**6th Grade Final Exam Study Guide**

**Nature of Science**

1. DEFINE and GIVE AN EXAMPLE of each of the following terms:
   * Theory:
   * Law:
   * Hypothesis:
   * Inferences:
   * Data:
   * Prior Knowledge:

**Plate Tectonics (Chapter 6)**

1. Name and describe the three *COMPOSITIONAL* layers of the Earth. (know what it is made of, it’s thickness, and temperature)
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_
      1. Composition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      2. \_\_\_\_\_\_\_km thick
      3. Temperature:\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      1. Composition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      2. \_\_\_\_\_\_\_km thick
      3. Temperature:\_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      1. Composition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      2. \_\_\_\_\_\_\_km thick
      3. Temperature:\_\_\_\_\_\_
2. What are the five *MECHANICAL* layers of the Earth, what are their compositions and how thick are they?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_: composition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_km thick
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_: composition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_km thick
   3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_: composition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_km thick
   4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_: composition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_km thick
   5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_: composition:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_km thick
3. What is a ***tectonic plate***? Define it.
4. What type of crust(s) can a tectonic plate be made of?
5. Explain Wegner’s **Theory of Continental Drift**. What is some of the evidence for this theory?
6. What is a ***mid-ocean ridge***? Give an example of a well known mid-ocean ridge.
7. Explain ***sea-floor spreading,*** and HOW it happens***.*** DRAW A DIAGRAM.
8. What is a ***magnetic reversal***?
9. Explain what the following explanations of how tectonic plates move states:
   1. **Mantle Convection:**
   2. **Slab pull:**
   3. **Ridge Push:**

**Earthquakes**

1. DESCRIBE AND EXPLAIN each of the following types of plate boundaries. EXPLAIN WHAT LAND FEATURES TEND TO FORM AT THESE BOUNDARIES.
   1. **Convergent boundaries:**
   2. **Divergent boundaries:**
   3. **Transform boundaries:**
2. What are the two different types of *stress* that rocks can experience? Explain what each one is?
3. What is the difference between ***folding***  and ***faulting*** in a rock layer?
4. What are earthquakes? How do they form?
5. What are the two ways rocks can deform? Define/explain each way.
   1. Plastic:
   2. Elastic:
6. What are the different types of seismic waves? Describe their differences including: which ones arrive first, which ones are the strongest, how they move, and through what they can move.
   1. P Waves (Primary waves):
   2. S Waves (Secondary waves):
   3. L Waves (Surface waves):

1. Define and explain the following terms. Find examples if you need to.
   1. Focus:
   2. Epicenter:
   3. Aftershock:
   4. Elastic rebound:
   5. Seismic waves:
2. What are different scales used to measure earthquake magnitudes? What are the benefits and disadvantages to each?Which one is used now?
   1. Mercalli Scale:
   2. Richter Scale:

**Volcanoes (Chapter 8)**

1. What is a volcano?
2. What is the difference between an ***explosive*** and a ***nonexplosive*** eruption?
3. Describe the characteristics for each of the following *types* of volcanoes:
   1. Composite (stratovolcano):
   2. Shield Volcano:
   3. Cinder cones:
4. Distinguish (explain) the following classifications of volcanoes:
   1. Extinct:
   2. Dormant:
   3. Active:
5. What is a hot spot?

**Erosion, Rivers and Deposition (Chapter 10 and 11)**

1. What is **erosion?**
2. What are the FIVE agents of erosion?
3. What is **run-off?**
4. What is **deposition**?
5. What are conditions are ideal for **deposition** to occur (speed of river, type of load, etc.) and EXPLAIN how those conditions make it ideal for deposition to occur?
6. How does **weathering/erosion** AND **deposition** change or shape the land/surface of the Earth? GIVE EXAMPLES!
7. Explain IN DETAIL how rivers form. Explain it in stages (USE THE FLOW CHART WE MADE IN CLASS!).
8. What is **ground water**?
9. Explain why ground water is important?
10. What are the two ZONES of ground water, and explain/describe each?
    1. **Zone of aeration:**
    2. **Zone of saturation:**
11. What is an **AQUIFER?**
12. What are the TWO qualities which an aquifer has?
13. Explain how the surf can be a powerful agent of erosion and deposition?
14. Define:
    1. **Shoreline:**
    2. **Beach:**
    3. **Longshore current:**
    4. **Alluvial fan:**
    5. **Delta:**
    6. **Alluvium:**