

Topographic Map Basics

Earth Science

Mr. Traeger

Name: _____ Period: _____ Date: _____
 Partner's Name: _____

Purpose

The purpose of this activity is to become acquainted with the basic concepts of topographic maps.

Materials

- Pencil and Vis-à-vis pen
- Pasadena Topographic Map
- Metric Ruler
- Key to Topographic Map Symbols in front cover of your textbook
- Chapter 3 Section 3 in your textbook.
- Navigation Compass

Part A: Introduction to Topographic Maps

Use the Pasadena Topographic Map to answer the following.

1. Find your house on the map. What is the approximate latitude and longitude of your house?	What is the elevation of your house in feet? Use the contour line closest to your house to find this.																		
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2. Find La Cañada High School on the map. What is the approximate latitude and longitude of the school?	What is the elevation of the school in feet? Use the contour line closest to the school to find this.																		
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3. If Antarctica and all the world's ice sheets melt, sea level may rise by 1,000 feet. Will La Cañada be affected? Why or why not?	I want to fly my airplane over the entire area of this map and wave hello to you. Tell me the elevation of the highest topography on the map (in feet) so that I don't crash my plane into a mountain.

4. What is the definition of scale?	What is the scale on this map?	What is bigger? The scale on this map or the scale on the classroom globe?				
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5. What are all the squiggly brown lines on the map called?	If the brown lines are close together, what does this mean?	If the brown lines are far apart, what does this mean?

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6. What are the blue lines or circles on the map?	What is the name of the largest blue line on the map?

7. What is the contour interval for this map?	What does contour interval mean?

Answers for #8 should be in cardinal directions of N, S, E, W, NW, NE, SW, and SE.

8. In what direction does the 210 freeway run?	In what direction does the 134 freeway run?	In what direction does the 2 freeway run?

Answers for #9 should be State, Interstate, US, etc. This tells you who pays to maintain the highway.

9. What <i>type</i> of highway is the 210?	What <i>type</i> of highway is the 134?	What <i>type</i> of highway is the 2?

10. What does the green shading on the map indicate?

11. Look for Fern Canyon Creek, a tributary of the Arroyo Seco. What is the approximate direction that the stream is flowing (N, S, E, W, NE, NW, SE, or SW)? Keep in mind that contour lines crossing a stream or river always make the shape of an arrow that points upstream.

12. What is the length of Foothill Blvd. from the corner of Oak Grove near the High School to the end of the map in La Crescenta? State your answer in miles and kilometers. Show work!

Work and Answer in Miles	Work and Answer in Kilometers

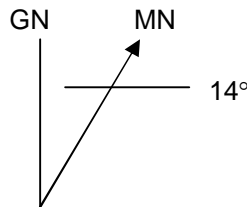
13. Find an area on the map where the terrain is the steepest. Tell me exactly where this place is.

14. Find an area on the map where the terrain is not steep. Tell me exactly where this place is.

Part B: Map and Compass Skills

1. What is a compass and how does it work?

2. What does this symbol on the map mean? What is the difference between true and magnetic north?



3. How would you use a compass to orient your map to True North? Do it and tell me what place in the room is true north.

Conclusion: Tell me in full sentences what the purpose of topographic maps is.