GEOL 148 Violent Earth **Quiz 4**

1. Name the layers of Earth:

Compositional	Mechanical

2. What is the name given to the impactor in the 'Giant-impact Hypothesis'?
   a. Granddaughter earth
   b. Theia
   c. Gaia
   d. Venus
   e. Moon
   f. Gandolf
3. Of this hypothesis, when did the impact occur?
   a. 2.5 Billion years ago
   b. 542 Million years ago
   c. 4.48 Billion years ago
   d. 6.7 Billion years ago
   e. 31.7 years ago

4. What is the main factor that controls climate?
   a. Carbon dioxide content in the atmosphere
   b. Orbital forcing and differences in solar radiation
   c. Al Gore and the leftist government
   d. Climate is too complex to understand and we currently have no idea of the major controls

5. What are the three primary planetary and orbital fluctuations called the 'Milinkovic Cycles'?

   1)_____ - the elliptical orbit of Earth oscillates in ellipticity, sometimes more elliptical that at other times.

   2)_____ - the planet Earth is tilted on it's axis, and this tilt changes through time from ~22-24.5°.

   3)_____ - the tilted axis causes a 'wobble' of Earth on it's elliptical orbit.

6. Name one extinct Megafauna beast from the Pleistocene time period: _____
7. Name two pieces of geologic evidence for the Snowball Earth Hypothesis:

    1) _____

    2) _____

8. Approximately when did 'Snowball Earth' occur?
    a. ~2.5 million years ago (Pleistocene)
    b. 2.5 billion years ago (Archean – early Precambrian)
    c. ~700 million years ago (Neoproterozoic – late Precambrian)
    d. Still occurring. Brrrr…. (Anthropocene)
    e. 350 million years ago (Paleozoic)
9. What is the glacial feature composed of glacial till and can be found at the end of a glacier?
    a. Esker
    b. Drumlin
    c. Moraine
    d. Kame
    e. Roche mounte

10. **What hypothesis did Alfred Wegener propose to attribute the match of the South American and African continents?**
    a. Seafloor Spreading
    b. Continental Drift
    c. Entheogenic revival
    d. Cosmic delusion
    e. Magic

11. **Which is not an additional piece of evidence that Wegener used for the hypothesis:**
    a. Aliens told him
    b. Glacial Sediments from the Paleozoic
    c. Ancient soils and plant fossils
    d. Triassic age vertebrate fossils
    e. Matching mountain belts and metamorphic rocks

12. **Observations from the _____ led the re-evaluation of this hypothesis in the late 1960s.**
    a. Planet Pluto
    b. Mt. Everest
    c. Chicxulub Crater
    d. Seafloor
    e. Mesopotamian books

13. **We now recognize Wegener's hypothesis as the Plate Tectonic Theory. Why 'plate'? (i.e. why do we consider them 'plates'?)**
    a. They are round and look like dinner plates
    b. They are four of them worldwide and reminded early researchers of baseball plates
    c. They are thin and brittle, deforming around the edges where they interact
    d. No real reason why things are named this way; geologist are bad at naming things

14. **What is Orogeny?**
    a. A form of divergence at plate boundary
    b. When an ophiolite sequence is thrust onto the continent
    c. When several 'exotic terranes' accrete to the edge of a continental craton
    d. The process of mountain building via continental collision
    e. The process of 'erogenous zone' collisions

15. What is the difference between Flux Melting and Decompression Melting?

16. Describe the Supercontinent Cycle (also known as the Wilson Cycle).

17. Sketch a simple diagram of a subduction zone showing how it relates to volcanisms. Label: oceanic plate, continental plate, mantle, flux melting, magma, and volcano