

Kite, Tetrahedron 3-D

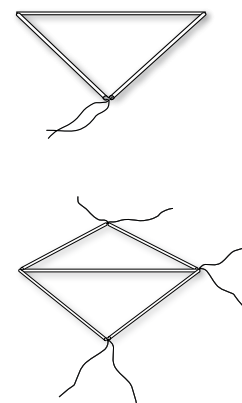
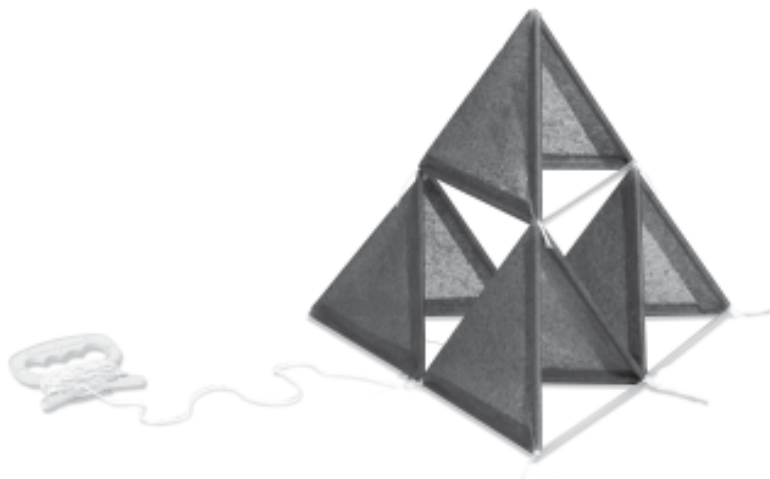


Figure A

Create a kite that easily flies. Students can learn math as they create Tetrahedrons and Sierpinski triangles, they can study aerodynamics, or just have fun!

1. Cut 12 strings - 4 strings 3 feet long and 8 strings two feet long.
2. Six 7 3/4" long straws are required for each Tetrahedron, a total of 24 straws for each Kite.
3. Thread one of the 3' strings through three straws and tie knots to create a triangle with the straws. Tie double knots for strength and leave the excess string long for Kite assembly.
4. Tie one of the 2' lengths of string to one of the triangle joints. Thread the string through two straws and pull them around to create a rhombus. Tie securely. Leave the excess string (Figure A).
5. Tie two of the 2' strings, one string at each joint where there are no strings. (Loose strings must be at each corner of the rhombus.)
6. Thread one of the strings through a straw, pull it up and tie a double knot to form the 3-D Tetrahedron shape (Figure B).
7. Do the above three more times. A total of four Tetrahedrons is required to complete one Kite.

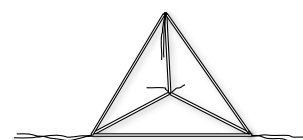
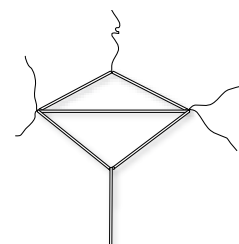
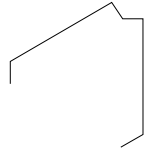


Figure B

Continued



Kite, Tetrahedron 3-D Continued

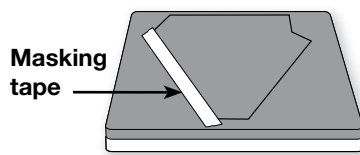


Figure C

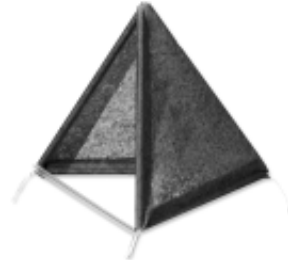
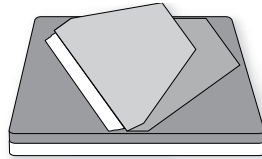


Figure D

8. Fold tissue paper in half so it is large enough to cover the XL Tetrahedron Kite die. Place the folded edge on the die where the cutting blade stops. Place a strip of masking tape on the rubber side of the die to act as a guide for paper placement. Trim any excess tissue from the sides before cutting. Die-Cut four Tetrahedron Kite pieces (Figure C).
9. Open the tissue and place adhesive in the seam along the fold.
10. Place the Tetrahedron shape with one straw along the adhesive. Spread adhesive on both tissue flaps, wrap the flaps around each straw and press down (Figure D).
11. Rotate the Tetrahedron so the straw triangle sits on the remaining tissue. Spread adhesive on both tissue flaps, wrap the flaps around each straw and press down. Only two faces of the Tetrahedron are covered with tissue.
12. Repeat steps 8 through 11 three times. Four tissue-covered Tetrahedrons are required to make one Kite.
13. Place two of the Tetrahedrons side by side with the open or uncovered face on the bottom. Use the loose strings at the joints to tie the two together.
14. Place the third Tetrahedron behind the first two (also with open face down) and tie to the other two Tetrahedrons.
15. The final Tetrahedron attaches to the top points of the other three and is sitting atop them. Make certain all knots are tied securely to prevent coming apart in the air.
16. Turn the Kite so the openings (sides of Tetrahedron that are NOT covered with tissue paper) face away. Attach a 12" string to the top and bottom back points. Tie the long Kite string about halfway between these two points.
17. Go fly a Kite!

13749 Kite, Tetrahedron 3-D (XL)