

Science Fair 2021 - 2022

Page Academy - Newport Mesa Campus

1st Grade Packet

The time is rapidly approaching for our annual Science Fair. Start thinking about it now! All students, grades one through eight, are expected to participate. This can be a wonderful cooperative family experience. Projects will be displayed in the classrooms.

First through eighth grades will use the following details:

1. The student chooses a topic, which is of interest to him or her.
2. The student does the research, asks the questions, and makes the observations.
3. A visual display is made (see sample attached).
4. First grade **does not** need to do a written report. All their information should be displayed on their board. Please see the "Written Portion of Your Report" within this packet.
5. A short oral presentation is prepared.
6. **All projects are due by Tuesday, January 18, 2022. Place in classroom no later than 8:30 AM.**

ATTENTION PARENTS:

This science fair project is to be conducted by the student. Obviously, they will need your help, but please do not do this experiment or the display board for your student, but rather with your student. All work must be done in your child's handwriting. Please allow your child to color, cut, and paste on his or her own. Any typing should be done by your child, with your help. Any questions regarding this should be directed to Ms. Olivia or Ms. Kristin. Please enjoy this process with your student. It can be a lot of fun!

Visual Presentation:

Visual presentations should be displayed on a large trifold scientific display board found at most office supply and craft stores. The boards should display all steps of the experiment (See Written Portion of Your Report) located in this packet. Please feel free to use colorful paper underneath the cut-out portions for the “Written Portions.” Additionally, photos of your student doing the experiment and pictures/clipart are a big part of the visual display. Try to follow the layout of the sample display board in this packet, but be creative in how you display your information. **Please ensure the board is Self-standing.**

Please see example display board attached and

Visual Grading Rubric for details.

Oral Presentations:

Students will be required to explain their project to an audience of their peers and judges. They should explain what they wanted to discover, how they went about finding the answers, and what they learned. They should be prepared to answer questions regarding their project. The explanation should take approximately 3-5 minutes. (The student will not perform an experiment in front of the judges, due to time constraints.).

Please see the Presentation Rubric regarding how the presentation will be graded/judged.

Presentation Schedule:

Grades Three, Four, & Five -	Tuesday, January 18
Grades One & Two -	Wednesday, January 19
Grades Six, Seven, & Eight -	Thursday, January 20
Grades Six, Seven, & Eight -	Friday, January 21

Science Fair Experiment Steps

How do scientists answer a question or solve a problem? They use an organized plan called the scientific method to conduct a study. A scientific study is called an investigation.

1. Observe and Ask Questions

To observe, you use your senses to gather information. Then you might think of things you don't know and would like to find out. Your question must be a testable question.

An example of this is when a student gets a sunburn even though they applied sunscreen. They wonder which sunscreen is best, specifically which SPF provides the best protection.

2. Form a Hypothesis

After thinking of a question, you write a possible answer to it. A possible answer is a hypothesis. A hypothesis can be tested to see if it is correct.

An example of this when a student thinks that a higher number SPF will offer better protection than a lower number SPF. "My hypothesis is SPF 70 will offer a higher protection from ultraviolet rays than SPF 15 because 70 is greater than 15, and more protection is better."

3. Plan an Experiment

An experiment is a test done to find out if a hypothesis is correct. You should first identify your variables:

- Independent Variable: What you will change.
 - **Different SPF sunscreens sprayed on UV beads**
- Dependant Variable: What you will measure.
 - **How long the beads take to change color**

When you plan an experiment, you describe the steps and list the equipment you need. Decide how to gather and record your data.

An example of this is when a student tests the hypothesis by using UV beads in a clear plastic bag covered in different SPF sunscreens to test the effectiveness of the different SPF levels.

4. Conducting an Experiment

Now it's time to follow the steps of the experiment you planned. Observe and measure carefully. Record your data as you follow your steps. Repeat your steps and observations several times to confirm your results.

An example of this is when a student puts the same amount of UV beads in four bags labeled with the SPF values used on the beads. Then let the beads sit in the sun. Record observations at regular intervals.

5. Draw Conclusions and Communicate Results (What I Learned)

Analyze the data you gathered and use your results to write a **conclusion**. A conclusion is a decision based on what you know and on your results. Look over your notes, charts, etc. and write what you think your data shows. Tell whether your hypothesis was *correct* or *incorrect*. Your results **may not** support your hypothesis or your experiment may have failed completely compared to what was “supposed to happen”. **That's okay**. Don't be afraid to say that you might have made a mistake somewhere. Great discoveries can come from what we learn from mistakes. Results should describe what happened in your own experiment and should be presented in your own words and by making a chart, table, or graph to show your data. You want to use at least two types of visual data choices.

An example of this is when a student studies the data he has collected. The student realizes that SPF is not as simple as they once believed. And in fact, the SPF 70 sunscreen did not offer more protection than any of the other sunscreens. The student's hypothesis is incorrect.

6. Displaying results on a Bar Graph.

Please have your student draw a bar graph, on the provided paper, with the results of his or her experiment. Numerical data should be on the left vertical side of the graph and categories should be on the horizontal bottom of the graph.

SCIENCE PROJECT IDEAS 1st – 3rd grades

1. Does music have an effect on plant growth?	21. Do bigger seeds produce bigger plants?
2. What kind of juice cleans pennies best?	22. Which materials absorb the most water?
3. Which dish soap makes the most bubbles?	23. Does sugar prolong the life of cut flowers?
4. Do watches keep time the same?	
5. What is the best way to keep cut flowers fresh the longest?	24. Will more air inside a basketball make it bounce higher?
6. What brand of raisin cereal has the most raisins?	25. How can you change the pitch of a sound?
7. What brand of bubble gum produce the biggest bubbles?	26. What color of birdseed do birds like best?
8. What kind of candles last the longest?	27. What holds two boards together better – a nail or a screw?
9. Can the design of a paper airplane make it fly farther?	28. Will bananas brown faster on the counter or in the refrigerator?
10. Do roots of a plant always grow downward?	29. Does temperature affect the growth of plants?
11. Do certain storage conditions help avocados ripen more quickly?	30. Which kind of balloon lasts longer?
12. What kind of clothing material lasts the longest?	31. Does a ball roll farther on grass or dirt?
13. Which surfaces create the most friction?	32. Do all objects fall to the ground at the same speed?
14. What kind of oil makes the fastest working lava lamp?	33. Which drink is more acidic?
15. How can I get my seeds to germinate faster?	34. Which type of light bulb produces the least amount of heat?
16. Which material conducts electricity the best?	35. Which paper towel is the strongest?
17. Can plants grow without soil?	36. Do some colors of M&M's melt faster than others?
18. Does warm water freeze faster than cool water?	37. Which fabrics take the longest to dry?
19. Do plants grow bigger in soil or water?	38. Which brand of popcorn pops the fastest?
20. Do different types of apples have the same number of seeds?	39. With which type of battery do toys run longest?

Written Portion of Your Report

**Cut along the dotted lines and paste on your display.
Follow the display guidelines in this packet for where
each section should be placed on the display board.**

I would like to conduct an experiment on _____

This is interesting to me because _____

The question I would like answered is: _____

(What do I think will happen) My hypothesis is that I think that
...because

The Materials I used for my experiment were:

1.

2.

3.

4.

5.

6.

7.

8.

9.

The steps I took in my experiment were (Procedure):

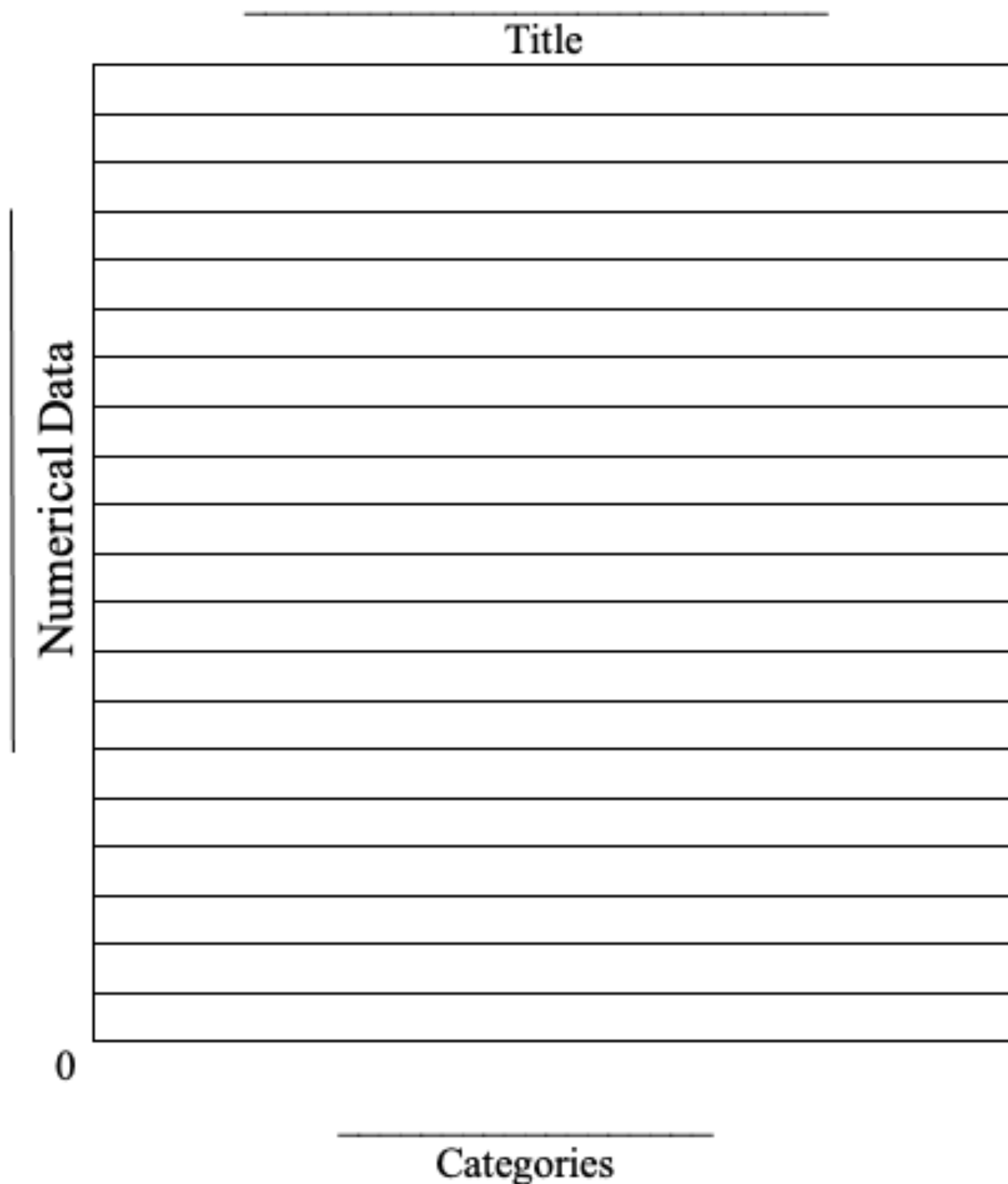
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

My hypothesis was (circle one): Correct Incorrect

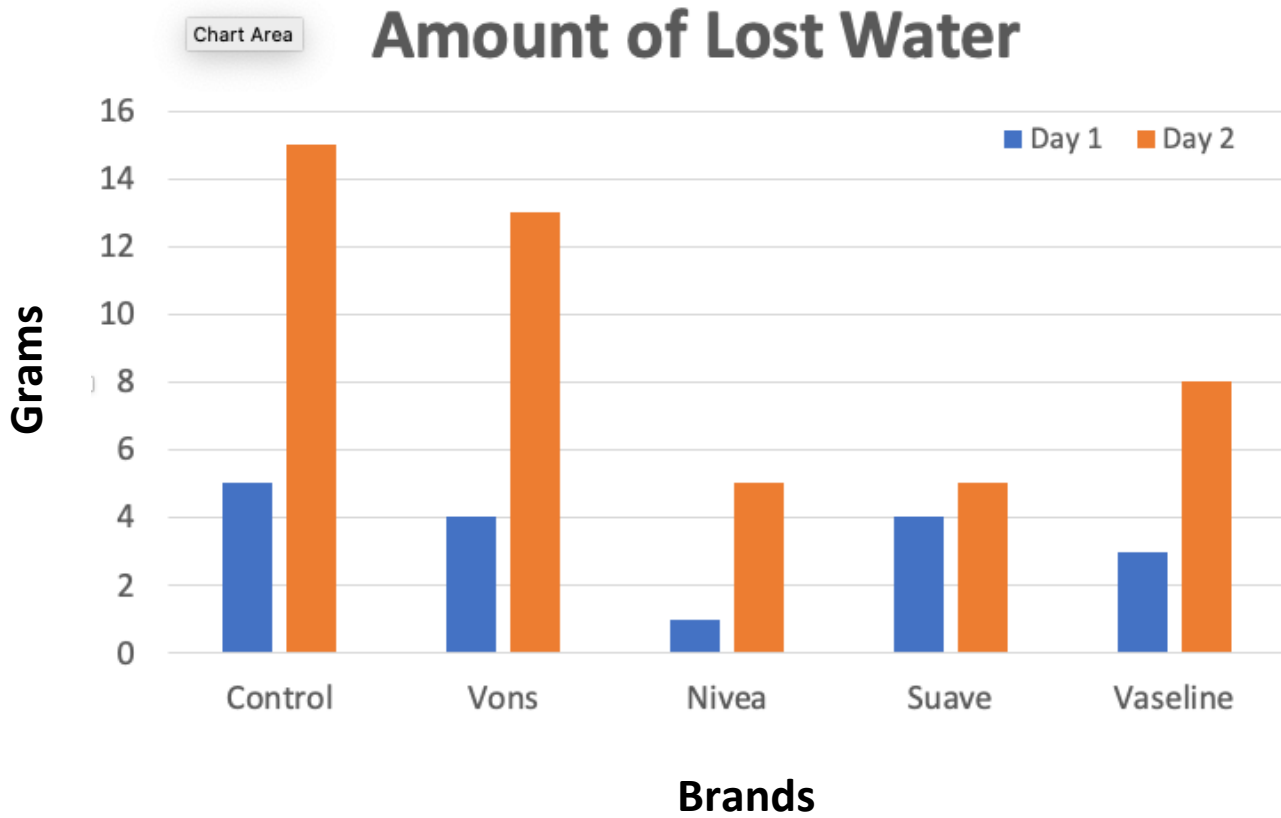
(What actually happened) The results of my experiment were

(What did I learn) My conclusion is that _____

Bar Graph
(Please make a Bar Graph using colored pencils or crayons and add to your Display)



Sample Bar Graph



Example Display Board

What Lotion Should I Use When My Skin is Dry? This is your question

Materials
The Materials I used for my experiment were . . .

Procedure
The steps I took in my experiment were

I would like to conduct an experiment on . . .

This is interesting to me because . . .


Results
(What actually happened) The results of my experiment were . . .

Hypothesis
(What do I think will happen) My hypothesis is that I think that . . . because . . .


My hypothesis was (circle one)

Conclusion
(What did I learn) My conclusion is that . . . make sure you relate this to real life

Bar Graph



By Bruce Banner



Please put colorful pictures throughout the board. They can be clip art from the internet or actual pictures of you conducting the experiment.

Topic Due by:

Wednesday, November 17, 2021

Please fill out this form and return to your teacher before you begin your experiment.

Student Name:

Topic of science project:

Question to answer:

Hypothesis:

Example:

Topic of science project:

SPF in Sunscreens

Question to answer:

Which SPF provides the best protection?

Hypothesis:

SPF 70 will provide the best protection when compared to lower SPF sunscreens, because 70 SPF is greater than 30 SPF or 15 SPF.

Parent Signature: _____

Teacher Acceptance: _____ yes _____ no

Teacher Comments: