

# *Mr. G's Math Marvels*

**Theme:** Mathematics skills

**Lesson:** Hands-On Activity - Duplexes

**Facilitator:** Gary Walton, Mr. G.

BECON Studio Teacher

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## Lesson Plan

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**Grade Level:** 3

**Sunshine State Standard:** MA.C.1.2.1, MA.C.2.2.1, MA.C.2.2.2

**Objective:**

1. Students will be able to follow verbal directions to complete an activity.
2. Students will be able to fold a paper to create various geometric polygons.
3. Students will be able to create a mirror image (reflection) of a design.

**Activity:** Using an 8 1/2" x 11" piece of paper:

Students:

1. Fold the paper in half so that it measures 4 1/2" x 11".
2. Fold the paper in half again so that it measures 4 1/2" x 5 1/2".
3. Open the paper back up to the 4 1/2" x 11" size.
4. With the long fold at the top, fold each of the edges to the middle dividing the paper into four congruent rectangles each measuring 2 3/4" x 4 1/4".
5. Lay the paper on the table and fold the two ends until they are standing up at right angles.
6. It is now possible to slide your finger between the two halves of the paper.
7. On the right side, slide your index finger along the crease between the two halves of paper. As you slide your finger along the crease to the original fold, a right isosceles triangle begins to take shape. Mash the paper down creating a right isosceles triangle. Make sure the creases line up.; Your paper now looks as if you have a house

with a roof. The line of symmetry of the roof aligns with the line of symmetry of the rectangular bottom.

8. Repeat this process on the left side of the paper.
9. You now have a duplex.
10. Follow the directions given by Mr. G. to design and color the duplexes so that they are a reflection (mirror image) of each other.
11. Students identify as many geometric shapes as possible created by the creases and edges of the paper.

**Materials Needed:** 8 ½” x 11” inch piece of white, non-lined piece of paper, pencil, and crayons or colored pencils.