



MODULE 2: MAPPING AND GIS!!

Heya, I'm Alex. I was told I will be your guide for this module. So here's the thing, mapping is a profession that is way old. We are talking at least 8,000 years old. It is a way to visualize data. Everything is mapped nowadays from streets, to states, to countries, the world, and the stars! Some people created some pretty cool maps that I never would of thought of, they are mapping the human genome. That's right, mapping DNA! Don't know how they thought of that one but hey, just goes to show that if you can think it, why not try and do it. Not all maps have to be based on real things. Artists and authors create fantasy maps of the worlds they create in their books. Let's not forget VIDEO GAMES. Most video games today use some type of map from Call of Duty, to GTA, to World of Warcraft (just to name a few). I put some sample maps at the end of this unit. Go check em out.

Now, mapping has evolved beyond simple drawings. Professionals and non professionals alike, analyze maps to discover new things that people only assumed were true. Like way back when people thought the world was flat. So act of analyzing maps falls into the category of geographical information systems (GIS for short). For example, advertisers use city maps combined with demographic data (like uh, personal stats like age, gender, and stuff like that) to target specific commercials and ads that you would probably like. That is either awesome or super creepy, depends on what you think. I listed some careers that use mapping and GIS technology because I can. Believe it or not, I know stuff. BTW, Knowing how to use GIS is a GARUNTEED job. It's in super high demand.

Careers in Mapping and GIS

- Graphics designer
- GIS Specialists
- Artists
- Authors
- Illustrators
- City Planners
- Wildlife
- firefighters
- Database and system integrator
- Game designer
- Software engineer
- Applications programmer
- Geologist
- Epidemiology
- Park rangers
- Web Designer

GIS is actually used in a lot of fields. You do not need to know how all the functions of GIS software or even know all the terms. Below are some areas that use mapping and GIS to help them do their job better.

GIS Uses

- Public health
- Police
- Government
- Marketing
- Businesses
- Educators
- Scientists
- Environmental and conservation organizations
- Natural resource groups
- Utilities





ACTIVITY 1: MAP YOUR SCHOOL

Materials needed:

- Colored pencils/Crayons
- Paper
- Pencil sharpener
- Ruler

Introduction:

Long ago, before GPS devices, people used to get lost. They would get so lost, that they would ask people for help! But you know people, some really suck at giving directions causing more people to get lost! "Oh you send take a left over there? Gee thanks genius. Good directions". Maybe that's me just being mean cause that great advice got me lost for 2 hours. Story for another time. ANYway, people back in the day got tired of getting bad directions. This lead to people drawing pictures on where to go based on land features they recognized (like the big rock that looks like a fox). These drawings were maps! The person who draws maps is called a cartographer! You gotta admit that cartographer sounds pretty awesome.

There are many uses for maps beyond the "I don't want to get lost again". Here are some great uses for maps!

- Knowing where things or places are
- Navigation
- Planning (where we want to put stuff)
- Showing property lines
- Identifying flood areas
- Decorations (maps look great!)
- Stores information
- Forecasting weather (that's how the weather people know how hot it's going to be today)

ACTIVITY INSTRUCTIONS

So here is what I want you to do, hop on one foot and rub your belly. Hahaha, just kidding. I do want you to try and draw a map of your school. Why? Because for one, you get to draw. And two...it actually is kinda fun if you do it. It doesn't have to be perfect. I mean, my drawing skill is stick figures and somewhat straight lines. Good maps need "landmarks". Anyway, I have a couple ideas on what you could put on your map.

Ideas of things to include on your map:

- A Compass (like a north arrow. Its super important to have one)
- Your name
- A title for your map
- The SBP room
- Your classrooms
- The cafeteria
- The library
- Trees
- Plants
- Water fountains
- Bathrooms
- Buildings
- Hang out spots
- Anything else you think of!



ACTIVITY 2: SCAVENGER HUNT/INTRO TO GIS

Materials

- Map Created in activity one
- Alternate map if activity one map was not completed

Introduction

Ok so I told you mapping is important cause it is. And now that you have a map (hopefully anyway if not its ok) it's important to know how to use one and what you can do with it! When you gather data and place them on your map, this is the first step towards using something called GIS (Geographic Information Systems). The confusing definition is: A geographic information system (GIS) lets us visualize, question, analyze, interpret, and understand data to reveal relationships, patterns, and trends. But what this basically means is, you look at your surroundings and write down what it looks like; then later you try and find a pattern that you can work with to do stuff. For example, you notice trash seems to be all over the ground next to the cafeteria. The great thing about having a map and marking it down is that you now have proof that you are right! Having proof gives you a voice so that you are taken seriously! Without proof, why would anyone listen to you?

ACTIVITY INSTRUCTIONS:

With your map in hand, go out into your school and mark every location where you find the objects listed below.

- Mark gum with an X
- Mark Chairs with a O
- Mark Tables with a □

When you finish mapping out the objects above, what do you notice? Write it down in your **Journal**! Why? Cause keeping records is important. Like if you lend someone money and don't write down how much they owe you, you have no evidence to give to the judge to get your money back. Like Judge Joe. Ok I may like watching court TV shows. But the point is still true.

ACTIVITY 3: GOOGLE MAPS!

Materials:

- Computer

Introduction

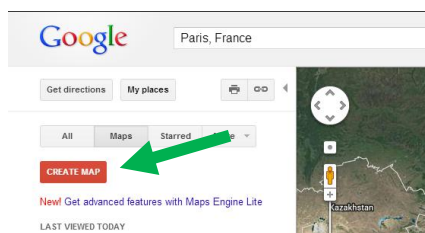
Mapping is a great way to show people about things you care about. Now that you may have some experience making maps, let us discover what you can do with online maps. Google maps is a service that provides directions to places you want to go. It is a worldwide service meaning, billions use it! That's a B, BILLIONS. Google maps allows you to save a map you create so that you may pull it up later and share it with others. Today I will show you how to use this very powerful tool! Pretty pictures included. Mostly because that's how I like to read stuff. Kinda like how there's a popular book and they made a movie out of it. Id rather watch the movie. Maybe that's just me.

ACTIVITY INSTRUCTIONS

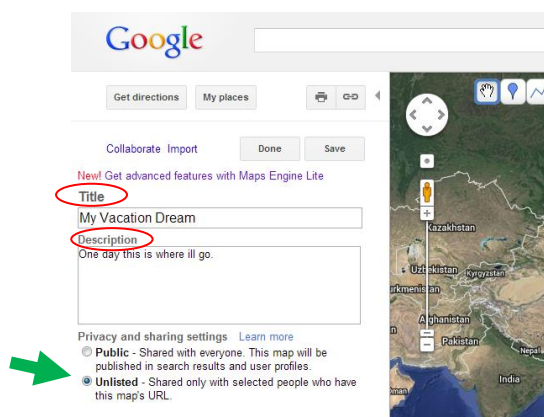
Map out where you want to vacation too!

Sign into google using istemcatastrophy as your account name, with the password cataclysm.

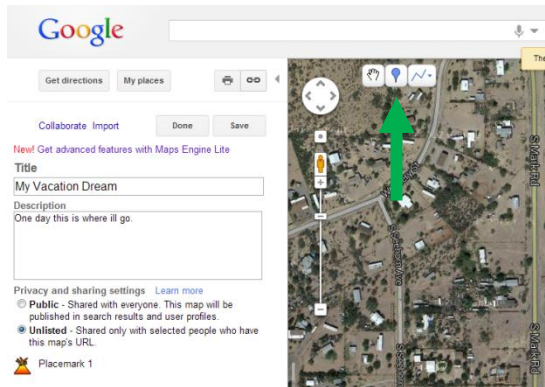
1. Click on create map on the left menu



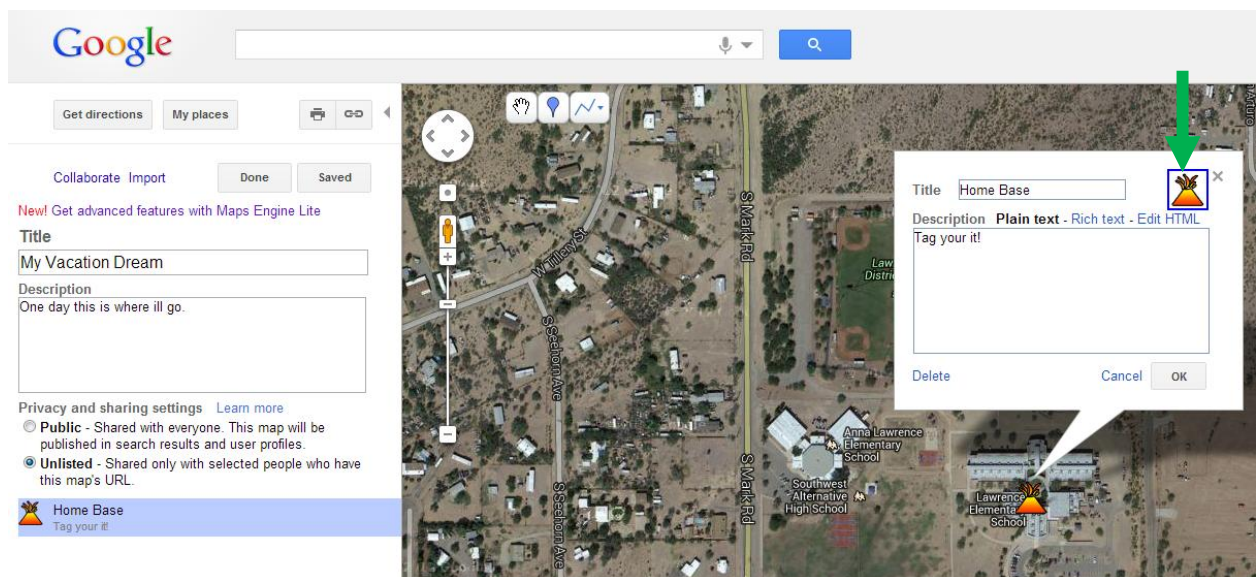
2. Give your map a title and description. Also click the circle that says unlisted.



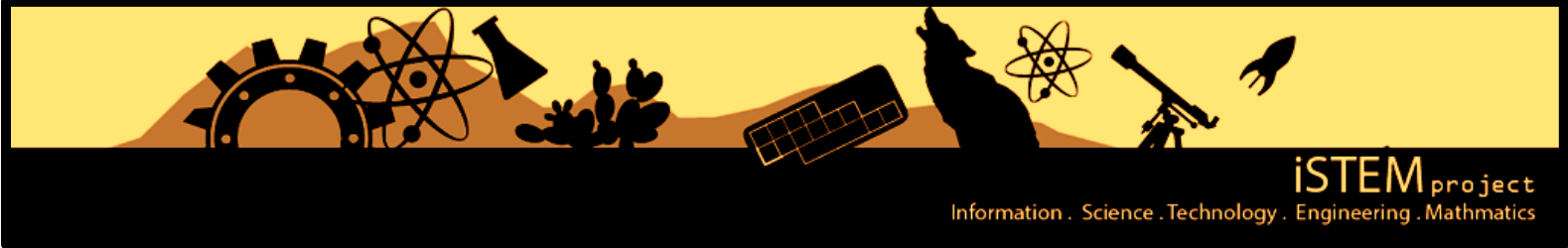
3. Type into the search bar the name of your school. Add a point at this location using the point button.



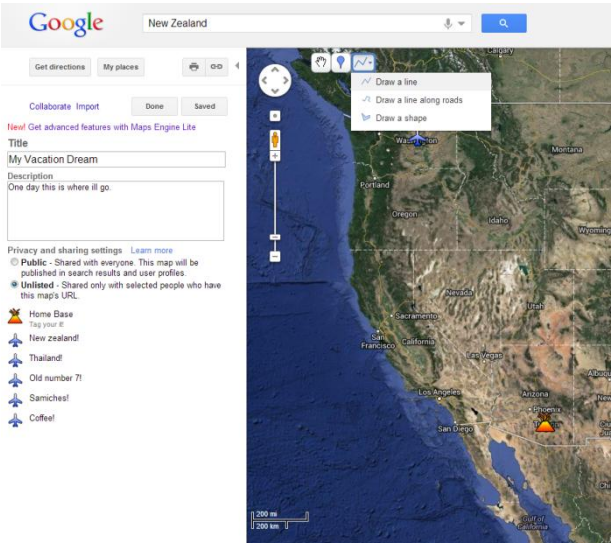
4. Give your point a name and a description. You can also change the icon that you have by clicking the current icon on the top right (not the little X button!).



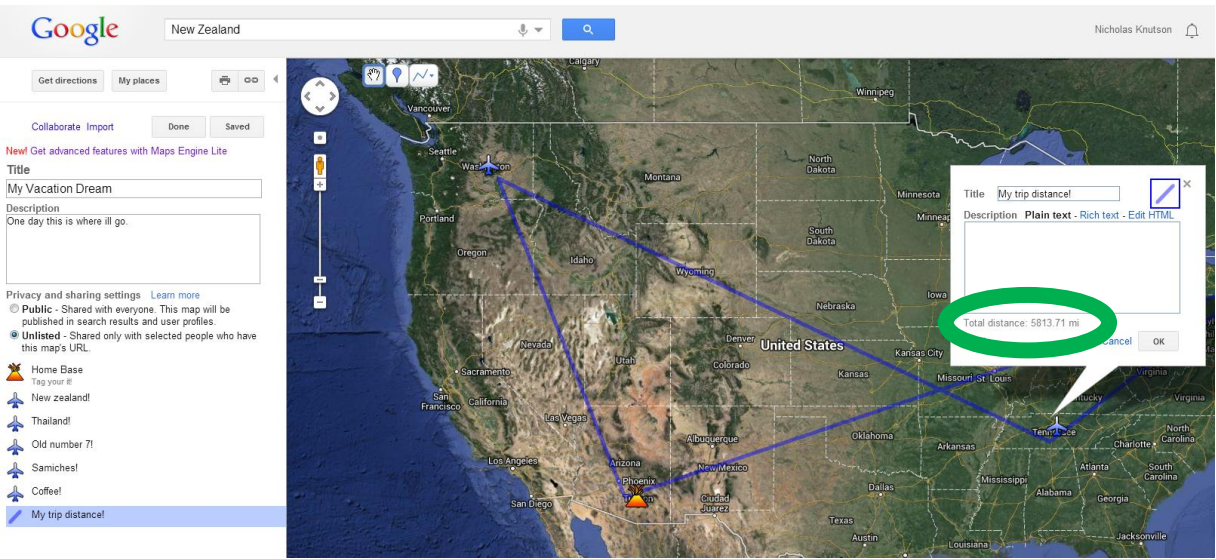
5. Now go mark all the places that you would want to visit!

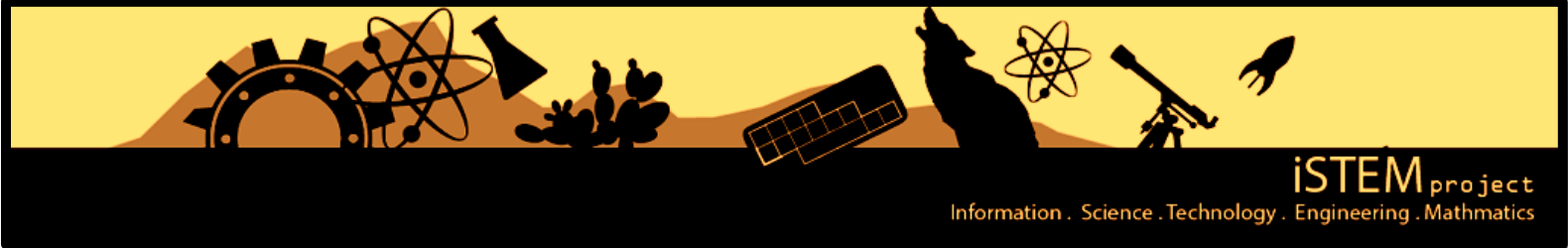


6. Now lets see how far your trip will be! Click on the line button. Click near your first point and then click to the next point you want to travel too.



7. Your map should look like this (of course with your unique points). The total distance traveled is shown after you connect your line back to homebase (your origin/first point). I will travel 5814 miles for my vacation! How far was yours? Write your total in your journal!





TAKE IT HOME BONUS ACTIVITIES

BONUS ACTIVITY 1

Using google maps and its line feature. Find out the distance between the cities below. Use straight lines only, no using direction websites like mapquest!

How far is it from your school too Disneyland? _____

How far is it from Tucson too Nogales? _____

How far is it from Nogales (US) to Nogales (MEX)? _____

How far is it from the west coast to the east coast of the USA? _____



FANTASY MAPS CREATED BY ARTISTS WHO LOVE MAPS!





