



Math Projects

Objective: -To develop positive attitude towards mathematics

-To promote effective mathematical communications

1. The Theorem of Pythagoras

- Pythagoras and Discovering the Pythagorean Theorem.
- animated proofs of the Pythagorean theorem
- applications to real-life
- Pythagorean triples
- The Chinese proof
- A dissection proof

2. The Tunnel of Samos

Describe the remarkable engineering work of ancient times: excavating a one-kilometre tunnel straight through the heart of a mountain, using separate crews that dug from the two ends and met in the middle. How did they determine the direction for excavation?

3. The Golden Ratio

- Fibonacci Sequence
- Fibonacci in Nature
- Discover the Golden Ratio
- Golden Ratio in Art
- Investigating Beauty with the Golden Ratio

4. What is a Magic Square?

- History and mathematics of magic squares.
- How many magic squares are there?
- What are the properties of these magic squares?
- History and mathematics of magic squares.

5. Pascal's Triangle

6. Eratosthenes of Cyrene

- How Eratosthenes measured the circumference of the earth?
- How You Can Find the Radius of Earth?
- How Shadows Change During the Day?
- How can we measure the distance from the earth to the moon by simple Geometry?

7. The Great Contributions of Muslim Scientists to math & science.



The Life of Al-Khwarizmi the Author of Al-Jabr

Summary: This project asks the student to detail the life of a mathematician. It is for students who enjoy doing independent research using the Internet and/or library resources.

Requirements: The report must contain...

- info about the life and history of the mathematician [date of birth/death, place of residence, anecdotal stories]
- typed final version or Power Point
- Mathematical discoveries like contributions to society, technology, or field of mathematics, benefit humankind
- bibliography
- 2-3 minute oral presentation

8. The history of mathematics

- What does the word mathematics mean?
- Who first used mathematics and how?
- What is Babylonian Mathematics?
- What is Egyptian Mathematics?
- What is the Roman Numeral System?
- What do you know about the Hindu-Arabic Numeral System?
- Who discovered the zero?

	1	2	3	4	5	6	7	8	9
Cod. Vigilus (976 C.E.)	I	7	3	4	5	6	7	8	9
Vatican MS. lat. 3101 (1077)	1	2	3	4	5	6	7	8	9
British Mus. Add. 17808 (XII)	1	2	3	4	5	6	7	8	9
General forms, c. XIII	1	7	3	4	5	6	7	8	9
General forms, c. XIV	1	2	3	4	5	6	7	8	9
General forms, c. XV	1	2	3	4	5	6	7	8	9
General forms, c. XVI	1	2	3	4	5	6	7	8	9

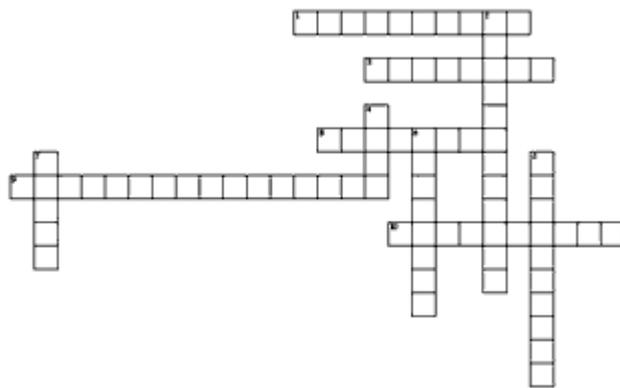
9. Woman in math

- Who is the first female mathematician?
- Give brief information about the following female mathematicians.
HYPATIA OF ALEXANDRA
ELENA CORNARO PISCOPIA
MARIA AGNESI
SOPHIE GERMAIN
ALICIA BOOLE STOTT
- Write about the role of the woman in other branches. Give some examples.

10. The Story of Pi π

- What is pi (π)? Who first used pi?
- How do you find its value?
- Pi in real life
- Pi and the Area of Circles

11. Creating a puzzle



Summary: This project is for students who enjoy creating spatial displays as in cross word puzzles.

Requirements: The puzzle must contain...

- a list of at least twenty-five (25) math clues that are clearly written and understandable
- proper grammar and spelling
- answer key
- 2-3 minute oral presentation

12. Sing a song



Summary: This project is for students who enjoy using their singing talents to express a mathematical principle and/or concept.

Requirements: The singing project must contain...

- one page of lyrics that explain or describe a mathematical principle and/or concept,
- a parody of an existing song or an original work
- 2-3 oral presentation either live or recorded

12. Role play



Summary: This project is for students who enjoy being creative in front of an audience.

Requirements: The role-playing project must contain...

- one or more pages typed script, poem or play that explains or describes a mathematical principle and/or concept
- it can be a parody of an existing theatrical performance or an original song
- a professional delivery [dramatic, humorous, informative]
- 2-3 minute oral presentation either live or taped