

IISME Educational Transfer Plan

ETP

Summer 2004

Math Newsletter

Joumana Alsumidaie

Synopsis

IISME

R. J. Fisher Middle School
LGUSD

SUBJECTS: MATH / TECHNOLOGY

LENGTH: 2-3 WEEKS

Abstract:

“Math Newsletter” is a project adapted from Microsoft Innovative Teacher. It is a 2-3 weeks project, during which students will work independently and collaboratively, in groups of four, to produce a newsletter that contains material related to what they learned in class. In this project, 7TH grade pre algebra students will review concepts of math that are covered in class, write a procedure for solving a math problem, research some facts about math, and report on a mathematician.

National Board Standards:

In this project students will work independently to search for information related to a math topic and report it to their group. As groups, students will cooperate and collaborate to produce 2-page newsletter containing 4 math related articles. Students will use all the technology resources available at school to search and extract information from different web sites, organize it and write about it. Students will also make use of all the support they can get from their community inside or outside their school.

NB Standard I. Commitment to All Students

“Accomplished mathematics teachers value and acknowledge the individuality and worth of each student; ...they demonstrate these beliefs by providing all students equitable and complete access to mathematics.”

NB Standard III. Knowledge of Mathematics

“Accomplished mathematics teachers draw on their broad knowledge of mathematics to shape their teaching and set curricular goals.”

NB Standard IV. Knowledge of Teaching Practice

“Accomplished mathematics teachers rely on their extensive pedagogical knowledge to make curricular decisions....”

NB Standard VI. Learning Environment

“Accomplished mathematics teachers create stimulating, caring, and inclusive environments. They develop communities of involved learners in which studentswork independently and collaboratively, and value mathematics.”

NB Standard VIII. Technology and Instructional Resources

“Accomplished mathematics teachers are knowledgeable about and, where available, use current technologies and other resources to promote student learning in mathematics”

NB Standard XI. Families and Communities

“Accomplished mathematics teachers work to involve families in their children’s education, help the community understand the role of mathematics instruction in today’s world...”

Objectives:

In this project, students will:

1. Use reading, listening, and observation skills to access and extract information from the internet and/or other sources.
2. Use a variety of available technologies to search, select, retrieve, write, and save information.
3. Organize and clarify mathematical information by reflecting, verbalizing, discussing, and writing.
4. Express mathematical ideas clearly and effectively using everyday language and the mathematical language appropriate to the audience.
5. Demonstrate mastery of pre algebra concepts.

Resources:

- ✚ Math text books, math journals and homework.
- ✚ School Computers and internet access.
- ✚ Student Internet list for “Cool Math Web Sites”.
- ✚ Student’s handout and Math Newsletter sample.
- ✚ Microsoft Word.
- ✚ Floppy disk (optional).
- ✚ Library (optional).
- ✚ People in the community: teachers, classmates, parents, friends and relatives (optional).

Planning:

1. Make sure that students have already learned the skills needed for writing a biography before starting the project. Collaboration with the Language Arts teacher is recommended. At Fisher, the same numbers of students are taught by one team of Core teachers: one language arts teacher, one math teacher, one history teacher, and one science teacher. So, I will have to coordinate with one teacher only☺.
2. Make sure computers are ready for the students to use when they start the project. Reserve computers ahead of time.
3. Send note to parents with information about the project.
4. Meanwhile, make sure the computers are ready for the project:
 - ✚ Computers have access to the Internet.
 - ✚ A technician is ready for trouble shooting, if possible.
 - ✚ All computers are functional.
 - ✚ All students know and abide by the school rules when using the internet.
 - ✚ All computers are equipped with Microsoft word. Students may need to draw, insert pictures or symbols, insert tables or excel, or other, when typing their math articles.
 - ✚ Assign one printer for class use that can be easily accessed by students and supervised by the teacher (printer inside the class if possible).
 - ✚ Make sure you have access to either a computer overhead projector or computer-TV connection for class demonstration purposes.
5. If, on the other hand, teachers prefer the use of the library, then a note should be given to the librarian some time ahead to facilitate student's access to library books and other resources.
6. Some students may need access to computers or the internet during breaks, or before and after school, so this should be taken into consideration during the planning phase.

Procedure:

Period 1 - Introducing the Project:

1. Distribute handout:
 - ✚ Student Project Overview
 - ✚ Internet Cool Math Web Sites List
 - ✚ Peer-Edit Form
 - ✚ Self Evaluation Form
 - ✚ Assessment Rubric
 - ✚ Sample Math Newsletter
2. Discuss the project: Explain handouts and sample newsletter.
3. Assign students to work as groups of four, or let students choose partners for their groups.
4. Review the "Use of Technology Protocol" with students – school rules and regulations when using school computers and the internet.
5. Talk about plagiarism and the importance of quoting sources for their articles.
6. Explain that students will use the internet list provided to search for information in class.
7. Tell students that they can use any resource for their search outside the classroom: library, magazines, newspapers, home PC's, school staff, friends, parents, relatives, or other.

Period 2 - Searching the Internet:

1. Assign a computer to each student.
2. Show students how to search the internet. Do one demonstration using your computer and the overhead or the TV connection. For example, go to <http://www.mathforum.org/dr.math/> and show students how to start a search for a word, a phrase - "scientific notation", biography of a mathematician, or any other math topic.

NOTE:

Prepare the demonstration that you want to do in class. Get yourself acquainted with the web sites that you want to use in the demonstration. Prepare ahead what topic you need to search for, or what problem or puzzle you are looking for and have the solution ready. Preparing ahead save time.

3. Let students practice searching. You may assign one web math site for the class to investigate.
4. Homework assignment: use the list provided to you to search the internet and collect information for your article.

Period 3 - Searching For Information:

1. Let students search assigned web sites from the "Internet Cool List" to gather more information.
2. Students who finished their search may start writing their articles.
3. Homework assignment: Finish writing your article. A rough draft of your article is due for peer editing on ---- (date to be assigned by teacher).

NOTE:

More than one period of class time may be needed for internet search. This is up to the teacher's judgment.

Period 4 - Peer Editing:

1. Students in the same group edit each other's work and help each other do the necessary corrections. Their goal is to do their best to produce the best newsletter in the class.
2. Students review and correct their work under the teacher's supervision.
3. Students in each group put together their articles and prepare a rough draft for typing.
4. Homework assignment: Finish the newsletter corrections.

Period 5 - Using Microsoft Word:

The newsletter template is downloaded on the computer for students' use.

NOTE:

You may create the template of your choice using Microsoft Word, or choose a ready made template from Microsoft publisher – Newsletter format.

1. Introduce Microsoft word features that are needed for writing math articles:

- ✚ Font type.
- ✚ Font style: Bold, highlight and underline.
- ✚ Font size.
- ✚ Inserting pictures: copying, changing size and pasting a picture.
- ✚ Inserting symbols or characters.
- ✚ Inserting tables and formatting tables, shading, and borders.
- ✚ Drawing shapes.
- ✚ Inserting text box.
- ✚ Formatting bullets and numbering.
- ✚ Using symbols for mathematical operations and equations.

2. Ask students to use the prepared template to write their articles.
3. Have students type their articles.
4. Homework assignment: Finish typing your article.

NOTE:

More class-time may be needed to finish typing the rough draft of the newsletter.

Period 6 - Group Editing:

1. Students in one group will edit the rough draft of the newsletter of another group and complete the edit form.
2. Students do the final corrections on their newsletter rough draft.
3. Homework: A hard copy and a soft copy of rough drafts are submitted to the teacher on --- (date announced by the teacher).

Period 7 - Final Corrections:

1. Teacher returns rough draft to students with feedback.
2. Students work in their groups on the newsletter rough drafts and do the necessary corrections to produce the final draft of their newsletter.
3. Homework: a hard copy and a soft copy of the final draft of newsletter are due to teacher on --- (date to be announced by teacher).

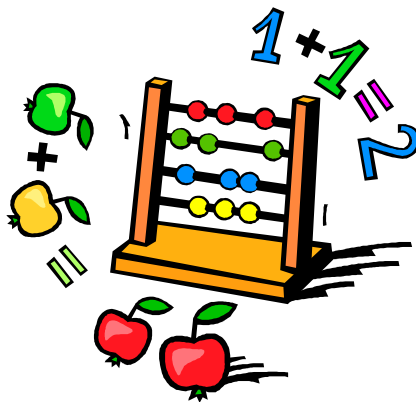
Evaluation / Assessment:

- ✚ Teacher Observation
- ✚ Peer-Edit Form
- ✚ Self Evaluation Form
- ✚ Assessment Rubric



MATH NEWSLETTER

STUDENT HANDOUT





MATH NEWSLETTER

Student Project Overview

You will work in groups of 4 to write a math newsletter that contains news about math. Each student in your group should write one article. You will use the Newsletter template assigned by your teacher to create a newsletter and fill it in with your articles. You need to have at least 4 articles in your newsletter from one of the following topics:

❖ Facts about math

- No trivial facts, such as “a square is a shape” or “a circle is round”!
- Include interesting facts or findings that might be bizarre but real and scientific.

❖ Math problem or puzzle

- Use a problem similar to what we solved in class but different.
- Include the solution in your newsletter and explain its procedure.

❖ Biography on a mathematician

- Choose any mathematician and include what he/she contributed to math.

❖ Math puzzle

- Include the solution in your newsletter.

❖ Your favorite topics about math

❖ Why math is important

❖ Professions that use math

You can not write two articles for one topic. Notice that all articles must relate to math, and all sources must be documented especially Web sites. You can insert pictures into your newsletter, but they must be related to the article and you must document the source of the picture. Well done and creative newsletter will be published in the school.

WHAT IS EXPECTED

1. Two-page newsletter containing at least four articles related to math.
 - Include the date under the title of your newsletter.
 - Write your name under the title of your article.
 - List all resources, including Web sites, for each article in your newsletter.
2. Two two-sided copies of your newsletter. Colored copies are preferred.

TIME LINE

Your rough draft is due _____, and the final newsletter is due _____.



MATH NEWSLETTER Internet List

COOL MATH WEB SITES

All Math Related Questions:

1. <http://mathforum.org/dr.math/>

Math Facts:

2. <http://www.math.hmc.edu/funfacts/>
3. <http://www.math.hmc.edu/cgi-bin/funfacts/main.cgi?Subject=00&Level=1&Keyword=>

Problems, Games, and puzzles:

4. <http://nrich.maths.org>
5. http://www.edhelper.com/logic_puzzles.htm

Biography:

6. http://mathforum.org/library/drmath/results.html?textsearch=mathematician+biography&textsearch_bool_type=and&textsearch_whole_words=no
7. <http://www-history.mcs.st-and.ac.uk/history/Indexes/L.html>
8. http://www.edinformatics.com/kids_teens/mathematicians.htm
9. <http://scienceworld.wolfram.com/biography/Fibonacci.html>

More Math:

10. http://www.grc.nasa.gov/WWW/K-12/WindTunnel/Activities/buoy_Archimedes.html
11. http://imagine.gsfc.nasa.gov/docs/dict_jp.html#newton

MATH NEWSLETTER

PEER- EDIT FORM

Author

Editor

1. Read the questions below, and then read the newsletter.
2. Check and correct any spelling, grammatical, or mathematical errors.
3. After you have finished reading the newsletter, answer the questions below.

What did you like most about the newsletter?

Is each article relevant to math?

Did you do any corrections? Please explain.

If you have one suggestion that would improve this newsletter, what would it be?

Out of 100 points, how many points would you give this newsletter? Explain.

MATH NEWSLETTER

ASSESSMET RUBRIC

CATEGORY	5	3	1	SCORE
<u>Content</u>	Shows a full understanding of topic.	Shows a good understanding of parts of topic.	Does not seem to understand topic very well.	
<u>Quality of Articles</u>	Each article provides accurate and interesting information	Information in some articles is inaccurate.	Information in some articles is inaccurate and topics are trivial.	
<u>Sources</u>	All sources and graphics are documented	Some of the sources and the graphics are documented in the desired format.	Sources and graphics are not documented in the format; too few sources.	
<u>Mechanics</u>	No more than two grammatical, spelling, or punctuation errors.	Fewer than five grammatical, spelling, or punctuation errors.	More than five grammatical, spelling, or punctuation errors.	
<u>Format</u>	Newsletter is professionally presented. The articles are arranged in a logical sequence. Includes title, name of author, and date.	Newsletter is professionally presented, but articles are not well arranged and it does not include basic information.	Newsletter does not have a professional look, and articles are presented in a sloppy fashion.	
<u>Total Score</u>				