Creating Platonic Solids

Platonic Solid: A platonic solid is a polyhedron all of whose faces are [congruent regular polygons,](http://www.math.utah.edu/%7Epa/math/polyhedra/polygons.html) and where the same number of faces meet at every vertex. *(The University of Utah)*

Using the Googolplex manipulatives, create as many platonic solids as you can. Once a platonic solid is created, determine the number of vertices, faces, and edges. The number of rows in the table is arbitrary. Rows may be added/deleted as necessary.

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|  | Vertices | Edges | Faces |
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Do you need more rows? Do you need less rows?

How do you know you’ve found all of the platonic solids?

When on a plane, a point is surrounded by 360°. However, in a platonic solid the angle measures do not add up to 360° at one vertex. Determine the angle deficiency at one vertex of each platonic solid. Then determine the **total** angle deficiency of the platonic solid. Discuss your findings.

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| Name of Platonic Solid | Angle deficiency at one vertex | Total angle deficiency of the solid |
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