Mini Math Project Ideas

1. Car Crash

   Geometry is used in the investigation of many crimes, but also in the investigation of car crashes. Research how they use geometry to determine the cause of a crash and make a report on your findings. If you wish you could set up a scene of a car crash showing how it's used (don't crash your car, just draw a picture or make a mock crash and take pictures).

2. Up Up and Away

   Airplane flight plans must be very well orchestrated so that they are not in each other's flight paths in the air. How does ground control orchestrate these flight paths?

3. Architecture

   Throughout the month take some time to look at the buildings around you, either here in Wilton, or in Bismarck, or if you go on a trip, in that city. Take pictures of at least three buildings and compare and contrast the geometry in the buildings. (note: it will be most effective if you use buildings that do not all look alike) Why do you think the architect designed the buildings in the ways he did? What shapes are apparent in the building? What were the buildings used for? Do you think that played a role in their architecture?... That sort of thing.

4. Architecture 2

   Design a building that could be built in Wilton. Explain what the building would be used for and how you would construct it. Make a rough sketch of said building or better yet, a model. Make the model or sketch to-scale and include the scale used. (this is just a simple outline of the possibilities, make it good! Sell the building! Make it interesting to you!)

5. Cars

   Choose three different types of vehicles, describe the geometry used in order to make these vehicles. Make sure you include pictures of the vehicles in your project in some way. Think about why they use the geometry they do, why do vehicles look the way they do and why are they built the way they are?

6. Bridges

   Throughout the month, take time to photograph at least 3 bridges. Research those bridges. How far do they have to span? What type of bridge is it? Why did they build that type of bridge? (These are just example questions that should get you started, you should go deeper than these simple questions, take the project in a direction that interests you!)

7. Packaging

   Design a deluxe container that will hold a product of your choice. Make a sketch of your container. Why did you use the shape you did? How many of the product could fit in your container? Include things like the volume, surface area, and other measurements. How would you ship your container?
   BONUS: You can make a replica of your container for bonus points.

8. Vocab in real life

   Use the terms from the chapter we are working in and find real world examples of those terms. Example (pentagon: a soccer ball is made up of a lot of pentagons) include pictures or descriptions of the examples that you find.

9. Maps

   Your task is to design a map that includes several different kinds of lines, angles and triangles. Your map can be of a town, your neighborhood or a made up place. It must however include AT LEAST the following:
   Two sets of streets that are parallel
   Two sets of streets that are perpendicular
   One street that intersects another streets to form an obtuse angle
   One street intersects another to form an acute angle
   One street that is a line segment
   One street that is a line
   One street that is a ray
   An ice cream parlor in the shape of an equilateral triangle

A Pool that is in the shape of a scalene triangle
A Pizza Place in the shape of a Isosceles triangle
Your map must also include a compass rose

Once your map is completed you are to write out five directions from one place to another. Each direction must have one of these terms: parallel, intersecting or perpendicular. These directions should be able to get your teacher and classmates from one place to another without getting lost!

10. Windmills

Look at the windmills all around Wilton. You can research things like how they are made and how they convert wind energy to electrical energy. Discover how fast the blades spin and how this affects the process. How long are the blades? How far do they travel at the tips (what is the radius of the circle they make)? Don't be constricted by these questions only. Be creative!

11. Job Shadow

Spend part of a day with someone who works in a mathematics field. (Do not use Miss Settelmeyer, Mr. Stamstad, or Miss Christian) What do they do? What did you learn while observing the job.

12. Interview

Interview someone who works in a profession that uses math in their job (this person CANNOT be Miss Settelmeyer, Mr. Stamstad, or Miss Christian). What is their job? How do they use math in their job? How do they use math in their everyday life? Make sure to have interview questions ready when you speak to this person. Write up a report or make a presentation to cover your findings.

13. Gas Prices

While you are driving around, look at the prices of gasoline on the service station signs. Compare the price for unleaded, unleaded plus, super unleaded, and diesel at two different stations over a three-week period. Compare the rise and fall of gas during this time. Make a graph or chart to depict this rise and fall.

14. Travel

Compare the price of a trip from Wilton to a major city (i.e. New York, San Francisco, LA, Chicago, London, etc.) by car, plane, train, and bus. Include

also the time it would take using each mode of transportation and the cost of lodging on the way.

15. Solar Energy

Research solar panels, what makes them work and what hinders them from working? Do they need to be facing a certain direction? A certain angle? Dig deep, explain your findings in an understandable way.

16. Ground Control

Airport runways are numbered in a specific way. Research and describe the way they do this and the reason behind it.

17. Inches vs. Centimeters

There are two major measuring systems used today, the metric and the standard system. What is the difference? Which is better? What is the history of both systems? What places uses these systems? … you get the idea.

18. History Lesson

Research one of the famous mathematicians of old. Look at his/her life, findings, and greatest accomplishments. Why were they important to the world of math? OR research a specific math topic's history instead of a person's. Who made great findings when talking about that concept of math? When was that concept first introduced, etc.? If you need resources or names, see me, I can point you in a general direction.

19. Mechanical Wonders

Mechanics and Carpentry are full of mathematics, build something or make something work that wasn't working. Tie in how math is used in the building or refurbishing process. If the item is small enough bring it into class, if not, arrange with me (Miss Settelmeyer) how to show the class what you've done!

20. Choose your own!

The above project ideas are just a few of the thing that you can do. It just provides a small snap-shot of the ways that Geometry is used in the real world. If you think of another project that would bring math out into the real world let me know (at least a week BEFORE the projects are due) and I will let you know if your idea will work. Make sure to let me know before jumping into a project.