

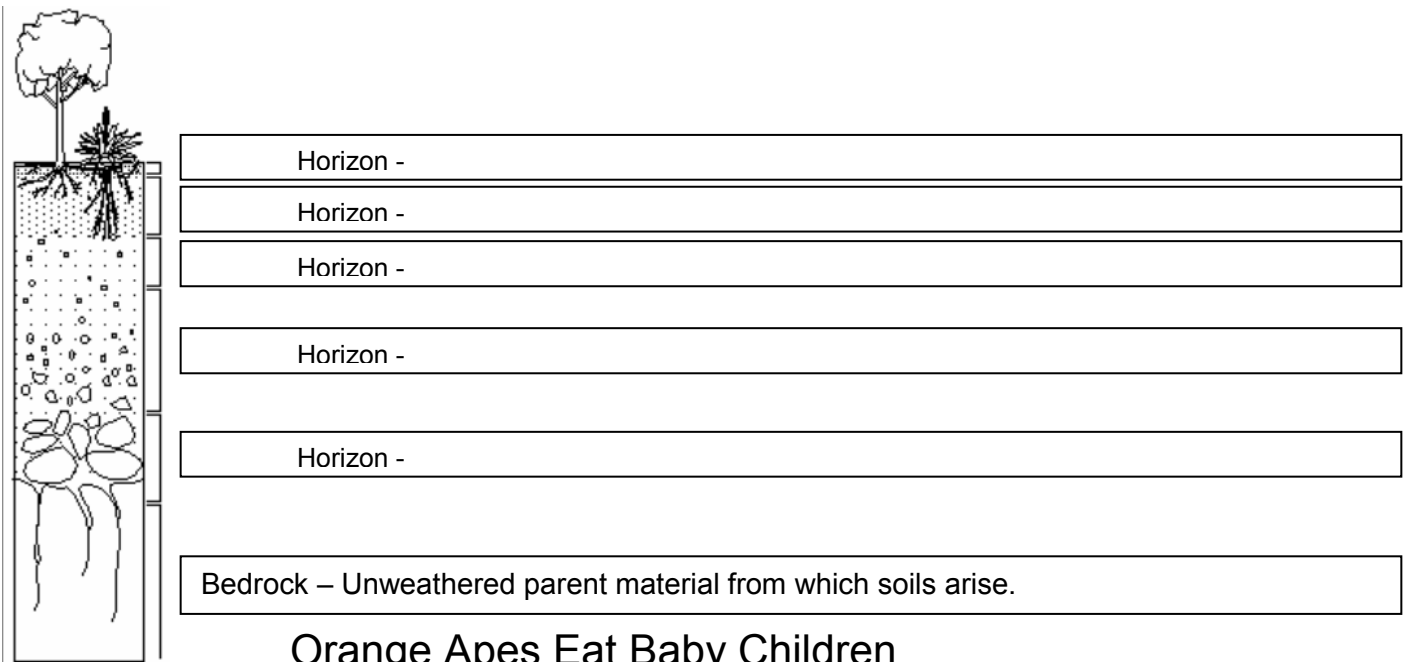
1. \_\_\_\_\_ is the group of destructive processes that change physical and chemical character of rocks at or near Earth's surface.
2. \_\_\_\_\_ is physical picking up of rock particles by water, ice, or wind.
3. \_\_\_\_\_ is the movement of eroded particles by water, ice, or wind.
4. The two types of weathering chemical and mechanical. Write a description for each type of weathering.
  - a. Chemical Weathering (2pts) –
  - b. Mechanical Weathering (2pts) –
5. Atmospheric \_\_\_\_\_ and \_\_\_\_\_ mix together to form \_\_\_\_\_ which is the primary cause of chemical weathering.
6. How do each “spheres” of the Earth contribute to chemical and mechanical weathering?

Sphere	Weathering Contribution
Atmosphere	
Hydrosphere	
Biosphere	

7. Match the following types of mechanical weathering with its correct definition.
 

_____ Frost action	A. Removal of overlying rock allows expansion and fracturing.
_____ Pressure release	B. Large temperature changes fracture rocks by repeated expansion and contraction.
_____ Plant growth	C. Mechanical effect of freezing (and expanding) water on rocks.
_____ Burrowing animals	D. Different types of rocks weather at different rates.
_____ Thermal cycling	E. Tunnels and burrows made by animals speed up weathering.
_____ Differential weathering	F. Growing roots widen fractures in rock.
8. Mechanical weathering (increases/decreases) surface area and (increases/decreased) the rate of weathering.
9. Chemical weathering involves \_\_\_\_\_, where atmospheric oxygen reacts with metals found in rocks.
10. Chemical weathering involves \_\_\_\_\_, where weak acids are formed when water mixes with certain ions.

11. Certain ores that are mined contain metals. When tailings from a mine are brought to the surface, that mix with rainwater forming \_\_\_\_\_, a type of environmental contamination that can damage bodies of water by lowering their pH.
12. Of all the minerals on Earth, \_\_\_\_\_ is the most susceptible to weathering while \_\_\_\_\_ is the least susceptible. Why is this (5pts)?
13. The Pathway of Carbon. Number the following in the correct order.
- \_\_\_\_\_ Combines with water to form carbonic acid
  - \_\_\_\_\_ Released back to atmosphere by volcanic eruptions
  - \_\_\_\_\_ Weathers rocks and leads to limestone formation in bodies of water
  - \_\_\_\_\_ Returned to mantle by tectonic plate movement
  - \_\_\_\_\_ Present as trace gas carbon dioxide in atmosphere
14. \_\_\_\_\_ is a complex mixture of weathered, unconsolidated material on top of bedrock and is made of clay minerals, quartz, water, organic matter, and living organisms.
15. In the figure below, label the soil layers in the correct order, then describe each layer (2pts each).



### Orange Apes Eat Baby Children

16. Wet climates have a (faster/slower) rate of chemical weathering and form (thick/thin) soils.
17. Dry climates have a (faster/slower) rate of chemical weathering and form (thick/thin) soils.
18. True or False      Tropical rainforests have very good soils that are rich in nutrients.
19. Why are clays so abundant as weathering products (5pts)?
20. Why are most beaches made out of quartz sands (5pts)?