# A NOTE ON 3-DIMENSIONAL GRAPHS

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Tetrahedron stacking, illustrated below, is a spherical close packing that is identical to cannonball stacking. It neither dominates nor is dominated by two-dimensional k-graphing or s-graphing (discussed in my Feb 1995 **Word Ways** article). For example, SPECTROHELIOKINEMATOGRAPHS is S-graphable but not k-graphable or 3D-graphable; DIAMINOPROPYLTETRAMETH-YLENEDIAMINE is k-graphable but not s-graphable or 3D-graphable; HEPATO-CHOLANGIOENTEROSTOMY is 3D-graphable but not k-graphable or s-graphable. (Other words, like PHENOLTETRACHLOROPHTHALEIN, cannot be graphed by any of these schemes.) However, 3D-graphing is superior for number names. ONE through NINE is the most that can be simultaneously k-graphed or s-graphed, but ZERO through TWELVE can be 3D-graphed (see below).