

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## Science Christmas Break Assignment

Riverton will be hosting our 4<sup>th</sup> middle school science fair in May! To prepare for the aforementioned, you are **required** to come up with **three** different experiments you are interested in performing. We will discuss as a class some of your science project ideas and Ms. Scott, Ms. Shakes or Ms. Grant will review your information and have a discussion with you regarding your final project choice. This is extremely important, as each middle school scholar will be participating in a science fair this year. **Your parent/guardian is required to sign this assignment in order for you to receive credit.**

You are required to use the website **www.sciencebuddies.org** to find three experiments that you are interested in. When you are on the home page of the website, you will see a Project Idea tab where you will see the Help Me Find My Project Tab. Use the Topic Selection Wizard Tool to complete a short questionnaire about your interests and hobbies. The “Wizard” will use your responses to provide you with science project ideas you will personally enjoy. ***If you are interested in completing a science project that is not listed on this site, please make sure the experiments you are interested in are controlled experiments, where you are changing only one variable at a time in order to isolate results.***

You are required to submit **at least two** project idea from the [www.sciencebuddies.org](http://www.sciencebuddies.org) website. Please make sure you provide the website and name of the project below. ***Please view the following video as a refresher regarding controlled experiments:*** <http://bit.ly/1Yb7DQC>

If you or you your parents have any questions or concerns about this assignment please email me at [89.mscott@nhaschools.com](mailto:89.mscott@nhaschools.com) and I will get back to you at my earliest convenience. Ms. Shakes [89.jshakes@nhaschools.com](mailto:89.jshakes@nhaschools.com) and/or Ms. Grant [89.fgrant@nhaschools.com](mailto:89.fgrant@nhaschools.com) will also be available for assistance if needed. **Please do not forget to have your parent/guardian sign this assignment.**

Project Idea #1:

Project Idea #2:

Project Idea #3:

Parent/Guardian Name (print): \_\_\_\_\_ Parent/Guardian Signature: \_\_\_\_\_

**Complete the following:** (Use your notes from the scientific inquiry unit or the internet to assist you)

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

What is a controlled experiment?

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What is the independent (manipulated) variable in an experiment? \_\_\_\_\_

What is the dependent (responding) variable? \_\_\_\_\_

What is a hypothesis? How is this different from a scientific theory?

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How many times should an experiment be tested to assure accuracy? \_\_\_\_\_

Evaporation Investigation: Three groups of students decided to design experiments to learn more about the process of evaporation. One group of students used the four different containers shown below.



The students poured 100 milliliters of water at 20 degrees Celsius into each container. The containers were placed side by side on a table near the window for 24 hours. The next day the students used a graduated cylinder to measure

the amount of water left in each container. Write **one** question the students were probably trying to answer in their investigation.

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Explain why the students put the containers side by side instead of putting each container in a separate room. \_\_\_\_\_

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What is the independent variable in this experiment? \_\_\_\_\_

What is the dependent variable? \_\_\_\_\_

What are the constants (variables or factors that are kept the same)? \_\_\_\_\_

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