous lessons.

____ The writer includes the results in the past tense.

____ The writer draws a conclusion from the results and refers back to the hypothesis.

Organization

____ The drawing is clearly and neatly labeled.

____ The writer uses an appropriate level of conventions such as sentence structure, grammar and mechanics.

____ Each section is clearly labeled with the correct heading.

____ Total (divided by 10) = ________ Score

Adapted from WRITE INSTITUTE RESPONSE TO LITERATURE rubric 2006
Nancy Escamilla 2007
**Scoring Range**  
Each category is worth 0-6 points

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**Content**

4 The writer includes the **science standard**, neatly and clearly written at the top of the page and refers back to the science standard in the results.

4 The writer includes the **hypothesis** and the **materials** used.

4 The writer clearly states the **procedure** in the imperative form.

3 The writer uses adjectives and/or adverbs to describe the **dissolve**, **indicators**, **iodine**, **conclusion**

4 The writer uses scientific terms presented in this lesson or in previous lessons.

4 The writer includes the **results** in the past tense.

4 The writer draws a **conclusion** from the results and refers back to the hypothesis.

**Organization**

5 The drawing is clearly and neatly labeled.

4 The writer uses an appropriate level of conventions such as sentence structure, grammar and mechanics.

4 Each section is clearly labeled with the correct heading.

4.0 Total (divided by 10) = 4.0 Score

Adapted from a WRITE INSTITUTE RESPONSE TO LITERATURE rubric 2006
Science Standard:

Students know differences in chemical and physical properties of substances are used to separate mixtures and identify compounds.

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Packing peanut is dropped in water and it slowly started to dissolve. Didn't float so it is not plastic.

We tried other indicators like vinegar and iodine.

Packing peanut turned iodine purple and dissolved so I concluded it was corn starch.

Hypothesis:

1. If the packing peanuts are plastic, then they will float.

2. Hypothesis: If the packing peanut is made out of corn starch, then it will react to iodine
Materials:
- packing peanut
- water
- cup

Procedures:
First, get a cup and fill it up with water. Then, get a packing peanut and drop it in the water. Last, see what happens.

Results:
When we dropped the packing peanut in the water, it slowly started to dissolve and didn’t float.

Conclusion:
Since the packing peanut didn’t float and it dissolved, I can infer that it is not plastic. Since it didn’t float, we decided to test it with some other indicators we used: vinegar and iodine. It reacted to iodine and we came to the conclusion that it was corn starch.
June 12, 2007

Dear Assemblymember Pedro Nava,

In my fifth grade class we saw a movie about pollution in the ocean. Also in my class we did an experiment with packing peanuts. The eco-peanuts dissolved in the water. The standard packing peanut didn’t dissolve and didn’t even change shape. In my opinion you should consider making the post office use the eco-peanuts.

One important reason for implementing my request is that the eco-peanuts are biodegradable. Biodegradable means that they dissolve. It is good if they dissolve so the marine life or birds won’t eat them. Even though they cost more than the other packing peanuts I still think that the eco-peanuts are better. They dissolve because they are made out of cornstarch. We found this out because we did an experiment with the packing peanuts. We tested the eco-peanut with iodine and it turned purple. So we came to the conclusion that it was made out of cornstarch because it reacts to iodine. I understand that you want us to waste less money, but using eco-peanuts is good for the environment.

I hope you consider my request and I look forward to hearing from you.

Sincerely,

Erika
Students know all matter is made of atoms, which may combine to form molecules.

**Hypothesis:**
If molecules move, then when you add one drop of food coloring, eventually the food coloring will move throughout the water and the water will turn red.

**Materials:**
- 1 dropper
- Red Food Coloring
- 2 cups
- Cold Water
- Hot Water
- Measuring cup
Procedures:
First, take two cups and in one cup pour 2/3 of cold water, and in the other pour 2/3 of hot, boiling water. Next, add one drop of food coloring in both cups. Then, observe and time the reactions.

Results:
I observed that the red food coloring in the cold water took a longer time than the hot water. I saw that the colder the water is, the longer the molecules took to spread throughout the water. The hotter the water is, the faster the molecules spread throughout the water.

Conclusion:
When the food coloring spread faster in the hot water, I understood the molecules were moving faster than cold water. Based on the fact that the water molecules in cold water didn't move, I can conclude that molecules move slower in cold water.
Hypothesis:
If plants transport water, then the celery will absorb the colored water and the color will be seen in the stem and leaves.

Materials:
- 2 clear plastic cups
- 1 celery
- water
- green & red food coloring
- knife (plastic)

Procedures:
First, get 2 clear plastic cups and fill each one with water. Then, mix red food coloring
in one cup and green food coloring in the other cup. Next, take 1 stalk of celery and cut it in from the bottom up horizontally but do not cut it in half completely. Put 1 side of the cut stalk in the green cup and the other side in the red cup.

Results:
In the first few minutes I observed that the red color stopped half way thru the stem because the plant got damaged. About two hours later I saw small red dots on the leaves but there were no green dots on the other side. A day later the stalk turned all green but on the red side it just went half way because it got damaged.

Conclusion:
Since, vascular plants have xylem, the water traveled up to the other parts of the plant. When the water got to the leaves and traveled thru the veins, I concluded after my experiment that the xylem carried the water all the way to the leaves and the colors didn't mix.

Why didn't they mix?
Conclusion:

Since vascular plants have veins, I can conclude that because the water traveled in the xylem then the green and red food coloring is why the tip of the stem and the leaves had gotten red and green spots on them.

I conclude from my hypothesis that the plant doesn’t absorb water instead it travels through the xylem. If the plant absorbed water then, the two colors would have mixed.