

K-2 STEM Journal

Name _____

Date _____

STEM Reminders!

- Experiments with humans or animals are NOT allowed
- Experiments need to have 3 trials – so they must be repeated 3 times
- Backboards should be placed in the gym on STEM day
– March 30th at 8:45 am

Completing a STEM Project outside of school is optional for all students. Attached are some descriptions of each step in the scientific process, guidelines that may be helpful, and space for your child to make notes on each step as he/she completes the process. Each of these steps will need to be included on the final backboard display that will be submitted on March 30th

Please mark you calendars so that you can attend the night program on March 30th from 6:30–8:00 PM. There will be a raffle drawing for science prizes as well as science related activities in the cafeteria and gym.

Follow the Scientific Method

Testable Question: Something you want to find out. There should be only one thing that you change in your experiment (called the variable).

A question can take the form of:

- ☆ What if...?
- ☆ How...?
- ☆ What effect does have on...?

My question is: _____

Hypothesis: The best guess that can be made about the outcome of the experiment. It is helpful if you can read about the topic with your child (do some research).

I think _____

because _____

Materials: What you used to complete the experiment. The materials list should include the material and the amount or size that was used. BE SPECIFIC!!!!

Examples: 50 mL of water
3 plastic cups (12 oz. size)
30 g of salt

The materials I used were:

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Procedure: A numbered list of steps taken to complete the experiment.

- ☆ Should be thorough and complete
- ☆ Show that only one thing was changed in the experiment
- ☆ Show that you repeated the experiment three times and found an average

Procedure:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

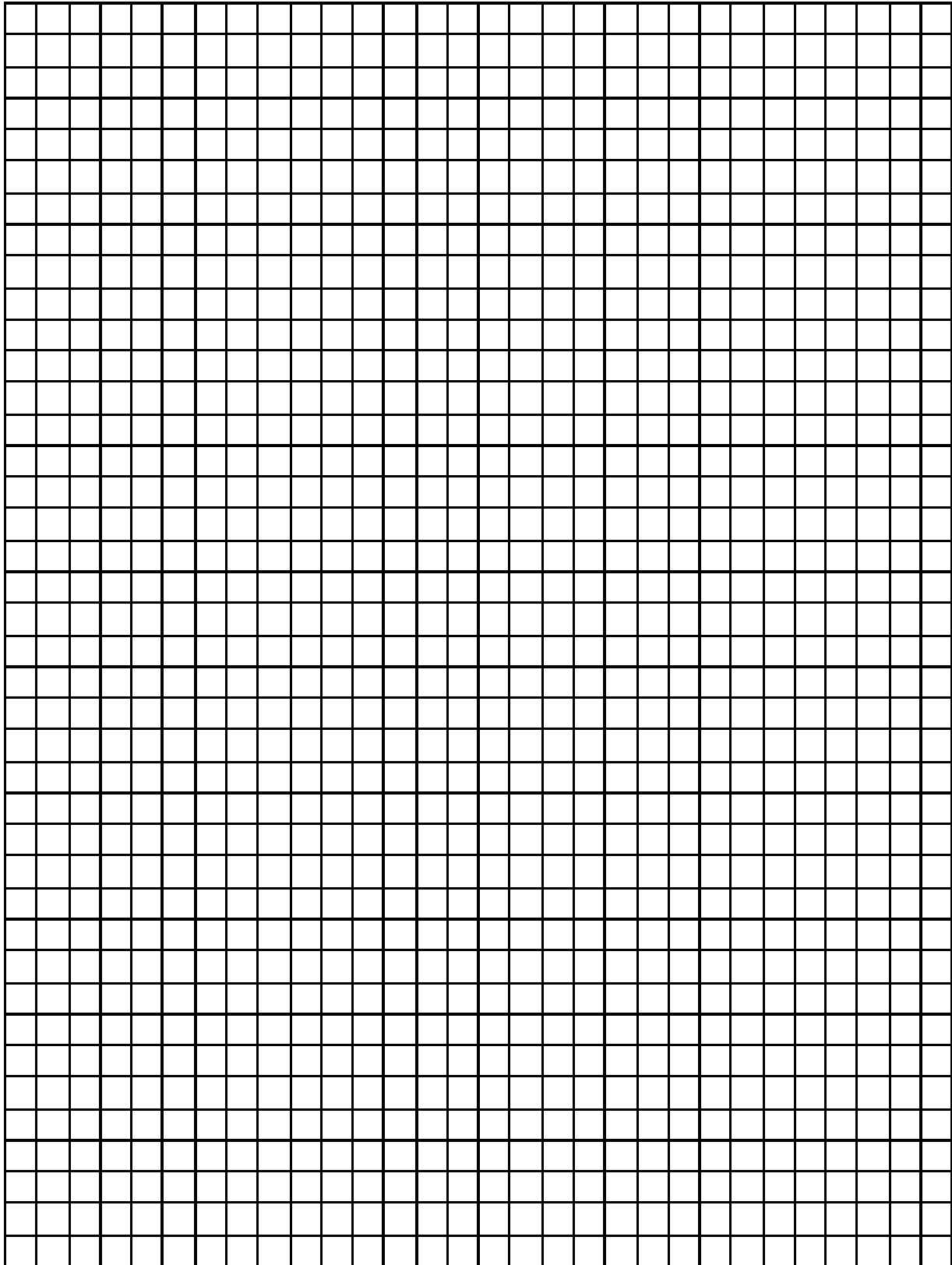
10. _____

Results: Data that were collected or observations that were written should be displayed. (a possible data chart **and** bar graph paper are included). Both the data chart and the bar graph should be displayed on the backboard.

Results can be displayed using:

- ☆ Charts
- ☆ Graphs
- ☆ Photographs

| In this column, you should list the thing that <u>you</u> changed in the experiment. | 1st Try | 2nd Try | 3rd Try | Average/ Mean |
|--|---------------------------|---------------------------|---------------------------|--------------------------|
| | | | | |
| | | | | |
| | | | | |



Conclusion: The conclusion should answer the question that started the investigation.

The conclusion should:

- ☆ Tell whether your hypothesis was correct
- ☆ Restate the original question
- ☆ Include a summary of what you found out in your experiment
- ☆ Use the data and make some observations about what you discovered
- ☆ Tell what you might like to explore further in future experiments

My conclusion:

In this experiment I found out that _____

My hypothesis _____ correct

because _____

From the data I collected, I can see that _____

When I do another experiment, I might like to

Ideas for Science Fair Projects

Below is a list of ideas that may be helpful to you.

1. How much salt does it take to float an egg?
2. Can the design of a paper airplane make it fly farther?
3. How long will it take a drop of food coloring to color a glass of still water?
4. Does warm water freeze faster than cool water?
5. Will bananas brown faster on the counter or in the refrigerator?
6. Which paper towel is the strongest?
7. Does a ball roll faster on grass or dirt?
8. Which type of water evaporates the quickest: salt, fresh, or tap water?
9. Which boat shape can support the most weight?
10. Does the direction a seed is planted affect the growth of the seed?
11. Does an ice cube melt faster in air or water?
12. Which brand of popcorn pops the most kernels?
13. Which brand of diaper holds the most water?
14. Does a plant grow bigger if watered by milk or water?
15. What gets warmer – sand or dirt?
16. What keeps things colder – plastic wrap or aluminum foil?
17. Which dish soap makes the longest lasting suds?
18. Does color affect how fast an ice cube melts?
19. Does the height of a hill affect how far a ball will roll?
20. What kind of container will allow hot water to stay hot longer?