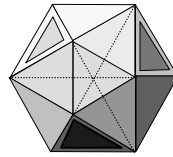


## STELLATE & STRING ICOSAHEDRON

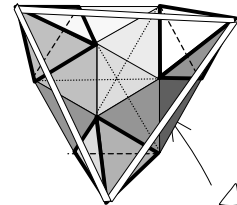
Stellating the icosahedron in stages reveals interconnections between polyhedra.

Make an icosahedron and place 4 tetrahedra on faces equally spaced around the icosahedron. Tape them in place along the edges. The 4-circle icosahedron shows the open planes equally placed, as do the 4 center points of the circles. Stringing the stellated points shows the tetrahedron with an icosahedron center.

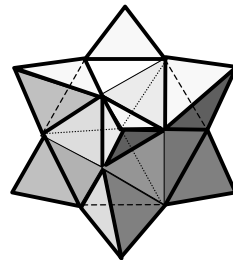


icosahedron

tetrahedron

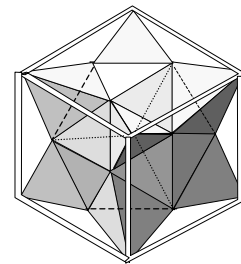


4<sup>th</sup>  
tetrahedron  
behind



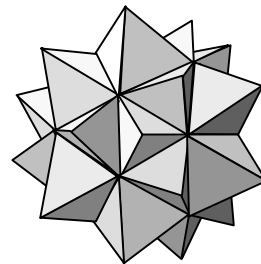
8 tetrahedra

Make 4 more tetrahedra and place them equally spaced around the first four (look for the placement of triangles between the stellated points). String the 8 points. We now have a cube with an icosahedron center (p.159).



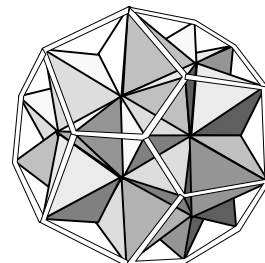
cube with  
icosahedron  
center

Make and attach 12 more tetrahedra, stellating the remaining faces for a fully stellated icosahedron.



20 tetrahedron,  
stellated  
icosahedron

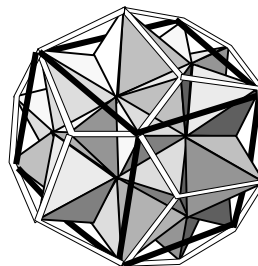
Using tape, string all the points adjacent to each other. The tape edges reveal 12 pentagons, the dodecahedron pattern, as the dual to the icosahedron, reflected in the numbers.



dodecahedron

Icosahedron	12 points	20 faces	30 edges
Dodecahedron	20 points	12 faces	30 edges

You might want to use different color tape or colored yarn to differentiate between individual systems when stringing the stellated points. String the 5 cube systems individually to see the compound of 5 interpenetrating tetrahedra (p.167).



dodecahedron  
and cube

Using only tetrahedra, all 5 regular polyhedra, The Five Plutonic Solids, have been formed showing all dual relationships.