

Name \_\_\_\_\_  
Teacher \_\_\_\_\_

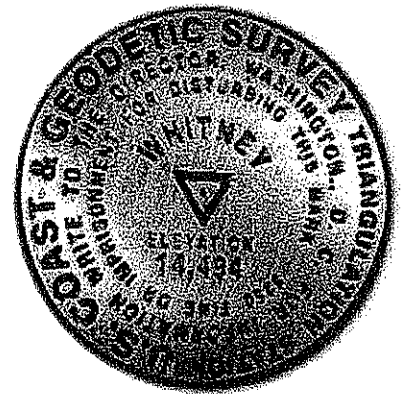
Date: / /  
per. \_\_\_\_\_

LAB # \_\_\_\_\_

TITLE: Topographic Map



**OBJECTIVE:** Whether on paper or on a computer screen, a map is the best tool available to catalog and view the arrangement of things on the Earth's surface. Maps of various kinds—road maps, political maps, land use maps, maps of the world—serve many different purposes. One of the most widely used of all maps is the topographic map. The feature that most distinguishes topographic maps from maps of other types is the use of contour lines to portray the shape and elevation of the land. Topographic maps render the three-dimensional ups and downs of the terrain on a two-dimensional surface. Topographic maps usually portray both natural and manmade features. They show and name works of nature including mountains, valleys, plains, lakes, rivers, and vegetation. They also identify the principal works of man, such as roads, boundaries, transmission lines, and major buildings. The wide range of information provided by topographic maps make them extremely useful to professional and recreational map users alike. Topographic maps are used for engineering, energy exploration, natural resource conservation, environmental management, public works design, commercial and residential planning, and outdoor activities like hiking, camping, and fishing. In this lab activity we will learn how to read a simplified topographic (contour) map. For more information log onto [www.usgs.gov](http://www.usgs.gov).



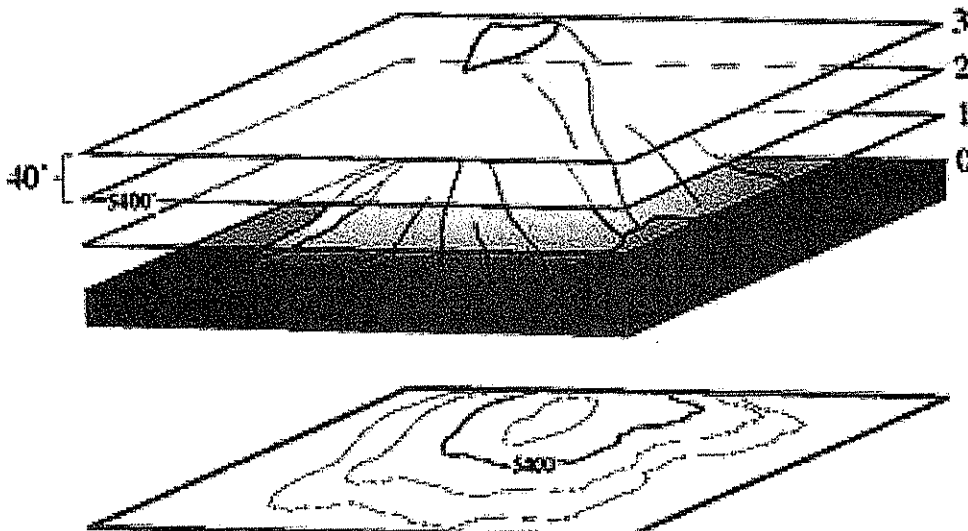
**HYPOTHESIS:** If topographic maps indicate elevation, then...because.

**VOCABULARY:** topographic (contour) map, contour lines, contour interval, gradient, slope, hachured contour lines, and USGS

**MATERIALS:** Callister Quadrangle topographic map, graph paper, and crayons

**PROCEDURE:**

1. Using the Callister Quadrangle topographic map answer the following questions:



CALLISTER QUADRANGLE

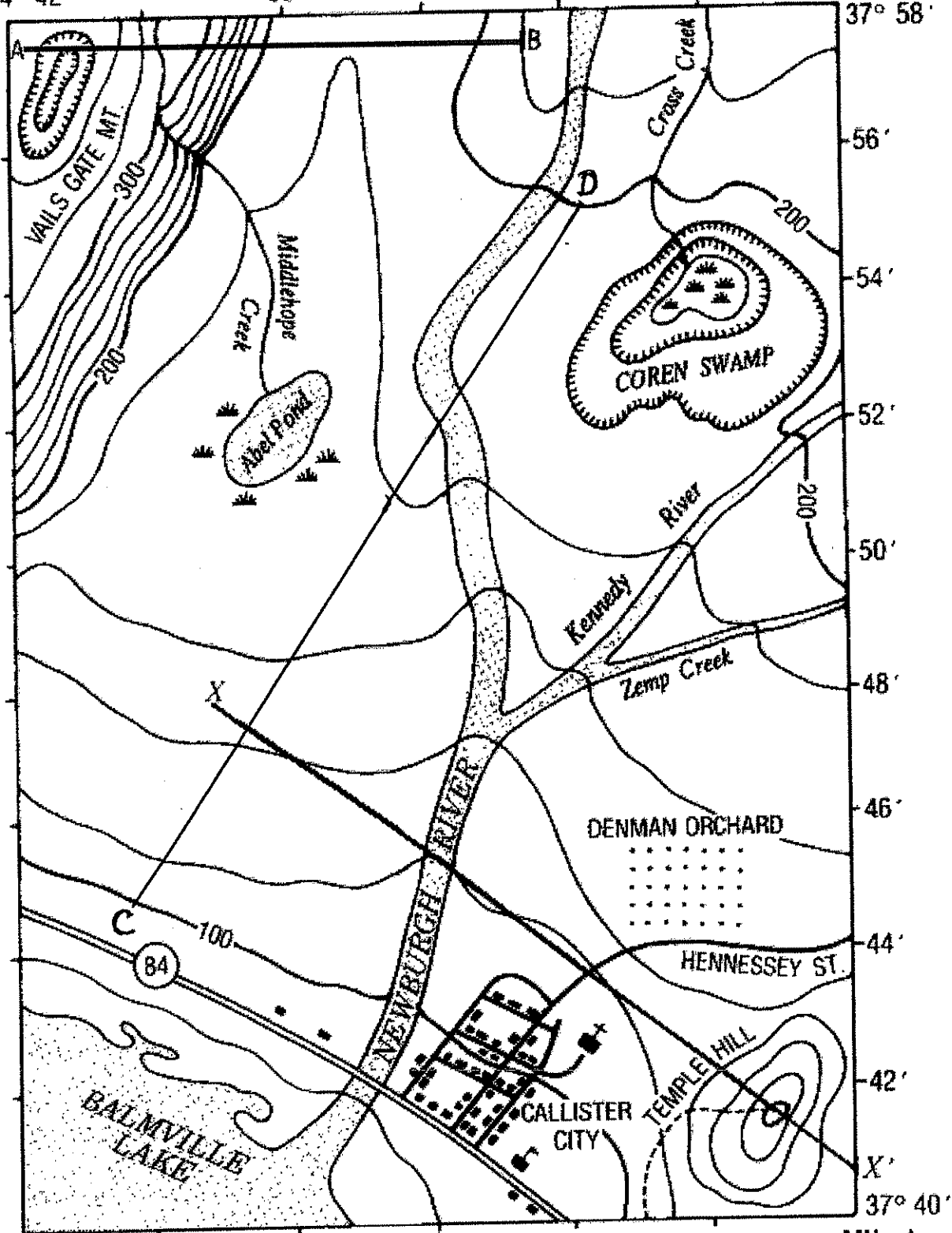
74° 42'

38'

34'

74° 30'

37° 58'



Map Scale 0 1 2 3 4 Miles

- SYMBOLS
- TRAIL
  - BUILDING
  - ☼ SWAMP
  - ⚡ SCHOOL
  - ☉ DEPRESSION CONTOURS

1:63,360  
CONTOUR INTERVAL 20 FEET

MN ★

15°

What is the contour interval on this map?	
What is the highest contour line on the map?	
What is the highest possible elevation on the map?	
What is the maximum possible depth of the depression on Vails gate Mountain?	
Towards what direction does Newburgh River flow?	
What area is the steepest on the map?	
What area is most similar to a plain?	
How far is it from Callister School to the peak of Temple Hill?	
How long is Newburgh River on this map in miles?	
What is the gradient along line <b>C to D</b> on this map? Show all work.	
What are the latitude and longitude coordinates of where the bridge for Route 84 crosses Newburgh River?	

2. Label all contour lines using a pencil.
3. Shade in all water areas blue. (Hint: rivers, creek, lake, pond, and stream)
4. Shade in all elevations as follows...
 

less than 100ft	=	yellow
100ft – 200ft	=	orange
200ft – 300ft	=	red
300ft or more	=	brown
5. Draw a profile along line A-B.

**QUESTIONS to be answered on profile page:**

1. What do contour lines represent on a topographic map?
2. What is meant by the contour "interval" on a topographic map?
3. Why is it unlikely that two contour lines will cross?
4. How does a contour map indicate areas of steep or gentle gradient?
5. What are two methods that help you determine the direction a stream is flowing on a topographic map?

**CONCLUSION:** Explain why topographic maps are a valuable tool. Be sure to include why they must regularly be updated?


Questions and Conclusion:

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_

Conclusion

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_