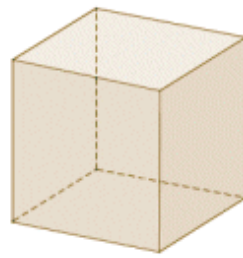


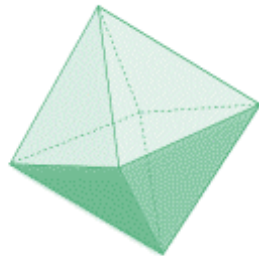
Patterns of Plato's Solids



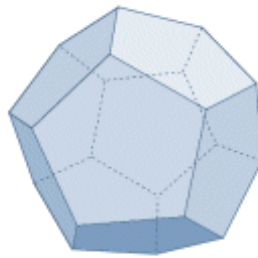
Tetrahedron



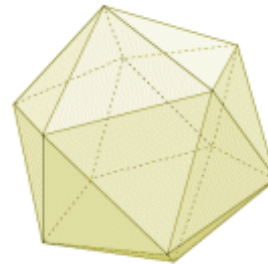
Cube



Octahedron



Dodecahedron

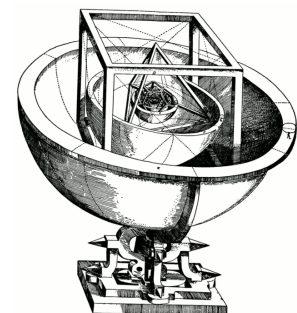


Icosahedron

Once upon a time there was an Ancient Greek Philosopher called Plato. He was investigating the secrets of the universe. Plato thought five solids were particularly special. The shapes are now named after him - the Platonic Solids. Plato thought fire was made of tiny tetrahedrons, water from icosahedrons, air from octahedrons and earth from cubes. The dodecahedron, he said, 'the gods used for arranging the constellations on the whole heaven'.

He wasn't quite right - but the solids have some remarkable relationships!

Shape	Vertices (corners)	Edges	Faces
tetrahedron	4	6	4
hexahedron (cube)	8	12	6
octahedron	6	12	8
dodecahedron	20	30	12
icosahedron	12	30	20



Can you count the corners (vertices), edges and faces of any 3D shapes you have made? Now do a sum: Add together the number of vertices and faces, and take away the number of edges. You'll get 2. Always. Mathematical magic at work.

In the sixteenth century Kepler built a model of the solar system based on the Platonic Solids. His model was wrong, but he worked out some useful things from his mistake.