Lesson: Symmetry that is Basic and Beautiful
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New Arizona Math Strand 4 Geometry and Measurement Grades 1, 2, 3
Articulation 4M11-06 Recognize where a line of symmetry divides a two-dimensional shape into mirror images; 4M21-03 Recognize line(s) of symmetry for a two-dimensional shape; 4M31-05 Identify a line of symmetry in a two-dimensional shape.
Old Arizona Math Standard 4 Geometry Grades 1-3
Written for: 4MF2-PO1 (Predict how shapes can be changed by combing or dividing them.) Build geometric shapes with other common shapes. Aligned to: 4MF1-PO4 Compare attributes of two-dimensional shapes.

Learning Objectives: Students will be able to:
• demonstrate the use of a line of symmetry.
• separate objects using a line of symmetry.
• draw correct lines of symmetry

Materials:
Paper, markers, scissors for center - whole class or center- follow up center, folding paper and making hearts (Valentine's day), snowflakes (winter time), masks (Native American culture), kites (spring).

Overview:
From pictures of butterflies, as well as other objects, students observe, manipulate and create to understand "line of symmetry" in insects and other objects. Students have to connect for themselves the action on the screen and the term "line of symmetry." They see examples of both vertical and horizontal symmetry and have to interact with both of these.

Engage Students:
• Compare the designs on both sides of the center, or line of symmetry, of butterflies.
• Brainstorm other objects that show symmetry.
• Demonstrate folding some paper, cutting it, then opening it up to find both side the same. Why do we fold the paper? The fold is called the line of symmetry.

Follow-Up:
Students are invited to use their home as a resource for drawing objects and applying lines of symmetry in SO WHAT. DIG DEEPER has a print activity wit ha kite and symmetry. Also new information here: two sides of a line of symmetry are called congruent.

Assessment:
Students place lines of vertical and horizontal symmetry correctly.