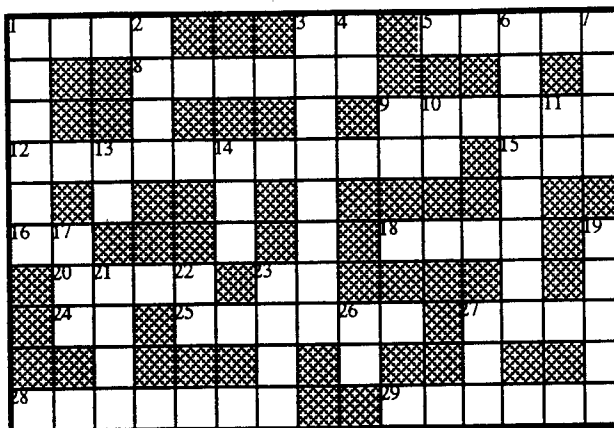


Across

1. Antonym of found.
3. High fidelity radio signals, better than AM.
5. ___ are composed of minerals.
8. The most common element in the Earth's crust.
9. Test to find the color of the powder of a mineral. Tested with a white porcelain plate.
12. The shape of a pyramid.
(The four sided shape of silicate structures.)
15. How long something has existed.
16. Railroad. (Abbreviation)
18. Mineral family with perfect cleavage in one direction. Splits into thin, transparent sheets.
20. A strong reaction with this kind of chemical is a common test for the mineral calcite.
23. Four year college degree in the arts.
24. Antonym of from.
25. Silicon Dioxide.
27. Inventor of the telephone. Unit of sound energy. Metal noise maker with a clapper, associated with Christmas.
28. Second most abundant element in the crust of the Earth.
29. One mineral will scratch another only if it is ___ than that mineral.

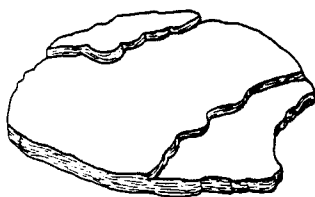


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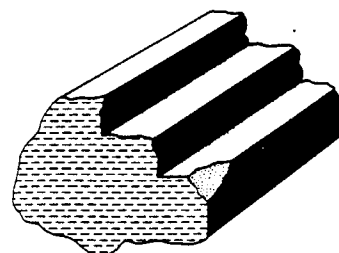
4. Metallic element in garnet. (Chemical Abbrev.)
6. The ability of a mineral to split along flat surfaces.
7. Purpose. (Rhymes with lake.) Japanese rice wine.
9. Homonym of "sew".
10. State south of Kentucky. Capital is Nashville.
11. Agriculture. (Abbreviation)
13. Electromagnetic video transmission.
The "boob tube." "Chewing gum for the mind."
14. Garment worn on the head.
17. Rodent pest common in cities.
19. Easily observed mineral property that can be changed by impurities.
21. Rock that contains no minerals, only carbon.
22. Dairy Queen. (Abbreviation)
23. Farm building built for storage.
26. Indian home of the planes. A pointed tent.
27. Pub. To prevent entry. Listing of lawyers.

Down

1. The way a mineral surface reflects light.
2. Planned trip. Rhymes with "poor".
3. Most abundant family of silicate minerals. The name is German for "field stone".



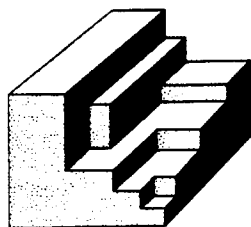
One Direction
(Mica Family)



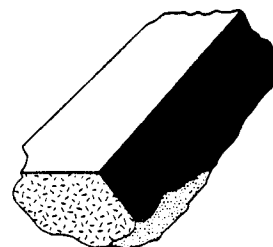
Two Directions at 90°
(Feldspar Family)

Mineral Cleavages

Minerals usually split between layers of atoms, where bonding is weakest



Three Directions at 90°
(Halite)



Two Directions more than 90°
(Amphibole Family)