Topography

The shape of the land


MAPSWIRE
C A N A D A
U n i t e d S t a t e s
M E X I C O
PACIFIC OCEAN
ATLANTIC OCEAN
Gulf of Mexico
Seattle
Spokane
Portland
Columbia
Salem
Olympia
Great Falls
Missoula
Helena
Billings
Minot
International Falls
Bismarck
Fargo
Lake Superior
Sault Ste. Marie
Minneapolis
St. Paul
Pierre
Mississippi
Missouri
Sioux Falls
Lake Michigan
Lake Huron
Lake Ontario
Lake Erie
Rocky Mountains
Boise
Snake River
Casper
Cheyenne
Omaha
Des Moines
Milwaukee
Detroit
Chicago
Buffalo
Rochester
Syracuse
Cleveland
Burlington
Augusta
Boston
Bridgeport
New York
Philadelphia
Pittsburgh
Eureka
Elko
Salt Lake City
Denver
Colorado Springs
Kansas City
Topeka
Indianapolis
Cincinnati
Baltimore
Washington, D.C.
Reno
Sacramento
San Francisco
San Jose
Fresno
Sierra Nevada
Colorado
Arkansas
St. Louis
Ohio
Charleston
Richmond
Norfolk
Appalachian Mountains
Las Vegas
Flagstaff
Albuquerque
Santa Fe
Tulsa
Amarillo
Oklahoma City
Nashville
Knoxville
Raleigh
Memphis
Santa Barbara
San Bernardino
Los Angeles
San Diego
Phoenix
Rio Grande
Red River
Atlanta
Columbia
Wilmington
Augusta
Charleston
Ft. Worth
Dallas
Shreveport
Jackson
Montgomery
Savannah
Tucson
El Paso
Baton Rouge
Tallahassee
Jacksonville
Austin
Houston
New Orleans
San Antonio
Orlando
Corpus Christi
Laredo
Tampa
Miami
BAHAMAS
CUBA

Vocab For Topography

Elevation

The height of a point above sea level on Earth's surface

(page 13)

Relief

The difference in elevation between the highest and lowest points of an area

(page 13)

What landforms can you see and name in this picture?

Types of maps

01

Aerial Photography

Pictures taken from airplanes (or even drones these days)

02

GPS

Global Positioning System is a network of orbiting satellites

03

Satellite Imagery

Digital images using data from satellites about Earth's surfaces

04

GIS

Geography Information System is hardware/software for maps

Go to

maps.google.com

Aerial Photography!

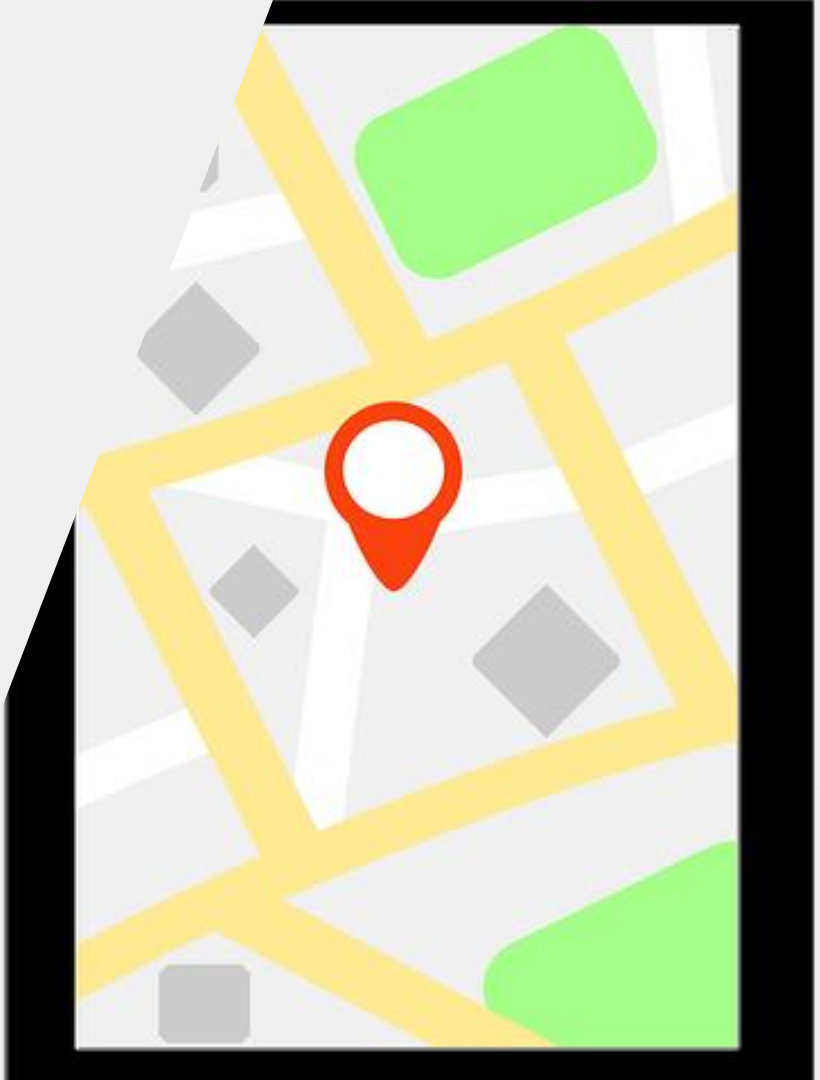
Go to
earth.google.com

Satellite Imagery!

GPS

Global Positioning System uses 24 orbiting satellites that constantly say their location and then your phone uses three of them to tell you exactly where you are.

More info here




NASA Space Place
spaceplace.nasa.gov
How does GPS work?
PIZZA

GIS

Geography Information System


WISDOM
BETTER
DECISIONS

Explore!

Go here and here to explore some GIS maps

Google Classroom Question

Which map type do you think is most helpful? Why?


N&F

Types of maps

1. Aerial photography
2. Satellite imagery
3. GPS
4. GIS
5. Topographic

Which of these are you most comfortable with?

Which are you least comfortable with?


Tyers
Parker
Keerim
Robin Hood
Lake Moondarra
Glengarry
Flynn
Rosedale
Narracan
Grove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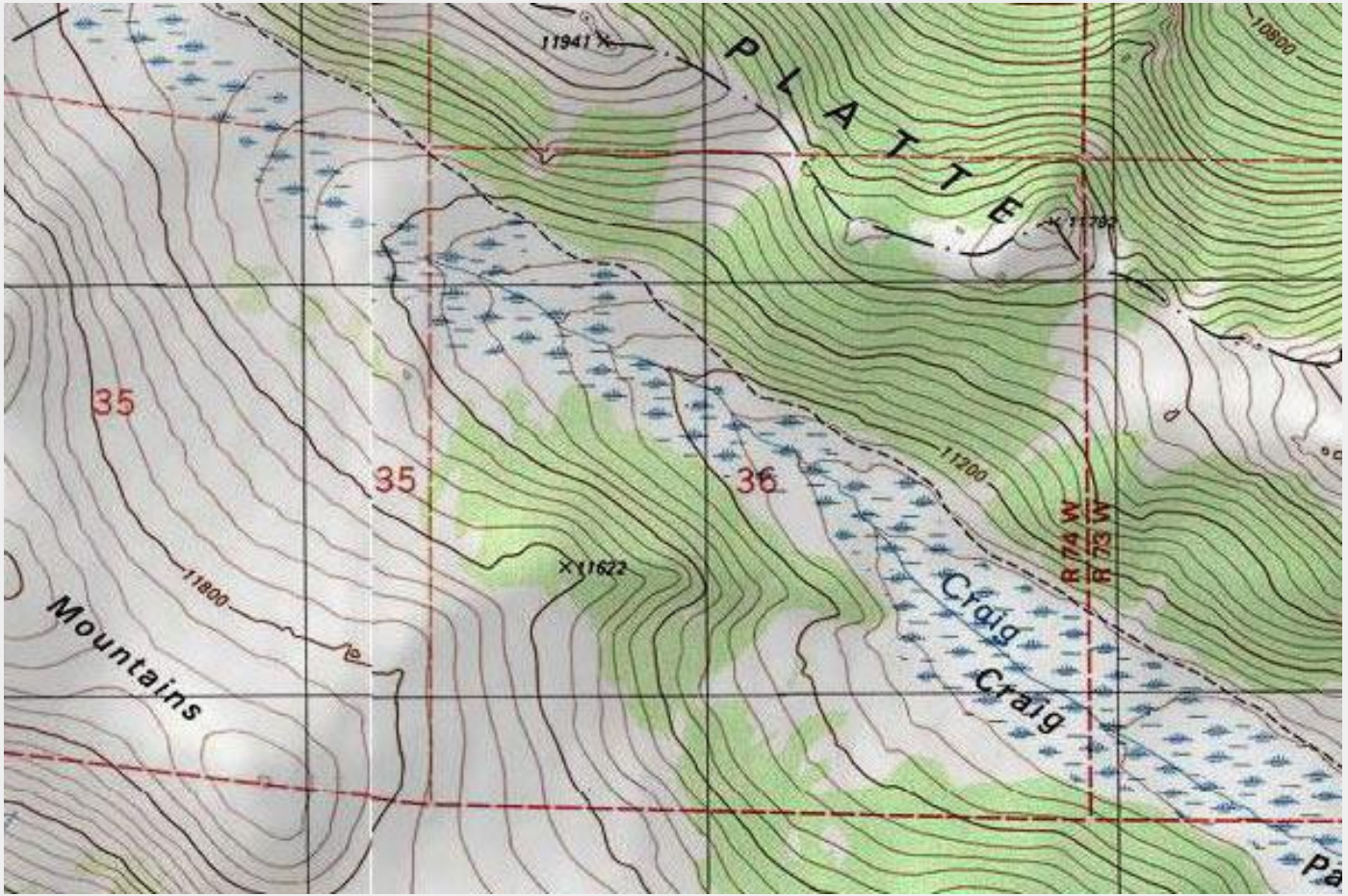
Bismarck
Fargo
Lake Superior
Sault Ste. Marie
Minneapolis
St. Paul
Pierre
Mississippi
Missouri
Sioux Falls
Lake Michigan
Lake Huron
Lake Ontario
Lake Erie
Rocky Mountains
Boise
Snake River
Casper
Cheyenne
Omaha
Des Moines
Milwaukee
Detroit
Chicago
Buffalo
Rochester
Syracuse
Cleveland
Burlington
Augusta
Boston
Bridgeport
New York
Philadelphia
Pittsburgh
Eureka
Elko
Salt Lake City
Denver
Colorado Springs
Kansas City
Topeka
Indianapolis
Cincinnati
Baltimore
Washington, D.C.
Reno
Sacramento
San Francisco
San Jose
Fresno
Sierra Nevada
Colorado
Arkansas
St. Louis
Ohio
Charleston
Richmond
Norfolk
Appalachian Mountains
Las Vegas
Flagstaff
Albuquerque
Santa Fe
Tulsa
Amarillo
Oklahoma City
Nashville
Knoxville
Raleigh
Memphis
Santa Barbara
San Bernardino
Los Angeles
San Diego
Phoenix
Rio Grande
Red River
Atlanta
Columbia
Wilmington
Augusta
Charleston
Ft. Worth
Dallas
Shreveport
Jackson
Montgomery
Savannah
Tucson
El Paso
Baton Rouge
Tallahassee
Jacksonville
Austin
Houston
New Orleans
San Antonio
Orlando
Corpus Christi
Laredo
Tampa
Miami
BAHAMAS
CUBA


11941
PLATTE
10800
11792
35
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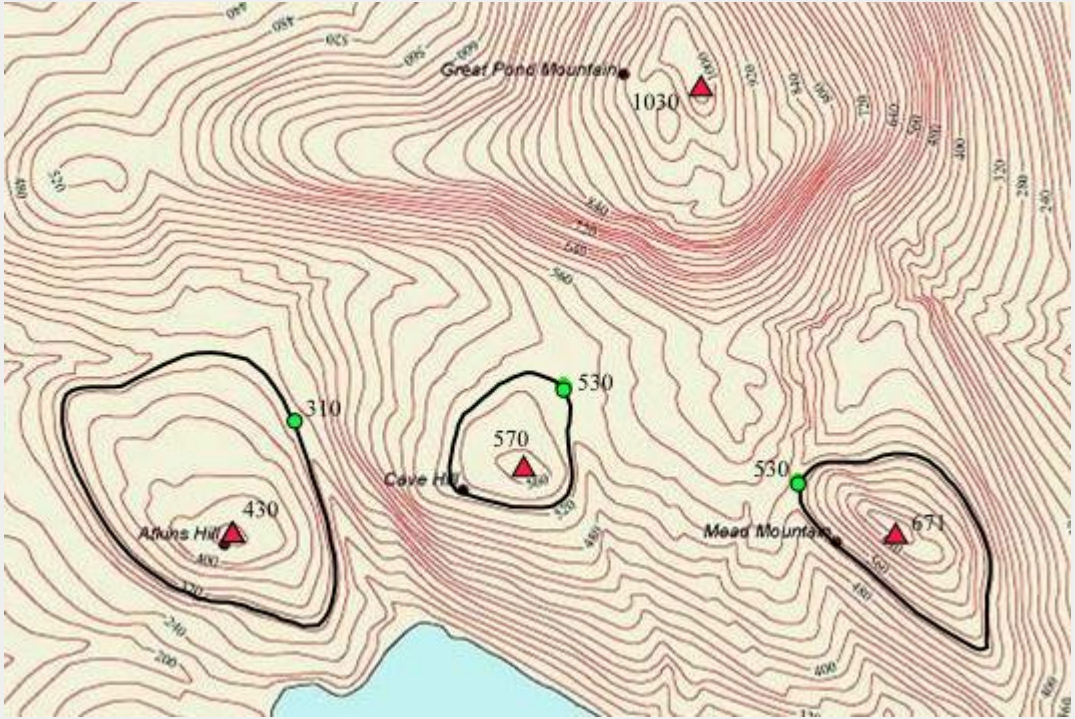
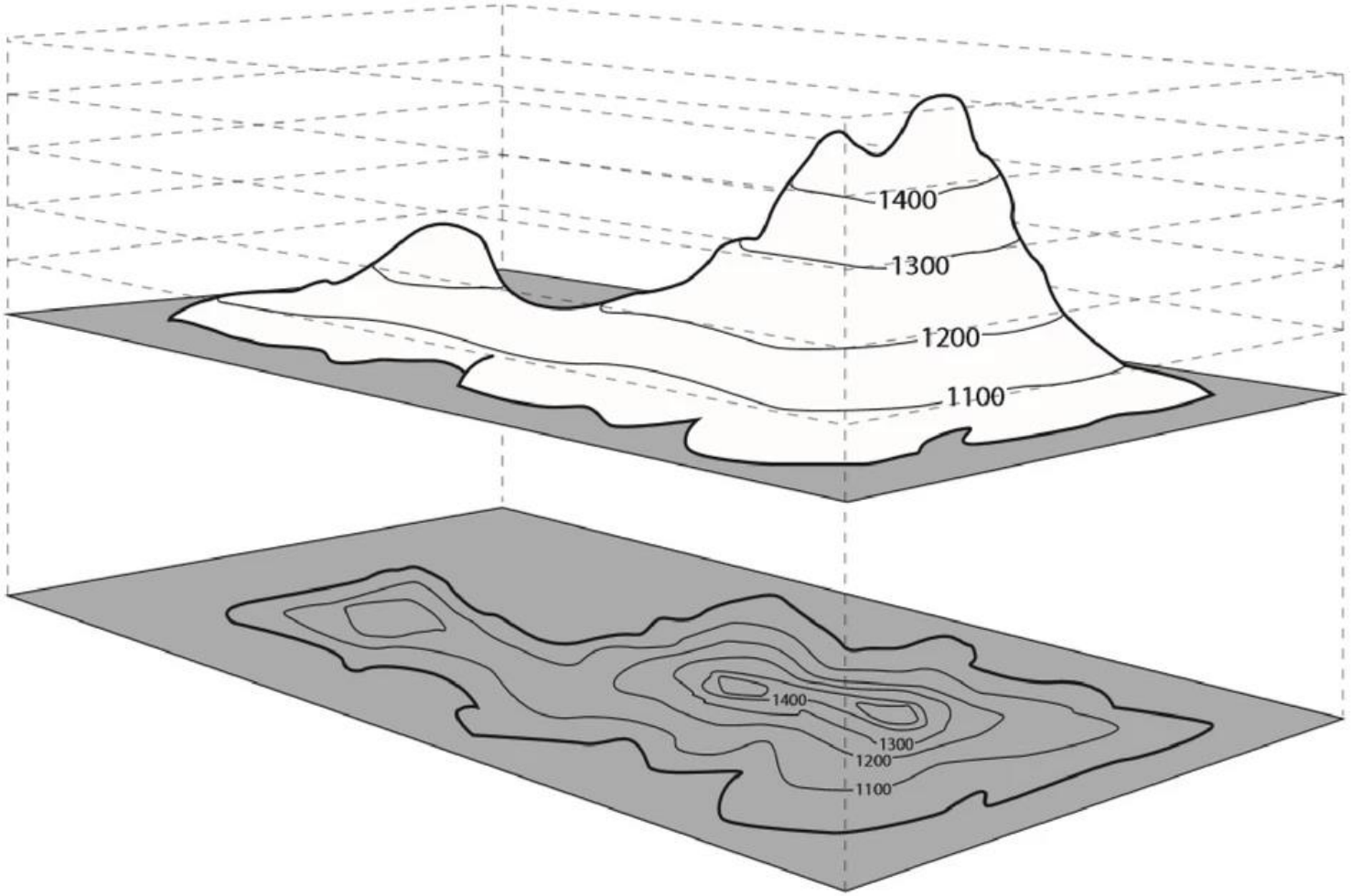
36
11200
11622
11800
R74W
R73W
Craig
Craig
Mountains

Topographic Maps - Contour lines




How to Read a Topo Map
REI
co-op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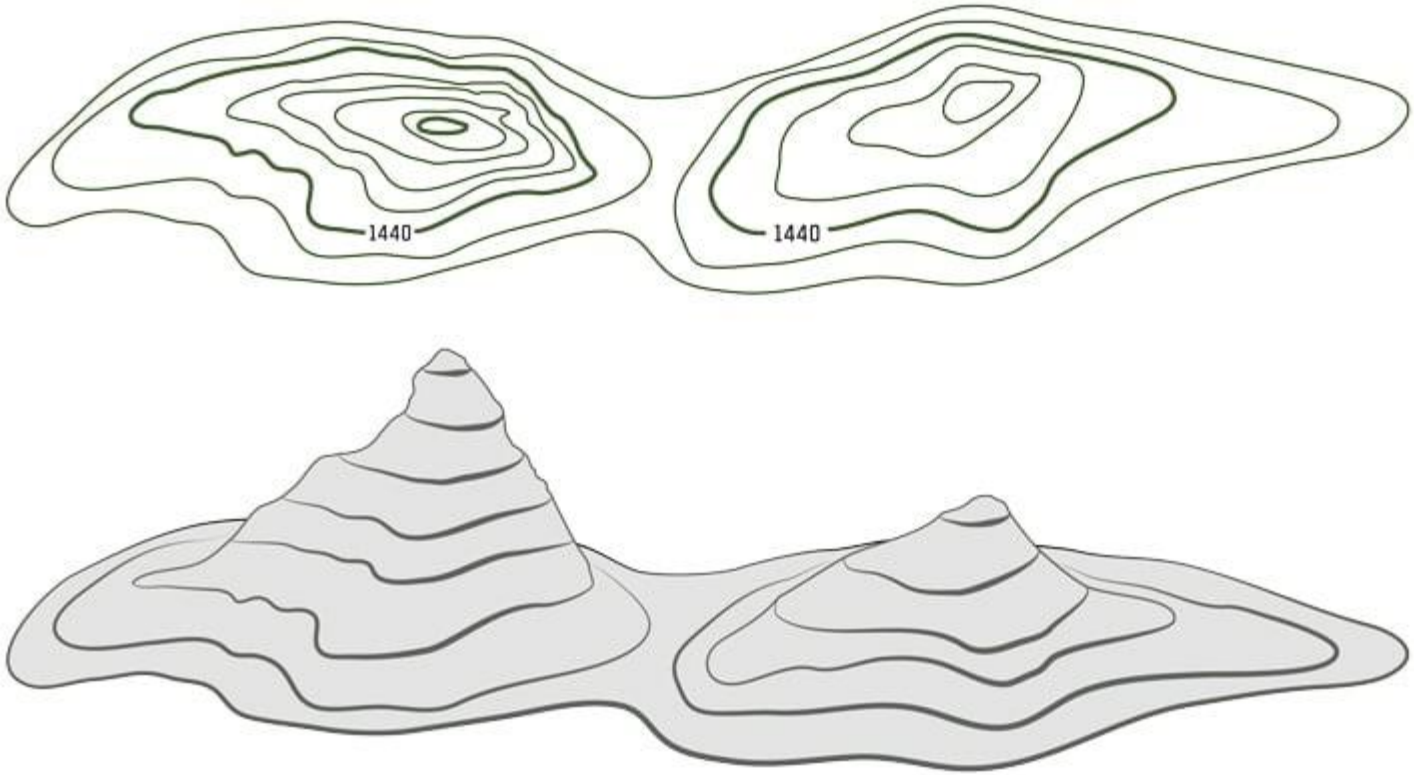


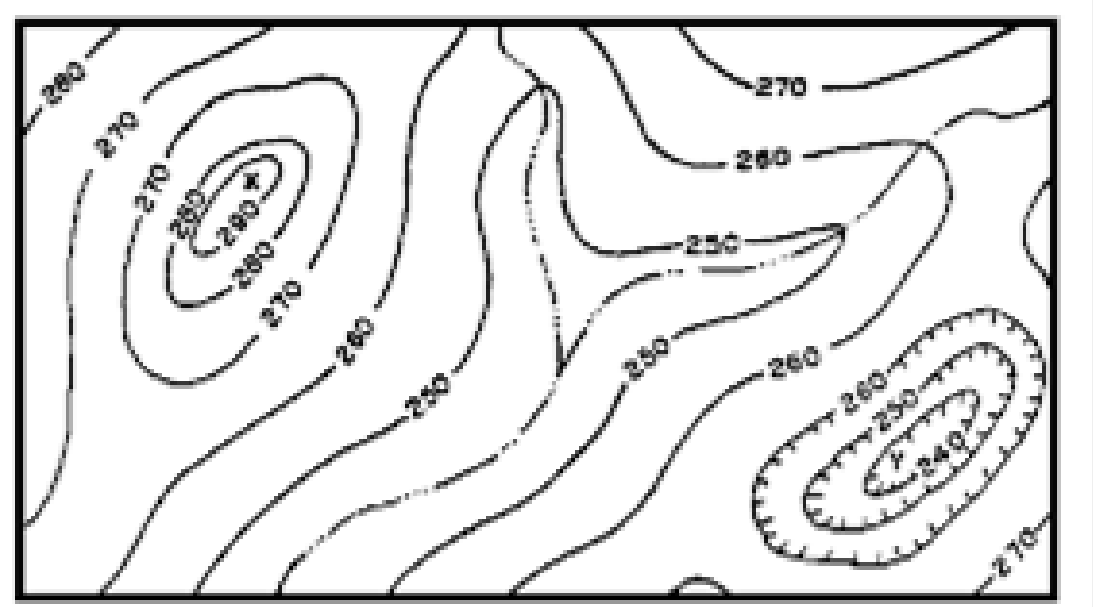
WHAT YOU SEE
ON YOUR MAP

3-D VIEW
OF LANDMARK

Depressions

What if there is a hole in the ground, though?

How do you put THAT on your topographic map?



Topographic maps

Info

What are topographic maps

How to read one

1908 version of how to read

Basics of topographic maps

Examples

Examples from USGS

South Mountain topographic map

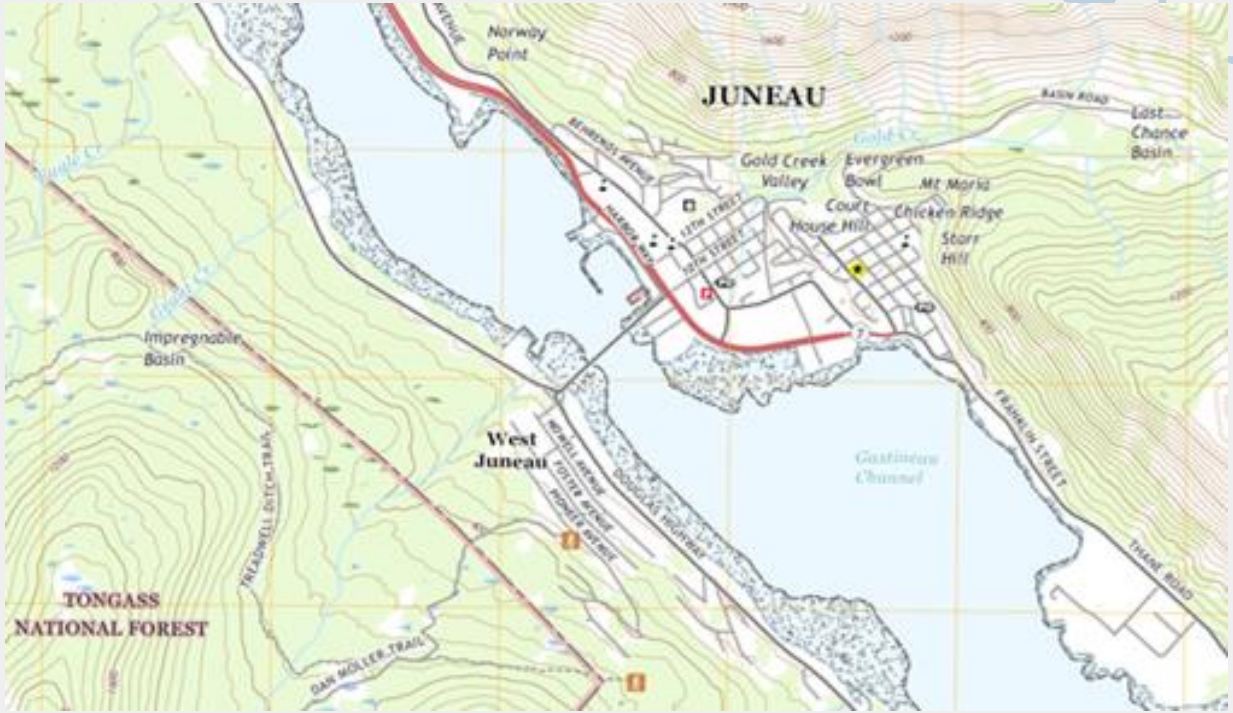
Phoenix Metro Area topographic map

Create your own topographic map

Others?

What other examples can you find? What about other countries?

Based on this map, what can you tell me about the topography of this region?



Landforms

Mountains

Has both high elevation and high relief

Coastlines

The boundary between the land and the ocean

Rivers and Deltas

A river is a natural stream of water that flows into another body of water, while a delta is where the sediment builds up when the river meets the ocean

Plateaus and Plains

Plateaus have high elevation and low relief, while plains have low elevation and low relief

Dunes

Hill of sand piled up by the wind and ever changing

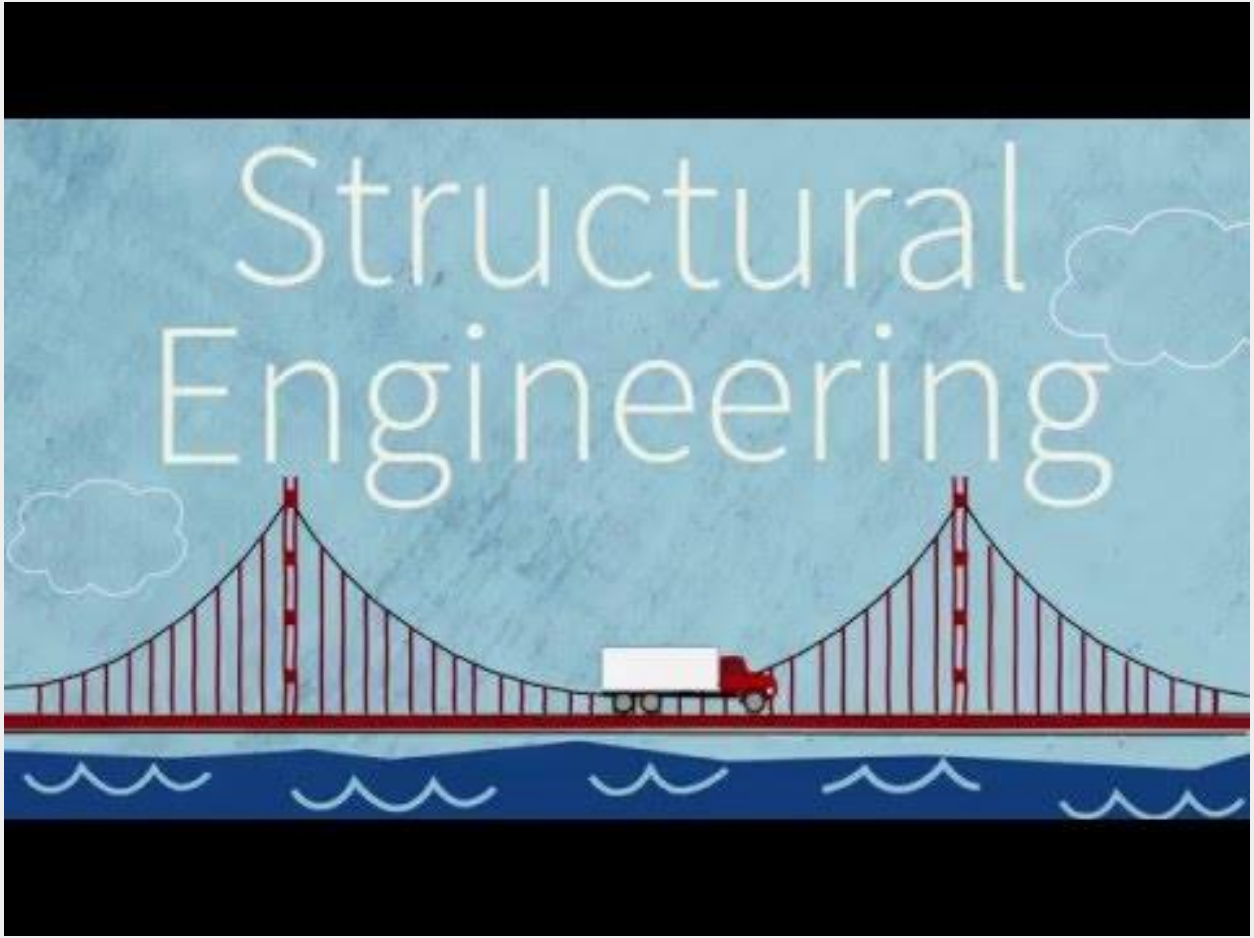
Glaciers

A constant body of dense ice that is moving under its own weight

Find images of each!

(Each being the landforms described on pages 16 and 17 in your textbook)

How can humans work with these landforms to create buildings, roads, bridges, etc?


Structural
Engineering

Engineering Considerations

Schedule	✗ ✗ ✗	The project schedule is mostly on track
Resourcing	✗ ✗ ✗	Resourcing is adequate, but could be better
Budget	✗ ✗ ✗	Project is within budget
Risks	✗ ✗ ✗	All main project risks are under control
Issues	✗ ✗ ✗	Project issues need to be solved
Benefits	✗ ✗ ✗	Project benefits meet the expectations

Three Options For You

-01-

Use the topography of your room to create a bridge using the materials you have

-02-

Research more into structural engineering and what they do

-03-

Work on missing work in science

What happened?

Using the topography of your room, create a bridge using materials of your room like a structural engineer.

Find the best materials and how to use those materials to make the best bridge.