



Challenger's Morning Science Segment:

April 4, 2016

Topic: Fractal Tetrahedron

Build: Straw Tetrahedron [triangular pyramid]

Credit:

<http://mike-naylor.blogspot.ca/2012/05/fractal-tetrahedron.html>

Materials Needed:

Drinking Straws [non-bending] / String / Scissors

Build a straw tetrahedron– You will need at least 6 straws and one long string that is approx. the length of 8 straws. First, thread three straws and bend them to form an equilateral triangle, knotting the string at the top to hold the triangle together. Next, using the hanging string, add two more straws to the top of the knotted triangle. Bend the two straws to the adjacent corner of the original triangle to create a rhombus. It will look like there are two equilateral triangles that share one base. Tie a second knot and cut off the excess string. Using the excess string, knot it to the top corner of the newly formed rhombus. Add the 6th and final straw to this newly attached string so it looks like a diamond with a tail. Finally, tie the string to the opposite side of the diamond and the tetrahedron [triangular pyramid] will be formed.

The science & math:

This build represents the 3D version of a Sierpinski Tetrahedron. It is a pyramid that gets its shape from four triangular faces. The triangles are all equilateral triangles. It can be repeated forever, keeping the same shape and becoming a fractal.

This activity ties into the Challenger Learning Center of Maine: Challenger's April Vacation Camp will be held April 18-22. We will complete similar engineering builds and many more activities during camp days filled with science and innovation. FMI- www.astronaut.org