



## TEACHER PAGE

### Lesson: 3 Lines of Symmetry

Teacher-Author: Sandra Israel  
ASSET Animator: Swami Venkataramani

**New Arizona Math Strand 4 Geometry and Measurement**      **Grades 4, 5, 6**  
**Articulated 4M41-08** Draw a two-dimensional shape that has line symmetry; **4M51-13** Identify the lines of symmetry in a two-dimensional shape; **4M61-09** Draw a two-dimensional shape with a given number of lines of symmetry.

**Old Arizona Math Standard 4 Geometry**      **Grades 4-8**  
**4ME3-PO3B** Draw or build a shape that B. has two or more lines of symmetry.

#### Learning Objective; Students will be able to;

- explain 3 lines of symmetry
- show understanding of 3 lines of symmetry by drawing examples
- demonstrate practical applications of 3 lines of symmetry.

#### Overview and Content:

The meaning of 3 lines of symmetry is given through many examples and an explanation. Practical examples and practice at creating examples will help the learning. **Teacher Note:** This lesson contains a reference to equilateral triangles, which are studied in the grade 5. If grade 4 students use this lesson, they may need extra instruction on equilateral triangles.

#### Engaging Students:

Hold up an example of two line symmetry and challenge students to reconfigure the example with three lines of symmetry.

#### Follow-Up:

- The TALK ABOUT IT! uses a folk art web site of Ukrainian Eggs information. Students are to find the symbols with three lines of symmetry (Roses) among many with two lines of symmetry. Students compare three line symmetry to the symbol left of it (Spiders) and explain the differences.
- Find your favorite Navajo rug web site and look for examples of three lines of symmetry. SO WHAT makes reference to vertical and horizontal symmetry in rugs.
- Classroom art activities of drawing, coloring, painting and paper folding would illustrate two and three line symmetry easily.
- On the DIG DEEPER web site, students will discover that transformations by rotation and reflection help make three-line symmetry. Students need to explain the significance of the (3) and (6) under some of the illustrations.

#### Assessment:

Students will create three-lines of symmetry in online examples and check them for correctness.

