

**Name:** Stacie Fuller  
**Title:** Math is Everywhere from A to Z  
**Grade Level:** 6  
**Subject Area(s):** Math  
**School/District:** Squaw Peak/ Creighton  
**Time Frame:** 2nd and 3rd Quarter

## **SUMMARY:**

*Math is Everywhere from A to Z* is my thematic unit of study for 2nd and 3rd quarter. This unit of study enhances the 6th grade math curriculum and technology instruction. My goals for this unit of study are to expand students' knowledge in regards to math vocabulary, looking outside the classroom for math concepts, researching, presenting and organizational skills. Students will work in cooperative learning groups while researching and presenting. Throughout this project, the student will research, investigate and study math terms and how math relates to the "real world" using the letters of the alphabet. (see attached/example) Students will have the opportunity to use technology to support an oral presentation.

## **STANDARDS:**

### **MATH:**

#### **STANDARD 1:**

Students develop number sense and use numbers and number relationships to acquire basic facts, to solve a wide variety of real-world problems, and to determine the reasonableness of results.

1M-E1. Read, write and order integers, whole numbers and rational numbers.

PO3: Read and write whole numbers, integers, common fractions and decimals using real-world situations.

#### **STANDARD 4:**

Students use geometric methods, properties and relationships as a means to recognize, draw, describe, connect, and analyze shapes and representations in the physical world.

4M-E1. Visualize and draw two-and three-dimensional geometric figures with special attention to analyzing and reasoning informally about their properties.

PO2: Identify the properties of geometric figures using appropriate terminology and vocabulary.

4M-E2. Apply geometric properties and relationships such as congruence, similarity, angle measure, parallelism and perpendicularity to real-world situations.

PO3: Label corresponding, supplementary and complementary angles.

PO4: Measure and label specified angles.

#### **STANDARD 5:**

Students make and use direct and indirect measurement, metric and U.S. customary, to describe and compare the real world and to prepare for the study of discrete functions, fractals and chaos which have evolved out of the age of technology.

5M-E1. Estimate, make and use measurement (U.S. customary and metric) to describe and make comparisons.

PO4: Compare estimated measurements between U.S. customary and metric systems.

## **STANDARDS: TECHNOLOGY:**

### **STANDARD 1:**

Students understand the operations and function of technology systems and are proficient in the use of technology.

**1T-E1. Communicate about technology using developmentally appropriate and accurate terminology.**

**PO2: Use basic vocabulary related to systems.**

**1T-E2. Demonstrate increasingly sophisticated operation of technology components.**

**PO3: Demonstrate functional operation of technology devices.**

**1T-E3. When a system is not working properly, demonstrate an understanding of hardware, software and connectivity problem solving processes.**

**PO2: Use troubleshooting strategies to solve basic hardware problems.**

### **STANDARD 2:**

Students understand the social, ethical and human issues related to using technology in their daily lives and demonstrate responsible use of technology systems, information and software.

**2T-E1. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use.**

**PO2: Describe and practice safe Internet/Intranet usage.**

### **STANDARD 3:**

Students use technology tools to enhance learning, to increase productivity and creativity, and to construct technology-enhanced models, prepare publications and produce other creative works.

**3T-E1. Use formatting capabilities of technology tools for communicating and illustrating.**

**PO1: Use word processing editing tools to revise a document.**

**3T-E2. Use a variety of technology tools for data collection and analysis.**

**PO1: Use technology device(s) to collect and record data.**

**3T-E3. Publish and present information using technology tools.**

**PO1: Design and create a multimedia presentation or Web page using multiple digital sources.**

**PO2: Publish or present the above production.**

### **STANDARD 4:**

Building on productivity tools, students will collaborate, publish, and interact with peers, experts and other audiences using telecommunications and media.

**4T-E2. Use technology tools for individual and collaborative writing, communication and publishing activities to create curricular related products for audiences and outside the classroom.**

**PO1: Plan, design and present an academic product using technology tools.**

**4T-E3. Collaboratively use telecommunications and online resources.**

**PO3: Present an academic product to share data and/or solutions.**

**STANDARD 5:**

**Students will utilize technology-based research tools to locate and collect information pertinent to the task as well as evaluate and analyze information from a variety of sources.**

**5T-E1. Locate information from electronic resources.**

**PO2: Define subject searching and devise a search strategy to locate information using available electronic research resources.**

**STANDARD 6:**

**Students use technology to make and support decisions in the process of solving real-world problems.**

**6T-E1. Determine when technology is useful and select and use the appropriate tools and technology resources to solve problems.**

**PO1: Based on a problem selected by the student, identify and use appropriate technology tools to:**  
**a) collect data**

**STANDARDS:**

**LANGUAGE ARTS:**

**STANDARD 3: Listening and Speaking**

**Students effectively listen and speak in situations which serve different purposes and involve a variety of audiences.**

**LS-E Students effectively listen and speak in situations which serve different purposes and involve a variety of audiences**

**PO2: Prepare and deliver an oral report in a content area and effectively convey the information through verbal and nonverbal communications with specific audience**

**STANDARD 4: Viewing and Presenting**

**Students use a variety of visual media and resources to gather, evaluate and synthesize information and to communicate with others.**

**VP-E Students use a variety of visual media and resources to gather evaluate and synthesize information and to communicate with others**

**PO2: Plan, develop and produce a visual presentation, using a variety of media such as videos, films, newspaper, magazines and computer images**

## **OBJECTIVES:**

Students will demonstrate knowledge, comprehension, application by:

- \* researching math vocabulary and definitions using books, encyclopedias, magazines, videos, CD roms, and Internet to research.
- \* relating math vocabulary and definitions to the “real world.”
- \* delivering an oral presentation which demonstrates public speaking skills, knowledge of topic, and effective use of visual aids.
- \* evaluating presentation.
- \* create a multi-media presentation.

**ASSESSMENTS:** See attached rubric and evaluation form

## **PRE-REQUISITE KNOWLEDGE:**

- \* Word processing (typing)
- \* A lesson is planned to review Hyperstudio and the Internet

## **LEARNING ENVIRONMENT:**

- \* Regular classroom
- \* Small group
- \* Large group

## **PROCEDURES**

### *2nd Quarter*

1. **Presentation of example** - Students will watch teacher model the project on Hyperstudio and by using the teacher’s example (see attached). This is the time that students will receive direct instruction about Hyperstudio. Each group will consist of a “computer expert” to help the group with Hyperstudio. (1 day)
2. **Finding resources** - Students will become familiar with a variety of resources, such as CD roms, math books, magazines, Internet, encyclopedia, etc., available for them to use while working on project.

**Internet** - Students will launch the Internet and go to the web site at [www.MAINdictionary.html](http://www.MAINdictionary.html). Once they find the web site, they will scan through the web site to find math vocabulary and definitions.

**Exploring sources** - Students will explore books, magazines, CD roms, encyclopedia, and several web sites like [www.kent.k12.wa.us/curriculum/math/edmath/glossary/](http://www.kent.k12.wa.us/curriculum/math/edmath/glossary/) and [www.learner.org/exhibits/dailymath/](http://www.learner.org/exhibits/dailymath/). (3 weeks)

**Storyboarding** - Students will paper and pencil to plan their Hyperstudio.

### *3rd Quarter*

3. **Classroom** - Students will work on this project every Friday. During this time, they will be able to use the mini-lab for typing, researching, investigating, relating to the “real world” and to create their Hyperstudio. Other sources, such as books, encyclopedias, magazines, and CD roms will be available for the students to use.

4. **Oral Presentation** - Students/groups will give a Hyperstudio presentation on their project. During this time, each cooperative learning group will explain A to Z math vocabulary, definitions and real world situations. Students will evaluate using the presentation/evaluation form (see attached).

## **TOOLS AND RESOURCES:**

### **NUMBER OF COMPUTERS:**

- \* 5 in classroom

### **SOFTWARE:**

- \* Hyperstudio
- \* Internet
- \* Carmen San Diego Math Detective
- \* Math Heads
- \* Math Blaster Mystery
- \* Clue Finders Math Adventures

### **INTERNET URL'S:**

- \* [www.yahooligans.com](http://www.yahooligans.com)
- \* [www.MAINdictionary.html](http://www.MAINdictionary.html)
- \* [www.discovery.com](http://www.discovery.com)
- \* [www.10.1.1.9/vl/vlhome.html](http://www.10.1.1.9/vl/vlhome.html)
- \* [www.learner.org/exhibits/dailymath/](http://www.learner.org/exhibits/dailymath/)
- \* [www.kent.k12.wa.us/curriculum/math/edmath/glossary/](http://www.kent.k12.wa.us/curriculum/math/edmath/glossary/)

### **PRINTED MATERIALS:**

- \* Teacher's example (see attached)
- \* Other students' examples

### **SUPPLIES:**

- \* Computers
- \* Deadline sheet (see attached)
- \* Presentation/Evaluation form (see attached)

### **RESEARCH MATERIALS - BOOKS:**

- \* Encyclopedia
- \* Dictionary
- \* Math books

### **OTHER:**

- \* Videos
- \* Personal interviews
- \* Television

## **MODIFICATION FOR DIFFERENTIATED INSTRUCTION**

**SPECIAL EDUCATION:**

- \* Students will be provided with clarification of math definitions and provided examples of math concepts relating to the real world from regular and special ed. teachers.

**ESL:**

- \* Students will be allowed to complete and present the project in their native language.

**GIFTED:**

- \* Students may choose to have a multi-media presentation as part of their project. (e.g., interactive Web site)