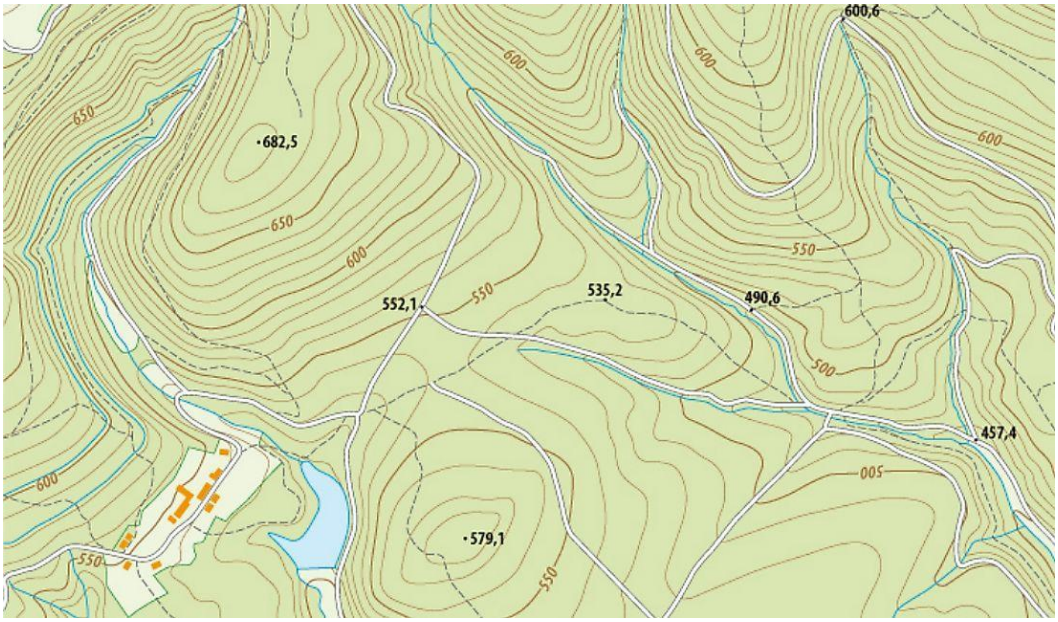
Geology Study Guide

Use this as a reference guide on what to study for your test on the test.
If you know all of these answers, you should be good to go for your test!

Topic 1

1. What is the geosphere and how does it help Earth?
2. What is the hydrosphere and how does it help Earth?
3. What is the cryosphere and how does it help Earth?
4. What is the biosphere and how does it help Earth?
5. What is the atmosphere and how does it help Earth?
6. How do all the spheres interact with each other to keep everything working?
7. What is topography?
8. Describe five different landforms from the ones described on page 16 and 17.
9. How are the lines on a topographic map helpful in reading one?
10. What is the difference between aerial photography and satellite imagery?
11. What is the difference between GPS and GIS?
12. How much freshwater is there versus salt water?
13. How do watersheds help get water to our kitchen sinks?
14. What are some sources of surface water? Sources of groundwater?
15. Analyze the map below. What can you tell about the topography of this region?



Topic 2

1. What are the layers of the Earth? (Both compositional and mechanical)
2. Describe the properties of each of the layers of the Earth.
3. How does convection work in the mantle of the Earth?
4. What are the characteristics of minerals?
5. Why are rocks different from minerals?
6. How does the rock cycle work? What type of rock can become what type of rock?
7. What is the difference between coarse and fine grained igneous rocks?
8. What is the difference between foliated and nonfoliated metamorphic rocks?
9. True or False: Any rock can become any other type of rock.
10. Analyze the guide below. How can it be used to find the names of a mystery mineral?

Mineral Identification Guide

Mineral	Shape	Color	Streak	Hardness	Magnetism	Optical Properties	Chemical Properties	Fluorescence
Biotite	Thin sheets	Dark Green, Brown, or Black	Colorless	2.5 - 3	None	Transparent to Translucent	None	None
Calcite	 Rhombic Prism	Colorless or White	Colorless	3	None	Transparent to Opaque	Reacts	Fluorescent
Feldspar	- Irregular - Cleavage Visible	White, Pink, or Grey	Colorless	6	None	Opaque	None	Fluorescent
Fluorite	 Octohedral	Clear, Yellow, White, Purple, Blue	White	4	None	Transparent to Translucent	None	Sometimes Fluorescent
Galena	Cubic	Lead Grey	Gray-Black	2.5	None	Opaque	None	None
Granite	Irregular	White, Pink, Orange, Grey, or Black	White	2.0 - 7.0	None	Opaque	None	None
Graphite	Flaky	Black, Silver, or Grey	Black	1.0 - 2.0	None	Opaque	None	None
Hematite	Irregular	Red-Brown or Black	Red	5.5 - 6.6	None	Translucent to Opaque	None	None
Magnetite	Irregular	Black	Black	6	Magnetic	Opaque	None	None
Marble	Cubic	White or Grey	White	3	None	Opaque	Reacts	None
Muscovite	Thin sheets	Light Brown or Yellow	Colorless	2.0 - 2.5	None	Transparent to Translucent	None	None

Topic 3

1. Describe the evidence for plate tectonics and the Theory of Continental Drift.
2. How did sea-floor spreading and mid-ocean ridges help prove plate tectonics?
3. What is subduction and how does it connect with plate tectonics?
4. What is convection and how does it connect with plate tectonics?
5. What is Pangaea and how did it break up?
6. What are the three types of boundaries? How do the plates move at each?
7. What causes earthquakes? Tsunamis?
8. Describe the three types of seismic waves and how each moves through Earth.
9. What is the difference between a seismograph versus a seismogram?
10. Analyze the magnitude scale below. How does having this scale help scientists understand earthquakes better?