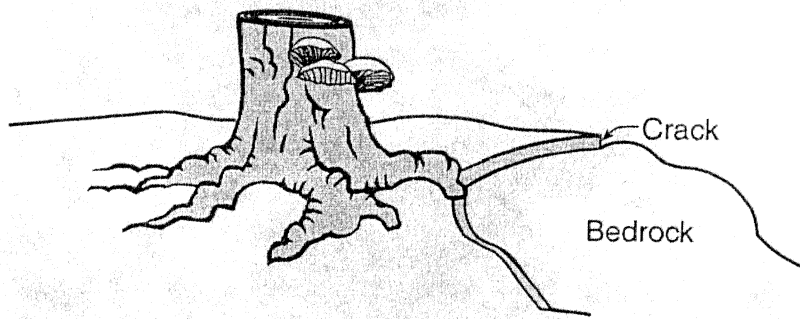


Weathering

1. Which property of water makes frost action a common and effective form of weathering?
 - 1) Water dissolves many earth materials.
 - 2) Water expands when it freezes.
 - 3) Water cools the surroundings when it evaporates.
 - 4) Water loses 334 Joules of heat per gram when it freezes.
2. Which process involves either a physical or chemical breakdown of earth materials?
 - 1) deposition
 - 2) sedimentation
 - 3) weathering
 - 4) cementing
3. Which type of climate has the greatest amount of rock weathering caused by frost action?
 - 1) a wet climate in which temperatures remain below freezing
 - 2) a wet climate in which temperatures alternate from below freezing to above freezing
 - 3) a dry climate in which temperatures remain below freezing
 - 4) a dry climate in which temperatures alternate from below freezing to above freezing
4. Water is a major agent of chemical weathering because water
 - 1) cools the surroundings when it evaporates
 - 2) dissolves many of the minerals that make up rocks
 - 3) has a density of about one gram per cubic centimeter
 - 4) has the highest specific heat of all common earth materials
5. Which geologic feature is caused primarily by chemical weathering?
 - 1) large caves in limestone bedrock
 - 2) a pattern of parallel cracks in a granite mountain
 - 3) blocks of basalt at the base of a steep slope
 - 4) the smooth, polished surface of a rock in a dry, sandy area
6. Landscapes will undergo the most chemical weathering if the climate is
 - 1) cool and dry
 - 2) cool and wet
 - 3) warm and dry
 - 4) warm and wet

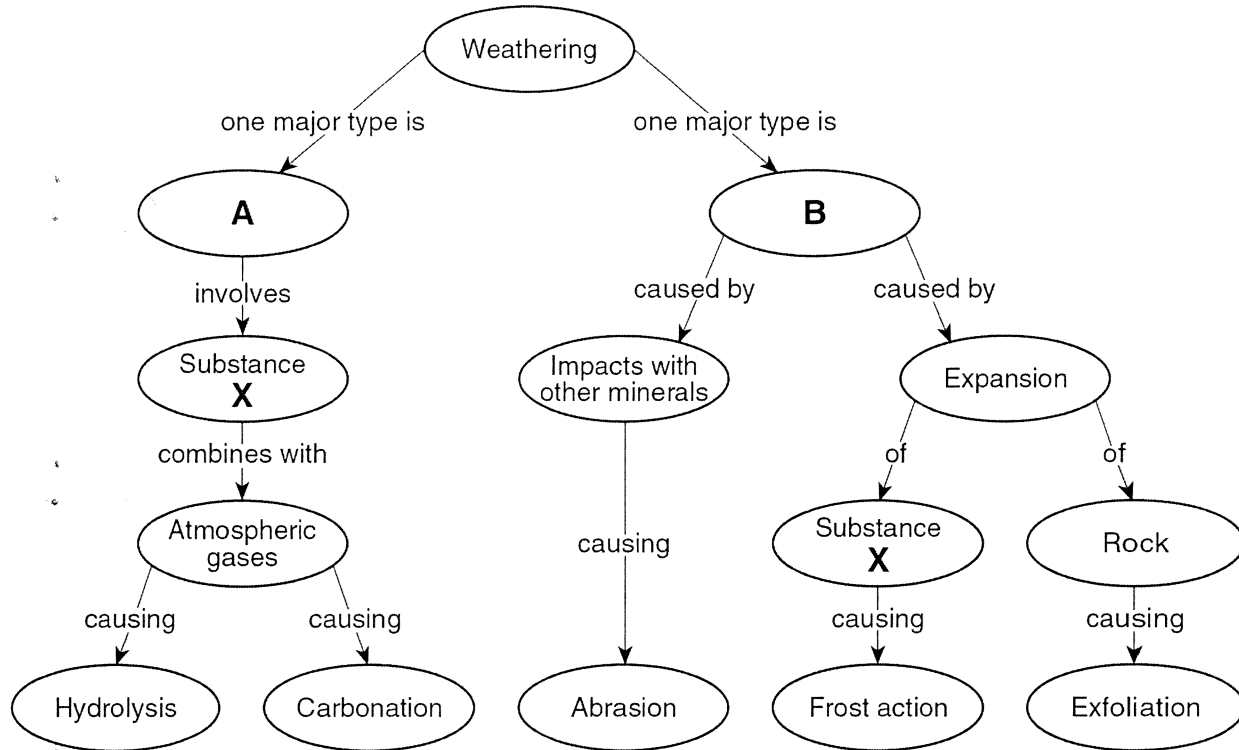
7. The diagram below shows the stump of a tree whose root grew into a small crack in bedrock and split the rock apart.



The action of the root splitting the bedrock is an example of

- 1) chemical weathering
- 2) deposition
- 3) erosion
- 4) physical weathering

Base your answers to questions 8 through 10 on flowchart below, which shows a general overview of the processes and substances involved in the weathering of rocks at Earth's surface. Letter *X* represents an important substance involved in both major types of weathering, labeled *A* and *B* on the flowchart. Some weathering processes are defined below the flowchart.



Definitions
Frost action – the breakup of rocks caused by the expansion of substance X
Abrasion – the wearing down of rocks or particles as they rub or bounce against other rocks
Exfoliation – the peeling away of large sheets of loosened material at the surface of a rock
Hydrolysis – the change in a material caused by contact with substance X
Carbonation – the change in a material caused by contact with carbonic acid

8. Which weathering process is most common in a hot, dry environment?
 - 1) abrasion
 - 2) carbonation
 - 3) frost action
 - 4) hydrolysis
9. Which term best identifies the type of weathering represented by *A*?
 - 1) physical
 - 2) biological
 - 3) chemical
 - 4) glacial
10. Which substance is represented by *X* on both sides of the flowchart?
 - 1) potassium feldspar
 - 2) air
 - 3) hydrochloric acid
 - 4) water