

Name: _____

Date: _____

Pd: _____

Earth Science Cumulative Exam Study Guide

(Focus on key terms, processes, & concepts from each unit)

Introduction – Unit 1:

1. Identify and **describe** the components of the four earth systems.
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2. **Define** a system and **explain** how earth functions as a system.
3. **Identify** the two major sources of energy for all of the earth systems.
4. **Explain** what longitude and latitude are and how they are used in mapping the globe.
5. **Compare and contrast** independent and dependent variables.
6. **Describe** what a topographic map is. **Name** 3 situations in which a topographic map would be useful.
7. Write out the metric prefixes. Then convert 12345.678kg to hg, Dg, g, dg, cg, and mg.
8. Measurement—complete the table below.

Quantity	Description	S.I. Unit
Mass		
Length		
Volume		
Temperature		

PLATE TECTONICS – Unit 2:

9. **Explain** the progression from the Continental Drift hypothesis to the theory of Plate Tectonics. Include evidence.

10. **Differentiate** between the geosphere, lithosphere and asthenosphere.

11. **Differentiate** between continental and oceanic crust.

12. **Explain** how convection currents in the mantle drive plate movement.

13. **Describe** and **explain** three (3) types of plate boundaries. Include motion, drawings, and features formed by each.
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14. **Differentiate** between the fault, focus and epicenter of an earthquake.

15. **Differentiate** between P waves, S waves and Surface waves.

16. What is the 'Ring of Fire'?

17. **List** several factors that influence volcanic eruptions and the shape of the resulting volcano.

ROCKS & MINERALS – Unit 3:

18. **List** the five (5) characteristics of minerals. **Identify** the most common mineral group.
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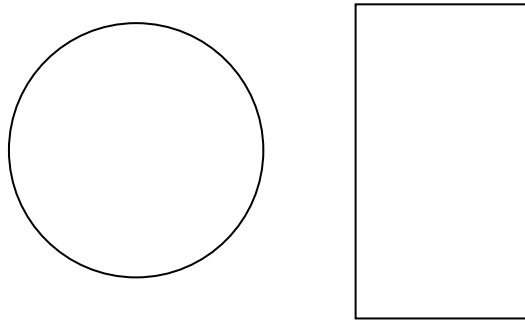
19. **Identify** as many testable properties of minerals (*mineral identification tests*) as possible.

20. **Draw** a diagram of the rock cycle. Indicate types of rock and how they form. Also indicate observable properties.

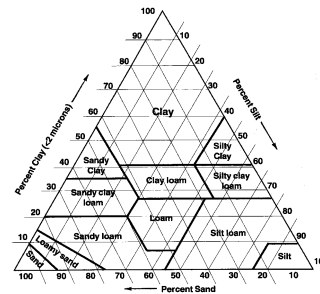
SOIL & MASS MOVEMENTS – Unit 3:

21. **Contrast** the two (2) types of weathering. **Identify** several factors that affect the rate of weathering.

22. **Describe** the process of soil formation, including all four (4) components and specific horizons (profile).



23. **Identify** and **describe** the difference between sand, silt, and clay in terms of particle size, porosity, and permeability. *Be sure you understand the Soil Textural Triangle.*



24. What factors affect the rate of soil erosion? What is the most erosive force on earth?

25. **Identify** three (3) human activities that accelerate (speed up) soil erosion.

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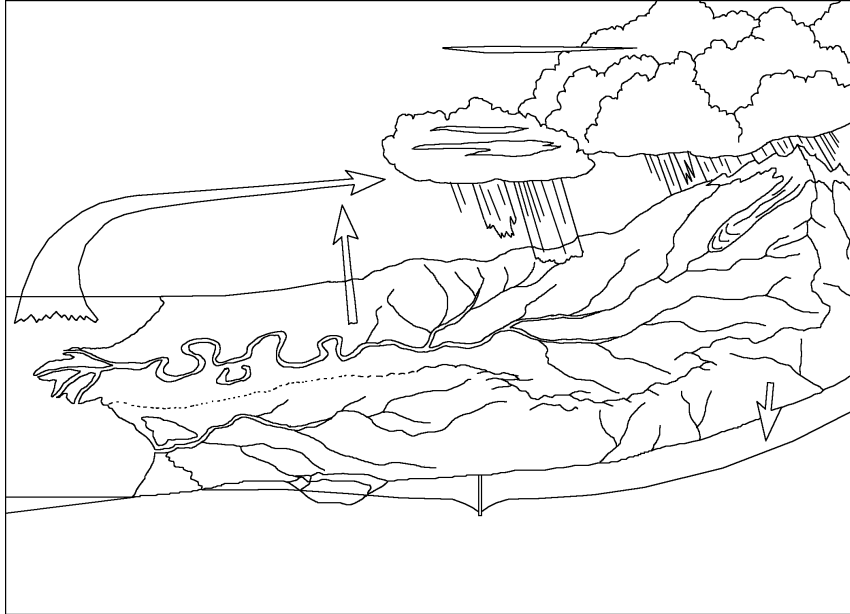
26. **Describe** three (3) methods to control soil erosion.

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27. **Identify** and **describe** the five (5) types of mass movements. What underlying force is behind mass movements?

FRESHWATER (Rivers, Streams, Groundwater) – Unit 4:

28. On the water cycle illustration below, **draw** some trees and then **label** the following terms in the process: *evaporation*, *runoff*, *transpiration*, *surface water*, *condensation*, *groundwater precipitation*, and *infiltration*.



29. How much of the Earth's water is fresh? Where is it located? Name four (4) places.

30. How much of the Earth's water is salt water? Where is it located?

31. **Define** watershed. How are river basins and watersheds related?

32. What limits fresh and salt water ecosystem life?

Biotic Limitations –

Physical Limitations –

Chemical Limitations –

33. **Define** point source pollution. Give two (2) examples.

34. **Define** non-point source pollution. Give two (2) examples.