Third Grade Science Fair Project 2016/2017 School Year

Waters Elementary School

Dear Third Grade Parents,

This year, every grade will once again participate in a school-wide Science Fair! In third grade, students will have the option of doing their project individually or with a partner. These projects will be counted as part of your student's science grade. In the weeks leading up to the due date for the project, students will follow the steps of the Scientific Method (asking a question, constructing a hypothesis, testing the hypothesis by designing and performing an experiment, recording the results and observations, and drawing conclusions) to complete their Science fair projects.

In this packet, you will find the following components: A checklist (including dates when certain parts of the project are due), the project rubric, sample questions, and useful web resources for students and parents. Oftentimes, students think of science fair projects as "making a volcano", but for this project, students should be answering a scientific question or addressing a problem, not just create something "cool". The rationale behind this is that we are trying to prepare them for their science fair projects in the later grades, where their projects will be formally judged.

There will be a short research paper as part of the project, which we will work on in class. The other components are to be completed mostly at home. We will be conferring with students at every checkpoint be be sure that they are on-track, and of course, we will be talking about the scientific method in class.

The completed project board will be due on Monday, December 19th. We have not decided on an date for when the students will present their boards during the day to parents and other students, but it will be sometime shortly after the due date, and we will let everyone know the details when we get closer. Thank you, and have fun!

Sincerely,

Mr. King and Ms. Aguillar

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Project Checklist

Name(s)_____ Homeroom_____

Component	Due Date	Teacher Initials	Parent Initials
Question/Hypothesis Students state precisely what question their investigation is attempting to answer. Students state their hypothesis, or what they think the answer to the question will be before they conduct their experiment, and why they think so. *(Example question: Does the color of a candle affect the length of time that a candle will burn before going out?* *Example hypothesis: I think that a darker color candle will burn out faster than a lighter color candle, because it probably has more chemicals in it to make it darker and I think candles with more chemicals will burn quicker.)* **Students can simply write this part out on a piece of paper to show the teacher on the due date.**	October 28th		
Experiment Plan/Materials Students list the materials they will be using for their experiment, as well as a step-by-step procedure as to how they will conduct their experiment to help answer their scientific question. **Students can simply write this part out on a piece of paper to show the teacher on the due date.**	November 14th		
Experimental Observations and Results Students show their results and observations from their experiment (this can take the form of a data chart, a graph, written observations, photographs, drawings, or a combination of all) **Students simply need to bring in their results, no matter what form they're in, to be looked at.**	December 9th		
Research Portion Over the course of the two months, we will be working on the research writing portion in science class. The topic students will be writing about will be related to their scientific question. **THIS PORTION WILL BE DONE IN CLASS.**	December 16th		

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Final Project On a tri-fold presentation board (available at Staples, Office Max, Office Depot, and other office supply stores) students will present all the components of their experiment. These components will include: 1. Scientific question 2. Hypothesis 3. Materials Used 4. Step-by-step procedure 5. Results/data/graphs/pictures/drawings/observations 6. Conclusion (your conclusion should tell people what your experiment showed you, and whether it confirmed your hypothesis or not) 7. Acknowledgements (who helped you with your project)	December 19th		

Student Name_____ HR_____

Science Fair Project Rubric (Third Grade)

	5	4	3	Score
Organization/ Presentation	Project is well organized and neatly presented.	Presentation is adequate, shows attempt at organization.	Project is messy, shows little organization.	
Question and Hypothesis	There is a valid scientific question, and a prediction has been made with reasoning.	There is a question, but a prediction has not been made, or been made without reasoning.	Neither a question or a hypothesis is present.	
Materials	All materials are listed with measurements noted.	Not all materials are listed, or they are listed without measurements, or both.	No materials are listed.	
Procedure	Procedure is easily followed, with all steps included.	Procedure is present, but appears to be missing steps, or is not detailed and cannot be followed.	Procedure is missing.	
Results	Results are organized in tables, graphs, written paragraphs, and easily read. Pictures and drawings may or may not be included.	Results are not well organized, not quantitative, or difficult to understand.	No results are present.	
Conclusion	An evaluation and interpretation of the data and/or results; referred to the scientific question and hypothesis.	Conclusion is present, but not consistent with data collected, does not refer to hypothesis.	No conclusion is present.	
Research Paper (To be done in class)	Research paper is at least one page long, contains at least 6 researched facts, and has a proper citations.	Research paper contains less than 6 researched facts, does not contain proper citations.	No paper is turned in, or if it is, it does not have any facts or proper citations.	
Conventions	Good grammar and spelling are evident on the final project board.	Some spelling and grammar mistakes are evident on final project board.	Numerous spelling mistakes and grammar mistakes are evident on final project board.	
Originality	Project was highly creative.	Some creativity was demonstrated.	No originality was demonstrated.	

Total Points (45 possible): _____/45

Science Fair Ideas

How does the angle of a ramp affect how quickly a ball will roll down it?

Which cleaning product is best for removing carpet stains?

Which brand of paper towel is the strongest?

Which brand of popcorn leaves the fewest unpopped kernels?

Which fast-food burger contains the least grease?

Which cereal will stay crispy the longest when placed in milk?

Do suction cups stick equally well to all surfaces?

What effect does the weight of a bat have on how far a ball can be hit?

Which paper airplane will fly the farthest?

Is an egg stronger one way or another?

Which type of glue has a stronger bonding strength ?

What effect does moisture have on various types of glue?

Does the color of an object determine how much heat it absorbs from sunlight?

Does temperature affect the strength of rubber bands?

Which materials are the best insulators? What factors affect insulation?

Which would melt first, ice wrapped with plastic wrap or with aluminum foil?

Which freezes faster? Hot water or cold?

Which will boil faster? Hot water or cold?

Science Fair Ideas

Will a rubber band stretch the same distance every time that the same amount of weight is attached to it?

How does the trajectory of a projectile affect the distance traveled?

Can the design of a paper airplane make it fly farther? (be sure the mass of the airplane stays the same)

How do different wheels affect friction?

Does a ball-roll farther on grass, dirt, or carpet?

Do all objects fall to the ground at the same speed?

How can you measure the strength of a magnet?

Under what conditions does an ice cube melt faster?

Does the length of a vibrating object affect sound?

Will more air inside a basketball make it bounce higher?

Do all colors fade at the same rate?

What kind of glue holds two boards together better?

Does the width of a rubber band affect how far it will stretch?

Does the type of ground cover affect its temperature in sunlight?

Will a ball bounce higher if it is dropped at a greater distance from the floor?

Does the color of water affect its evaporation?

Does the amount of salt in water affect its evaporation?

What type of soil filters water the cleanest?

Which type\size of light bulb produces the most light?

How is paint affected by temperature changes?

How is the effect of glue affected by temperature?

What factors determine how long a candle will burn?

Does the color of a liquid contribute to its ability to absorb heat?

Does temperature affect how much salt or sugar can be dissolved in water?

How does surface area affect the evaporation rate of liquids?

What effect does temperature have on water evaporation?

What factors affect the period of a pendulum?

Do sunscreens really reduce the amount of ultraviolet radiation?

Does temperature affect how well seeds sprout?

Will soaking in water before planting help seeds sprout?

What effect would freezing have on how well seeds sprout?

Does soil acidity affect how well seeds sprout?

Does the depth a seed is planted affect its ability to sprout?

Does the type of water used affect seed germination?

Is plant growth affected by how closely together the seeds were planted?

Do plants grow better with tap water or distilled water?

What is the effect of different colors of light on plant growth?

Is plant growth affected by exposure to ultraviolet light?

Does sound have any effect on plant growth? Does music?

What effect does different types of music have on plant growth?

Which additive is the best for preserving cut flowers? (salt, asprin, 7-up, etc.)

Science Fair Project

Web Resource List

The following is a short list of suggested resources for students to use in completing their science fair projects.

http://www.sciencebuddies.org/science-fair-projects/project_ideas.shtml

http://www.internet4classrooms.com/sciencefair.htm

http://www.ipl.org/div/projectguide/

http://mathforum.org/teachers/mathproject.html

http://school.discoveryeducation.com/sciencefaircentral/Science-Fair-Projects.html

http://www.sciencebuddies.org/science-fair-projects/recommender_register.php

http://besttopsites.com/hot100/sciencefairproject.shtml