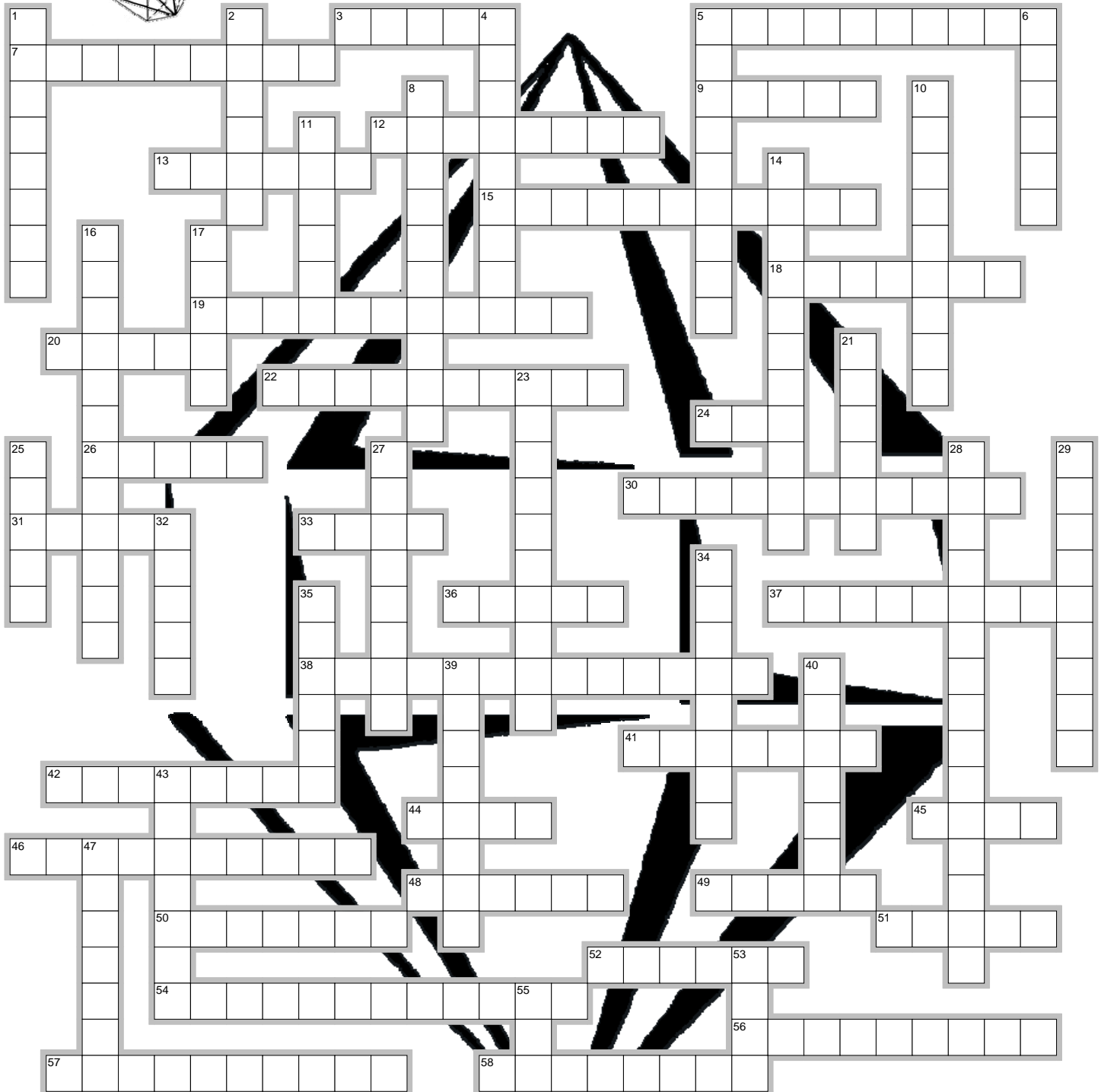


# MINERALOGY

SDSU Department of Geological Sciences, October, 2007



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## Across

3. Native material in or around a gemstone, a dead spot or area. ie: ironstone surrounding opal
5. Crystal Form. It consists of a single face which is geometrically unique for the crystal and is not repeated by any set of symmetry operations.
7. Crystal System. Requires 4 three-fold axes of rotation
9. Radiant energy which gives the sensation of sight. Velocity is 186,285 miles per second
12. Glass or plastic which passes light on one plane
13. Minerals of no value associated in veins with ore minerals
15. Applied to crystals, this means visualizing the disposition of the principal directions within the crystal

18. A smooth fracture that looks like a cleavage plane but takes place only on certain planes in the crystal, not between any set of atoms, like true cleavage
19. Wavelengths of light shorter than visible violet light
20. Electromagnetic radiations of a shorter wavelength than visible light. Usually less than one Angstrom
22. Rounded mineral surface
24. A mineral occurring in sufficient amounts to permit its recovery at a profit
26. Characteristic crystal form
30. (2 Words) Lines passing through a crystal in important symmetric directions, intersecting at the center of the crystal
31. Unit of weight used to weigh gemstones, equal to 200 milligrams, or
33. Electron rays
36. A stone having a cavity lined with crystals; the cavity in such a stone
37. Minerals in which  $\text{AsO}_4$  radical is an important constituent
38. The sheen of color seen in moonstone and other feldspars of the adularia variety
41. Crystal Form. It is composed of a set of 3, 4, 6, 8, or 12 faces which are not parallel but instead intersect at a point.
42. Two or more atoms in close relationship, The smallest quantity of an element or compound which is capable of independent existence
44. Hollows in silicate rock, they may be partially filled with mineral formations
45. Fine rod like crystals embedded in a crystal
46. Crystal Form. It possesses two sets of nonparallel geometrically equivalent faces, each of which is related by a 2-fold rotation.
48. The minerals of no value in veins with ore minerals
49. Man made flat part of a mineral, a planar surface
50. The ratio of the weight of a substance to its volume expressed in  $\text{g/cm}^3$ , and numerically equal to the specific gravity
51. The iridescence of light reflected from the surface of a stone
52. The colour of the powder of a mineral.
54. Crystal System. Requires either 3 two-fold axes of rotation or 1 two fold axis of rotation and two mirror planes
56. (2 Words) The direction of single refraction in a double refractive mineral
57. Crystal System. Requires 1 four-fold axis of rotation
58. Unit and length of measurement of wavelengths of visible light and most xrays

## Down

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1. Crystal Form. It consists of two and only two nonparallel geometrically equivalent faces. The two faces may be related by a reflection or by a rotation.
2. Characteristic sheen and iridescence, as displayed in a good pearl
4. Crystal System. Requires 1 six-fold axis of rotation
5. Can be flattened by pounding, as in metals
6. A lump or node
8. Crystal System. Requires either 1 two-fold axis of rotation or 1 mirror plane
10. Skeletal crystals that develop from supersaturated solutions, often in small cracks, often resembling plant or trees
11. A reflective property of mineral surfaces
14. Showing light through its substance; transparent; translucent
16. Hot water or solution sometimes superheated
17. A crystal coated surface of rock
21. A fracture characteristic of metals in rock, like gold and copper
23. A group of closely related, dark colored rock forming silicate minerals, as in, actinolite, hornblende
25. Prism for producing polarized light, having split the light into two rays
27. Glasslike in appearance or texture
28. (2 Words) The measurement of the amount of change in direction of light passing through one medium to another. The ratio of the velocity of the light in air to the velocity of light in the medium being measured
29. (2 Words) The relative scale of the hardness of minerals, from 1 to 10, the order of hardness with no significance to quantitative relationship
32. Two or more crystals which have grown together in a symmetrical fashion
34. The band of light showing the succession of rainbow colors corresponding to the different wavelengths
35. Not transparent or translucent, (you can't see through it)
39. Needlelike; refers to the growth of a mineral in long and slender crystals
40. Easily crumbled or pulverized
43. A chalcedony or carnelian geode having the center cavity filled with water
47. The area bordering a vein
53. The smallest part of a chemical element which remains unchanged during all chemical reactions
55. Electrically charged atom, radical or molecule