

Name:

Study Guide for Semester Test

Use this sheet to help you prepare for the 100 question multiple-choice test. Use your notes and your handouts, worksheets, etc. to find the answers. Just finding the answers should help you prepare for the test.

1. There are three basic types of volcanic activity. List them, and provide examples.
2. Why is there so much volcanic activity around the Pacific (Ring of Fire)?
3. Why do bubbles form in pop the instant you open the bottle?
4. Why is Rainier considered to be the most dangerous volcano in the USA?
5. List the most common type of plutonic igneous rock and the most common type of volcanic igneous rock.
6. Why are the crystals (mineral grains) in granite inter-locking?
7. Crown Butte formed as magma cooled beneath the surface. Why is it now above the surface?
8. Provide an example of a place where sedimentary or igneous rock would experience the kind of heat and pressure that changes them to metamorphic rock.
9. Provide an example of a process that would be considered "mechanical weathering".
10. Why can fossils of sea creatures be found high in mountains throughout the world?
11. CLUE: Be sure to carefully study the handout titled, "The Rock Cycle".
12. Why are there frequent shallow earthquakes along the plate boundary called "The San Andreas Fault"?
13. List three characteristics of sedimentary rocks.
14. How did the Helena Valley form? (hint: graben)
15. What is the difference between the epicenter and the focus of an earthquake?
16. CLUE: Be sure to study the handout titled, "Montana Earthquakes".

17. What is the biggest EQ ever recorded in Montana? When? How many deaths? How did they die?
18. Earthquakes sometimes cause land to be lowered. What is this “lowering” of the land called?
19. List the processes involved in the formation of sedimentary rock.
20. What types of material can radiocarbon dating be used to date? What are its limitations?
21. Where are earthquakes and volcanoes most common?
22. What is the “principle of cross-cutting”? Provide an example. There will be a diagram similar to the one on page 360 of your text (honors figure 11.5 page 328).
23. If there are several layers of rock that haven’t been messed up by plates pushing together, how can you determine which ones are the oldest?
24. What type of rock can be dated using radiometric dating (not radiocarbon dating)?
25. Why can’t you see Madison limestone in eastern Montana?
26. What town is close to the headwaters of the Missouri River?
27. List three Montana towns in the Mississippi watershed and three in the Columbia watershed.
28. What is a watershed?
29. How do tailings contribute to acid mine drainage?
30. What is the purpose of the Red Mountain Flume?
31. Define the term “water table”.
32. What contaminant may get into ground water if the water table is too close to your septic system?
33. What do you call the boundary between watersheds?

34. How did the ice age(s) change the path of the Missouri River?
35. How did Flathead Lake form?
36. What are three clues that help determine how far south the ice grew during the ice age?
37. What caused the formation of Glacial Lake Missoula?
38. Explain what caused the Snowball Earth ice age to end?
39. Over the past 1 million years, how often have we had an ice age? When did the last ice age end?
40. Besides the level of CO₂ (which is not well-understood), what are three other factors that combine to cause the onset of an ice age?
41. List three things NASA accomplished before Russia in the "Space Race".
42. Why do the Sun and Moon rise in the east, "move" across the sky, and "set" in the west?
43. List the 4 time zones in the lower 48 states and tell what time it is in each of them right now.
44. What is the difference between a solar eclipse and lunar eclipse?
45. Why does the Moon influence or tides more than the Sun?
46. What was Edwin Hubble's big discovery?
47. Can you see distant galaxies at night without a telescope?
48. How did the Moon form?
49. What will eventually happen to the Sun (stages in life)?
50. Why is the Sun a "stable" star?
51. Why is Earth's magnetic field important to your health?

52. What must happen on the Sun for the Northern Lights to be visible in Montana?
53. What is a “Solar Maximum”?
54. Why are there “meteor showers” at certain times throughout the year?
55. What causes Earth to experiences seasons?
56. What is the advantage that the Hubble has over other telescopes?
57. Where are the each of the following located? – Oort Cloud, Kuiper Belt, Asteroid Belt
58. What is the difference between a planet and a dwarf planet?
59. What is the difference between a “stellar” black hole and a “supermassive” black hole?
60. CLUE: Moon phases/tides diagram – there will be several questions to test your understanding of phases and tide – make sure that you do the online moon phase activity posted on Benson’s website. This was assigned a couple weeks ago. There will be a diagram similar to the one on in the upper left of textbook page 626 (honors 629).
61. What is the HR Diagram? Make sure you understand the HR Diagram on page 704 (honors 694)
62. Why is it impossible for Mercury to have an atmosphere? Make sure you understand which inner planets have atmospheres and how those atmospheres (or lack there of) affect temperatures on those planets.
63. What does the term “recharge area” mean, and where is the recharge area for Giant Springs? Make sure you understand the groundwater situation that causes Giant Springs.
64. How does the speed of a comet change as it approaches the Sun? Make sure you understand the orbit of a comet – how and why its speed changes, when and how its tail forms.
65. Periods 1, 3, 4 – You will have to do several things on a map of Montana rivers to demonstrate that you understand the “Map Activity: Montana Rivers”.

Recommended – Go to Benson’s web site and look at the review resources posted there.
www.bengalfrosh.com

Honors students will also have four level 2 questions. The topics will be causes of ice ages, the Bakken Formation, temperature extremes on Mercury, and the Northern Lights.