Sierpinski's Gasket
A 3-D Journey into Similar Triangles
Materials

6 straws

3 pieces of string - different lengths

1 piece of tissue paper

glue

ruler
put the longest string through 3 straws and tie tightly together
put middle length string through 2 straws and then tie to the triangle.
tie shortest string to one vertex of the double triangle, put the string through the last straw, tie the other end tightly to the last vertex to form a triangular pyramid
Fold the tissue paper in half, place the pyramid on the tissue paper with one edge on the fold. Fold over 2 of the straw edges and glue.
Tip the pyramid onto the other half of the tissue paper, fold over 2 edges and glue.

Glued folded tissue
Length of 1 straw (cm):

Height of triangle (cm):

Formula for area of a triangle:

Formula for surface area of a triangular pyramid:

Formula for volume of a triangular pyramid:
<table>
<thead>
<tr>
<th>Shape</th>
<th>Number of shapes</th>
<th>Surface Area</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangle</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Initial triangular pyramid</td>
<td></td>
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<tr>
<td>Stage 1</td>
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<tr>
<td>Stage 2</td>
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</tbody>
</table>
Place 3 pyramids on the desk touching at vertices
to form a triangle, the middle is open.
Tie vertices together tightly.

Place a 4th pyramid on top and tie the 3 vertices
tightly.

Repeat!!!