## Flexagon



Figure B

A Flexagon is a hexagon that rotates and flexes. By folding Ellison's strip of triangles, a trihexaflexagon is created. When the trihexaflexagon is manipulated, three different faces are uncovered and the Flexagon will rotate.

1. Die-cut DC Flexagon from cardstock or other paper. Number each triangle on the front side of the strips as shown (Figure A). Flip the strip over and number the back side as shown (Figure B).
2. Fold back and forth on each perforated line. Begin to fold the strip into a Flexagon by folding the bottom three triangles upward (Figure C).
3. Now fold the top four triangles behind and downward so the top triangle extends past the bottom half of the Flexagon and lies on top of the bottom triangle with the number 3 on it (Figure D).
4. Flip the Flexagon over; the two triangles with x's on them should now overlap. Fold the extending triangle backward so that it wraps around the other triangle. Apply double-sided tape or glue to secure the two triangles together (Figure E).
5. Now the trihexaflexagon can be manipulated by flexing and rotating the triangles. At first, the Flexagon will be stiff and difficult to bend. Pinch the two adjoining triangles on the right, bending the Flexagon in half. Then pinch the two adjoining triangles on the left, pushing them down to form a triangular 3-D object. Now, pushing upward at the bottom, allow the triangles to relax and open like a flower, exposing a new face. This process is called "flexing" (Figure F).
6. After practicing flexing and rotating the Flexagon, place a paper clip or sticker on one of the triangles to use as a marker. Continue to flex and rotate the triangles. Notice that the paper clip or sticker will disappear and re-appear while it rotates (Figure G).


Front


Back

## Completed Flexagon



Figure F
$\theta$


Figure G

