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Kehle, Paul
Nobel prize in chemistry for discovery of quasicrystals: mathematicians were there first.
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Summary: The Nobel prize in chemistry was awarded to Israeli chemist Dan Shechtman for his discovery of quasicrystals in 1982. A quasicrystal is a highly structured locally symmetric material lacking the global periodicity that had traditionally defined crystals. His unexpected discovery of quasicrystalline structure in a substance he synthesized in the laboratory shook the foundations of crystallography and led to a revolutionary redefinition of what crystals are. At first, quasicrystals were thought to exist only as "artificial" products of laboratory experiments; but in 2009, a geologist discovered naturally occurring quasicrystals in Russia. The study of quasicrystals continues to grow today within both pure and applied sciences, but the mathematical study of the fascinating properties of aperiodic patterns dates to 1973 and a discovery by the mathematician and physicist Roger Penrose. The topic of aperiodic patterns is a rich one, accessible to high school students and can range from decorative work with patterns to unsolved problems at the frontiers of mathematics.

Classification: M65 G95
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