

A Geometry Newsletter

Utah Core Indicators: Geometry Content Standard 3 Process Standards 3, 4

Broad Understanding: Learning about those who developed the ideas of geometry reveals the questions they studied and the way they answered them. Our current geometry is based on those very questions and answers.

Essential questions:

- What questions did the people who developed geometry ask?
- How did they answer these questions?

Knowledge and Skills:

- Internet research about geometry, its uses people involved with it, current studies, etc.

Assessment Evidence: (“Understanding” and “Knowledge”)

- Students present information, pictures, and etc. This presentation could be in the form of a PowerPoint slide show. Evaluate using a rubric created with student input. For help developing a rubric, see the rubric website under Web Resources in the Teacher Info link.
- Student summations of learning from their own and others research. Evaluate with a rubric or just read them and give them a completion grade.

Learning Plan

Materials: Portable Computer Lab

Time: 2-3 days

Lesson Type: Student Research

Directions:

Remember to post essential questions.

The idea is to learn about geometry by researching via the Web and other sources. Students should learn from and ask questions of each other when they present the results of their research.

Have students write a summation of learning from their own and others research. Evaluate with a rubric or just read them and give them a completion grade.

Have a supply of interesting books dealing with Geometry available to help students become engaged in learning about geometry. (Escher books, Fractal books, Famous mathematician books, The Kings’s Chessboard, The Village of Round and Square Houses, Grandfather Tang’s Story, Flatland, etc.)

A Geometry Newsletter

A *newsletter* is a publication that provides readers with information about a specific subject or topic. For this activity you will create and produce a geometry newsletter. The following are some helpful tips that you can use in producing your newsletter.



1. Your newsletter should contain interesting articles about geometry.
2. Some topics may require research. Be sure that your geometry and math facts are correct.
3. Write clearly and use correct grammar and punctuation.
4. Use headlines to capture the reader's attention.
5. Illustrate your newsletter with clip art or line drawings.
6. Design your newsletter in an attractive layout.
7. If possible, use computers and printers to produce your newsletter.
8. After producing your newsletter, be sure to share it with others.

Here are some possible topics for articles. Brainstorm to identify more.

Famous Mathematicians and Geometry
Self-help Articles for Learning Geometry
Games and Puzzles that relate to Geometry
Shortcuts for Solving Geometry Problems
Geometry Trivia
Little-Known Facts in Geometry
Interviews with Students about Geometry
Suggestions for Geometry Projects
Articles about Geometry in Real Life
Escher and Geometry

Grading Scale for Geometry Newsletter

Creativity	10 pts
Neatness	10 pts
Accuracy of Articles	10 pts
Articles are Geometry Related	10 pts
Spelling and Grammar	10 pts

Example of Newsletter can be found on the following pages.

MATH ROCKS

Volume 1 Issue 1 – Fall 2001

The Principles Behind Mathematics

What are the Principles? The NCTM Principles describe basic tenets about a high-quality mathematics instructional program. They provide guidance for making educational decisions that will influence our students' learning opportunities. The Principles apply at many levels of the educational system and thus encourage and support systemic change. They also express the perspectives and assumptions that underlie the ten standards discussed in the NCTM document *Principles and Standards for School Mathematics*.

The six principles for school mathematics address overarching themes:

Equity Principle. It is essential, if we are to promote excellence in mathematics education, that we have equity. Mathematical teaching should provide solid support for the learning of mathematics by *all* students.

Curriculum Principle. A school mathematics curriculum is a strong determinant of what students have the opportunity to learn and what they actually learn. Mathematics instructional programs should emphasize important and meaningful mathematics through curriculum that is coherent and comprehensive.

Teaching Principle. Effective mathematics teaching depends on competent and caring teachers who teach all students to understand and use mathematics. It also requires understanding what students know and need to learn and then challenging and supporting them to learn it well.

Learning Principle. Mathematical instructional programs should enable all students to understand and use mathematics. This is essential in to enable students to solve the new kinds of problems they will inevitably face in the future.

Assessment Principle. Through assessment we should support the learning of important mathematics and furnish useful information to both teachers and students. It should become a routine part of the ongoing classroom activity rather than an interruption.

Technology Principle. Technology should be used to help all students understand mathematics in an

increasingly technological world. However, it should not be used as a replacement for basic understandings and intuitions.

Intel Grant Supports Middle School Technology

The Intel Corporation donated \$256,000 to implement improvement in math/science teaching and learning in nine middle schools. The grant along with Eisenhower grants, district, and local school funding, will provide teachers the training, professional support and technology to integrate "hands-on" technology that supports learning in math and science curriculum. Intel has equipped nine middle schools with a mobile nine-station math/science computer lab. These middle schools are South Hills, Oquirrh Hills, Elk Ridge, Joel P. Jensen, Indian Hills, West Hills, Albion, West Jordan, and South Jordan. Intel also provided a grant to support a specialist that will assist and support the teachers involved in this project. The teacher selected for this is Camille Baker.

We would like to give a special thanks to Andee Bouwhuis and Jennifer Ward from South Hills Middle School for developing the concept for this project. We would also like to thank our Math Curriculum Consultant, Pam Giles, for her great support.



World's Tallest Man By Dave Bradley

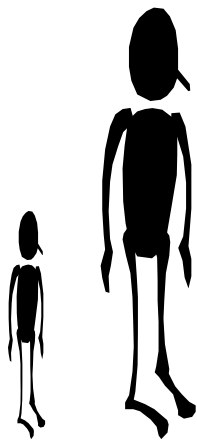
Robert Wadlow was a pituitary giant, someone who grows enormously due to an overactive pituitary gland. He was born in Alton, Illinois a completely normal

baby, 8 ½ lbs. However, by the time he was a year old he weighed twice normal, 44 lbs. By nine years he'd reached 6' 2", by sixteen he hit 7' 10", and nearly 400 lbs. Finally he topped out in 1940 at 8' 11.1" tall and weighed 439 lbs.

Wadlow first planned to become an attorney, but found college life difficult due to his size. Pens and pencils were difficult for him to use, lab instruments were a nightmare, and he could scarcely walk in icy conditions. His bones were brittle, and a single fall could put him in the hospital.

He began making money endorsing Peters' Shoes early in life, so when college became too difficult he decided to open a shoe store of his own. He signed on with Ringling Brothers to come up with the starting cash.

He died at age 22 from an extreme infection caused by a brace on his ankle. His extreme height caused him lowered sensitivity in his legs and the brace had caused a sore the he didn't notice until it had become infected.



Algebra activity: Plot the data in the chart below - Age along the x-axis and Height on the y-axis, the find an equation for a "line of best fit." I recommend students use a full sheet of graph paper and "eye-ball" the line. Then find the slope and intercept and write the equation. I've also had the students use a graphing calculator to plot the points and find the line of best fit. Either method gives students an interesting application of plotting points and graphing lines. After finding the equation, use it to make the following investigation.

1. If Robert Wadlow had lived to be 30 years old, how tall would he have been?
2. At what age would Robert Wadlow be the same height as a basketball rim.
3. How much taller was Robert Wadlow than you are, when he was your age?

Many more fun and interesting questions can be asked.

Age (years)	Height (ft-in)
5	5' 4"
8	6' 0"
9	6' 2 ½"
10	6' 5"
11	6' 7"
12	6' 10 ½"
13	7' 1 ¾"
14	7' 5"
15	7' 8"
16	7' 10 ½"
17	8' ½"
18	8' 3 ½"
19	8' 5 ½"
20	8' 6 ¾"
21	8' 8 ½"
22.4	8' 11.1"

Visit the Robert Pershing Wadlow web page at <http://www.altonweb.com/history/wadlow/>. This site contains many interesting photos, dates, charts, and stories about the world's tallest man.

Football Frenzy

By Robert Mann

In the Animal Football League, the teams can score only 3-point field goals and 7-point touchdowns; now safeties or extra points are allowed. In one contest, the Anteaters defeated the Bobcats 42 to 37. In how many different ways could each team have arrived at its final score?

Questions to think about

1. For example, the Anteaters could have scored 14 field goals worth 3 points each, but that is a lot of field goals. Does that seem reasonable? Could the Anteaters have scored their 42 points in other ways?
2. Suppose the Anteaters never led in the game until the last play. Which of your listed scoring situations are still possible?
3. In the Animal Football League, could a team score 40 points? Could it score 50 points? What about 29 points?
4. If 2-point safeties were allowed in the league, what scores would be impossible to get?

Extensions

1. For the contest between the Bobcats and the Anteaters, which of your listed scoring situations do you believe is most likely to happen in a football game? Why? Answer the question for both teams.
2. Provide a scoring summary, like one you might see in a newspaper, for the Anteaters-Bobcats football game that explains the way you think that this football game actually transpired.
3. Turn your scoring summary into a written game description that provides exciting details for each score.

*For younger grades: Select a smaller number for the scores. Make each score worth fewer points.

This activity comes from "Teaching Children Mathematics", November 2001.

