

Subject: Mathematics

Grade: Ninth

Standard: #8 Reasoning  
#9 Communication

Key Concept: Students talk, write, and solve problems about mathematics and its uses in daily life.

Generalization: Students solve and explain in writing the thinking involved in solving a real-world problem.

Background:

This lesson would be appropriate as a means of helping students realize the importance and usefulness of mathematics in every day life. It will also enhance students' confidence in their abilities in mathematics and provide a way for them to grow in mathematical reasoning.

Students choose a tier according to interest in a situation from the book by Mary Ford Washington, Real Life Math Mysteries, ISBN# 1-882664-14-0. This book contains 28 situations which include a mathematical mystery associated with a wide variety of real life situations. Among the situations included in the book are the following: banker, landscaper, veterinarian, health care administrator, Taekwon-do instructor, truck driver, travel agent, contractor, disc jockey, electrician, engineer, sporting goods specialists, archeologist, mayor, journalist, and airplane pilot. Each situation gives a brief description and several problems related to the particular field. You may know of other books which describe real life occupations and problems which would also be appropriate.

Students should select one situation to study and solve one or more of the problems. Students will present the situation, problem, and solution to the class. Students may work in pairs or individually. It will be necessary to copy the pages of the book for each student or pair of students. The number of tiers will be determined by the student selections. I would encourage every student or pair of students to make different selections.

This lesson will take 2-3 days to complete. You may want to assign the

material one day, allow several days outside of class for them to develop a solution and short written report, and then 1-2 days for the presentations.

This lesson is tiered in *content* according to *interest*.

Possible tiers include but are not limited to those listed below. I would envision there being almost as many tiers as the number of students in your class.

- Tier I: ***Banker***
- Tier II: ***Landscaper***
- Tier III: ***Airplane Pilot***
- Tier IV: ***Nurse***
- Tier V: ***Engineer***
- Tier VI: ***Farmer***
- Tier VII: ***Mayor***
- Tier VIII: ***Zookeeper***
- Tier IX: ***Detective***
- Tier X: ***Archeologist***

Assessment:

A rubric for the presentation should be based primarily on organization, presentation skills, and accuracy of the situation description. The written report rubric should include points for spelling, grammar, neatness, and correctness of the problem solution. Rubrics should be given to the students before beginning the lesson.