

THE 48 MOST IMPORTANT OBJECTIVES FOR THE: EARTH SCIENCE FINAL

Block 1 Final: Wednesday, June 5th, 7:35 - 9:05

Block 2 Final: Wednesday, June 5th, 9:10 - 10:30

Block 3 Final: Thursday, June 6th, 7:35 - 9:05

Upon completion of the reading, activities and labs, and when asked to answer True/ False, Multiple Choice, and Matching questions on the Final Exam, the student will:

Chapter 15: Running Water

1. Explain how running water gets its energy from the sun.
2. Describe the 3 ways in which running water breaks up bedrock and 3 ways water transports sediment
3. Discuss the relationship between stream speed, discharge, and carrying power.
4. Describe what occurs as a river approaches its base level.
5. Define headward erosion and identify some features that result from headward erosion.
6. Define stream divide and drainage basin and locate these features for a river system.
7. List some factors that cause streams to deposit their loads.
8. Discuss the different stages of a river's development

Chapter 16: Water Underground

9. List the parts of the hydrologic cycle and describe the movement of water in the water cycle.
10. Define porosity and permeability and list some factors that control each.
11. Identify and describe underground regions above and below the water table, list factors that determine water table depth, and explain the importance of the water table.
12. Explain why groundwater is nearly the same cool temperature all year.

Chapter 10: Plate Tectonics

13. Define plate tectonics and describe the relative motions of several plates.
14. Locate and describe the lithosphere and the asthenosphere and relate both to plate tectonics.
15. Describe the theory of continental drift and list evidences that Alfred Wegener used to support the theory.
16. Discuss the relationship between earthquakes, volcanoes, and plate boundaries.
17. Discuss heat flow and elevation of the seafloor as evidence of seafloor spreading.
18. Describe diverging, sliding and colliding boundaries, identify some features that occur there, and give examples.
19. Define subduction, identify & give examples of subduction boundaries, and list features that occur at each.

Chapters 12 & 13 : Earthquakes & Volcanoes

20. Define earthquake, and list problems caused by earthquakes, and discuss several causes of earthquakes.
21. Define focus and epicenter and identify the significance of the depth of the focus.
22. Name and describe the kinds of waves produced by earthquakes.
23. Describe how a seismograph works.
24. Discuss the relationship between the arrival time of the P and S waves at a seismograph station and the distance of the station from the earthquake epicenter.
25. Explain how to locate an earthquake epicenter.
26. Identify the scales used to describe earthquake magnitude.
27. Explain how P & S wave information can be used to predict the internal structure of the earth.
28. Identify some areas where rock underground can be melted.
29. Explain the difference between magma and lava and describe the composition, properties, and behavior of mafic and felsic magmas and lavas.
30. Describe rift eruptions and features associated with them, and tell where they occur.
31. Discuss and give examples of subduction zone eruptions, and discuss features that occur there.
32. Discuss the occurrence of hot spots and the features associated with them.
33. Identify and give examples of the various types of igneous intrusions.

Astronomy Unit: Ancient History, Planets, and Stars

34. Briefly outline the history of astronomy including the Babylonian, the Greeks, and the Renaissance.
35. List the accomplishments of Ptolemy, Copernicus, Tycho Brahe, and Johannes Kepler
36. Compare and contrast the heliocentric vs. geocentric models of the solar system.
37. List the planets and their characteristics.
38. Compare and contrast the Jovian and terrestrial planets.
39. Describe the structure of the sun.
40. Diagram the nuclear reaction that generates energy in a star.
41. Interpret the HR diagram and explain how stars are classified using it.
42. Explain the possible life cycle of a star.

Meteorology: Today's Weather Packet

43. Define and describe air temperature and analyze temperature trends through isotherms.
44. Define and describe air pressure and analyze pressure trends through isotherms.
45. Define and describe air pressure centers and apply the "hand twist model" to winds and air associated with pressure centers.
46. Define and describe air masses and fronts and be able to identify these different elements on a surface weather map.
47. Interpret and construct station models that identify weather observations for a particular location.
48. Analyze and predict future weather conditions for our local area or other areas through the use of surface weather map.

FINAL EXAM EXTRA CREDIT:

How do you feel this course is related to the following statement and what does it mean to you as you continue to take your place in society?

“WE DO NOT INHERIT THE EARTH FROM OUR ANCESTORS, WE BORROW IT FROM OUR CHILDREN”

You should write up / type up your answer to this question and have it ready to be handed in the day of the final. This question is worth 5 extra points added on to your final exam grade.

Final Exam Review Assignment

On June 3rd and 4th, we will be reviewing in class for your upcoming Earth Science Final Exam. To this end, as we did for your midterm, you will be asked to construct a practice test that you will give to a fellow student to take and you will be responsible for correcting it.

Monday, June 3rd - Construct a practice test of 45 questions that you will give to another student to take. The practice test will consist of objective type questions (True / False, Multiple Choice, and Matching). You should use 15 questions of each type totaling 45 total. These are questions that could appear on a SCANTRON type test. You must also make a separate answer key

*Tuesday, June 4th - Exchange tests with another student and take the practice test that another student constructed the prior day. Get your test back and correct it. Meet back with your partner and go over the questions / materials that you might have answered incorrectly.
Review for final for the remainder of the block.*