This group portion centers around the tetrahemihexahedron, the only non-prismatic uniform polyhedron with an odd number of faces.

1. Cut out the nets for and construct 3 tetrahemihexahedra
2. Color 1 of them to show that its faces are 4 triangles and 3 squares
3. Using toothpicks and marshmallows, create another solid with the same vertex figure -2 squares and 2 triangles.
How many ...
Faces: Edges: Vertices:
4. Draw the net for your new shape:
5. Using toothpicks and marshmallows, make another shape with the same number of edges and vertices as the tetrahemihexahedron.
Which platonic solid is it?
6. Make another shape with the same number of faces and edges [use Euler's Characteristic $\mathrm{V}-\mathrm{E}+\mathrm{F}=2$ to figure out the number of vertices]. Sketch it below:
7. Make another shape with the same number of faces and vertices [use Euler's Characteristic to figure out the number of edges]. Sketch it below:
8. Find the volume of the original folded tetrahemihexahedra.
