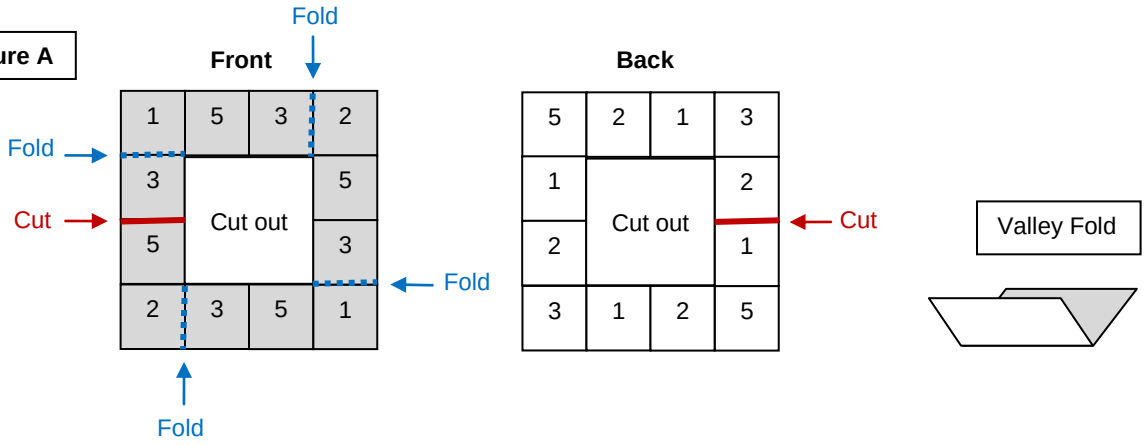
Paper Folding: **Hexa-tetra Flexagon**

You are to construct a hexa-tetra flexagon and show how it works. A flexagon is defined as being a polygon made from strips of paper which change faces when they are flexed. A Hexa-tetra flexagon will have 6 faces of which only 4 are visible at one time.

Following the directions, create a Hexa-tetra Flexagon. (Note the relationship between the positions of the numerals in the pattern and their position on the finished model.)

On a large sheet of paper, draw the pattern you see below:

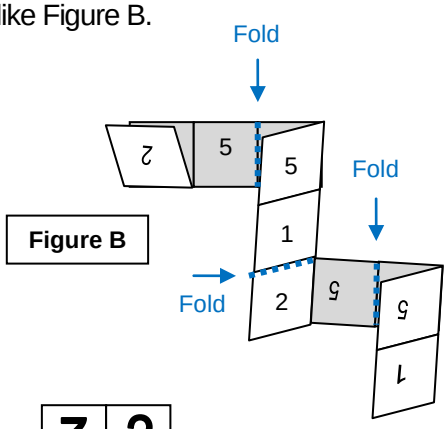
Figure A



Number the pattern on both sides as shown in Figure A and cut where designated. From the front side, crease each line to make "valleys". Unfold the strip and put it in front position. Fold the strip always in the direction of the creases. Fold at the arrows in Figure A. The result should look like Figure B.

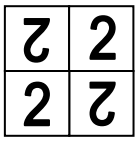
Using the original creases, fold at the arrows in Figure B to get Figure C. Overlap the ends of the strip so that all the "2" squares are on the same side.

Figure B



Use tape on the edge of the upper left-hand square and bend it over to attach to the "1" square on the opposite side. Do not let tape touch the inner square.

Figure C



Demonstrate the Hexa-tetra Flexagon to the class.
If time allows, teach interested students how to make their own.

Extension: *Make another Hexa-tetra Flexagon. Write a letter to a friend using the faces as pages or draw pictures to be completed by folding the Hexa-tetra Flexagon. Think up a creative use for your Hexa-tetra Flexagon.*