Unit 6 - Weathering & Erosion Vocabulary (Part 1)

1. **Weathering, list two subtypes (p.226)**: *Weathering is the process that breaks down rock and other substances on Earth's surface. There are two types of weathering: mechanical (also called physical) weathering and chemical weathering.*

2. **Chemical Weathering, list five examples (pp.229-31):** *Chemical weathering is the process that breaks down rock through chemical changes. Chemical weathering can be caused by one of five different chemical agents: (1) water, (2) oxygen, (3) carbon dioxide, (4) living organisms, and (5) acid rain.*

3. **Mechanical Weathering, list five examples (pp.227-29):** *Mechanical (or physical) weathering is the process in which rock is physically broken down into smaller pieces. There are five different types of physical or mechanical weathering: (1) release of pressure, (2) ice wedging (freezing and thawing), (3) plant growth, (4) abrasion, and (5) animal actions.*

4. **Erosion (p.227):** *Erosion is the movement of rock particles by wind, water, ice or gravity.*

5. **Abrasion (p.227):** *Abrasion is the grinding away of rock by rock particles carried by wind, water, ice or gravity.*

6. **Rate of Weathering Factors (p.231):** *The two main factors that affect the rate of weathering are the type of rock and the type of climate. Rocks made of minerals that dissolve in water, or that allow water to easily pass through it (permeable) weather faster, while hard rocks weather slowly. Warmer, wet climates speed up chemical weathering, while frequent freeze-thaw cycles speed up physical weathering. Dry climates slow down weathering.*

7. **Soil (pp.235-36; 243):** *Soil is the loose, weathered material on Earth's surface in which plants grow. It is a mixture of rock particles, minerals, decayed organic material, air and water. It takes many decades to make a single centimeter of soil.*

8. **Humus (p.236):** *Humus is a dark-colored substance that forms as plant and animal remains decay.*

9. **Loam (p.236):** *Loam is a well-draining soil that is made up of about equal parts of clay, sand and silt. Sand particles are between 2mm and .06mm in diameter. Silt particles are between .06mm and .004mm in diameter. Clay particles are the smallest, with less than .004mm in diameter.*

10: **Soil Horizon, describe three layers (p.237):** *A soil horizon is a layer of soil that differs in color and texture from the layers above or below it. There are three different basic soil horizons: A, B and C. The topmost "A" horizon is made of topsoil, a mixture of humus and clay. The "B" horizon is called subsoil, with little humus and some weathered rock. The "C" horizon contains partly weathered rock.*

11. **Topsoil (p.237):** *Topsoil is a crumbly, dark brown soil that is a mixture of humus, clay and other minerals. It is the best soil for plant growth.*

12. **Subsoil (p.237):** *Subsoil is a soil that usually exists below the topsoil. It has little humus, and in primarily a mix of weathered rock, sand and clay that washed down from the topsoil above.*

13. **Litter (p.238):** *Litter is a loose layer of dead plant materials such as dropped leaves and stems that is found on the surface of the soil in forests. Litter decays into humus over time.*

14. **Decomposers (p.239):** *Decomposers are organisms that break down the large molecules in dead organisms into small molecules, are return essential minerals into the soil.*

15. **Sod (p.243):** *Sod is the thick mass of grass and other plant roots at the surface of the soil that prevents erosion and holds the soil together. Prairies have a very thick layer of sod that can survive periodic fires.*

16. **Dust Bowl, causes (pp.244-45):** *The "Dust Bowl" was an area in the prairies of the west-central United States, stretching from west Texas to Montana and North Dakota, where drought conditions and plowing in the 1930's caused a severe loss of topsoil. Plowing destroyed the sod and exposed the topsoil to drying and wind erosion.*

17. **Soil Conservation (p.246):** *Soil conservation is the management of soil to prevent its destruction. Soil can be destroyed very quickly by wind and water erosion, but forms very slowly (many decades per centimeter of soil), so it is very important that soil be conserved to allow the maximum growth of food crops.*

18. **Contour Plowing (p.246):** *Contour plowing is a soil conservation technique in which fields are plowed parallel to the contour lines of slopes, so that water cannot easily run downhill and erode the soil.*

19. **Conservation Plowing (p.246):** *Conservation plowing, also called no-till or low-till plowing, is a soil conservation technique in which crop stalks and weeds are left in place over the winter after crops are harvested, so that the stalks and weeds will hold the soil in place and decay into humus. The dead plant material may be plowed under just before new crops are planted in the spring.*

20. **Sediment (p.253):** *Sediment is the material moved by erosion.*

21. **Deposition (p.253):** *Deposition occurs when the agents of erosion (wind, water, ice and gravity) lay down sediment in a new location, such as in a river delta or a glacial moraine.*

22. **Mass Movement, four types (p.253):** *Mass movement is the process where gravity moves sediment downhill. There are four main types; landslides, mudflows, slump and creep.*

23. **Landslides (p.254):** *Landslides or rockslides are a form of mass movement, in which rock and soil slide quickly down a steep slope. It is the most common and destructive form of mass movement.*

24. **Mudflows (p.254):** *Mudflows are a form of mass movement in which there is a rapid downhill movement of a mixture of water, soil and rock.*

25: **Slump (p.254):** *Slump is a form of mass movement in which a mass of soil and rock slides rapidly downhill as a single unit.*

26. **Creep (p.255):** *Creep is the very slow movement of soil and rock down a slope. It often leaves trees and plants leaning outward near the ground.*