

Career in Math Project

Name: _____
Homeroom: _____

Date _____

Goal: Students will use technology to research mathematics in careers in order to increase their awareness and appreciation of mathematics in the “real world.”

Timeframe: The Careers in Mathematics project will be spread across a 3-week period. We will spend three class periods in the computer lab to allow time for research and design. The portfolio will be put together outside of class over a two-week period. These portfolios will be presented to the class.

Learner Outcomes:

- Students will use established criteria to create a portfolio on a chosen career
- Students will demonstrate through their portfolio an understanding of "real world" application of mathematics
- Students will use creativity and several resources to gather and synthesize their research
- Students will use technology as a research tool
- Students will organize their research in an organized and appealing manner
- Students will make an oral and visual presentation of their findings using established criteria

Phase I: The Portfolio

Your first duty is to make a portfolio containing information on one of many different jobs available to these talented mathematicians. The portfolio must contain the following information either in a table format, poster, PowerPoint, Webpage, newsletter, etc:

<u>Job Description</u>	<u>Best Colleges: Cost and Scholarships</u>	<u>Expected Salary</u>
<u>Who is Hiring and Where?</u>	<u>Employment Outlook</u>	Bonus

Job Description

Choose a career that you may be interested in pursuing. Traditional sources of research are always available, such as the job section in the newspaper, reference books in the library or search Web sites on the Internet for ideas on different careers.

As you compile information there are items that must be included within your job description: [SEP]

1. What education is necessary? High school? College? Post Graduate?

2. What math is used on the job?

3. How is the math used?

Below are some possible sites to search on the Web.:

Mathematical Sciences Career Information <http://www.ams.org/careers/>

Career Builder <http://careerbuilder.com/>

American Mathematical Society's -- Seeking Employment
http://www.ams.org/committee/profession/seeking_employment.html

Women in NASA <http://quest.arc.nasa.gov/women/WON.html>

Careers In Math and Statistics <http://www.math.yorku.ca/Careers/menu.html>

Career Center <http://www.monster.com/>

Math Fields and Applications (mathematicians in industry and government)

<http://www.ams.org/careers/mathapps.html>

Colleges: Cost and Scholarships

Since most mathematics related careers require higher education (post high school), your portfolio must include information on colleges that offer programs related to your career. Also include scholarship information. Below are some possible links to get you started.

The College Guide

<http://mycollegeguide.org/>

Colleges and Universities^[1]_{SEP}

<http://www.mit.edu:8001/people/cdemello/C.html>

CollegeNet

<http://www.college.net.com/elect/app/app>

Expected Salary

Prospective clients will certainly want to know what salary they can expect. Below are a few possible sites. A better and more current source for salary information may be someone who is actually in the industry.

Job Smart

<http://jobstar.org/index.php>

Who is Hiring and Where are They?

What companies need talented mathematicians in your field? Here are a few sites to explore.

The Monster Board

<http://www.monster.com/>

Employment Outlook

What is the employment outlook for mathematicians? Are jobs available for professionals in your chosen career?

Occupational Outlook Handbook

<http://stats.bls.gov/oco/oco2003.htm>

Seeking Employment in Mathematical Sciences

http://www.ams.org/committee/profession/seeking_employment.html

O*NET OnLine

<http://online.onetcenter.org/link/summary>

Phase II: The Presentation

Once your portfolio is completed, you are to make an informative and persuasive presentation to your customers (students in your class) on your findings. Your presentation should contain all the important information in your portfolio plus any other interesting information you have researched about the job. You should include a visual (i.e., multi-media presentation, video, poster or some other creative idea -- other than an overhead with summarized information)

Bonus

Your boss has agreed to give you a bonus if you go above and beyond the call of duty and include a mathematical problem that would be solved by someone in that occupation.

Evaluation

Your employer has established criteria by which you will be evaluated. The details are outlined in a rubric.

Good luck in your new position as an employment agent!

Name: _____

Homeroom Teacher _____

Rubric Checklist

1. Portfolio: contains cited information on job description, colleges, expected salary, who is hiring and where, employment outlook, and personality traits for your chosen career. (20 points)

Due Date for Portfolio Information _____

2. Portfolio is transformed into a poster, PowerPoint, Webpage, newsletter, etc and presented to the class:

- Visual must contain all sections from Phase 1 (20points)
- At least three visuals (clipart, pictures from magazines, etc) (10 pts)
- Oral presentation (10 pts)
- Visual is very neat, organized, colorful, and easy for the class to see. If designing a newsletter, make copies for your classmates. (15 pts)

Due Date for Presentation _____

3. Students include at least 10 questions you have about your chosen math job field/career.

- Question presentation. (10 pts)
- Research to answer questions. (10 pts)

Due Date for questions _____

4. Bonus: include a mathematical problem that would have to be solved by a professional in your chosen career. You may ask this in the interview. (Bonus of 5 pts)

Due Date for Bonus _____

5. Self-Evaluation: You will grade yourself on the project using the rubric and answer the self-evaluation form. (5 pts)

Due Date for Self-Evaluation _____

Total Scores

1. Portfolio Information (20 pts) _____
2. Transformed Portfolio and Presentation (55 pts) _____
3. Question Presentation (20 pts) _____
4. Bonus (+5 pts) _____
5. Self-Evaluation (5 pts) _____

Total Project Points (100 points) _____