



TEACHER PAGE

Lesson: Obtuse Triangles

Teacher-Author: Lorri Alonzo
ASSET Animator: Justin Helton

New Arizona Math Strand 4 Geometry and Measurement Grade 4, 6
Articulated 4M41-05 Classify triangles as right, acute or obtuse. **4M61-01** Classify polygons by their attributes (e.g., number of sides, length of sides, angles, parallelism, perpendicularity).

Old Arizona Math Standard 4 Essentials 2 **Grade 4-8**
4ME2-PO2 Classify triangles by their angles and sides (e.g., equilateral, acute, isosceles. . .)

Materials:

8.5 X 11 in. plain or colored paper and scissors for making obtuse triangles.

Learning Objectives: Students will be able to:

- classify obtuse triangles
- demonstrate the understanding of obtuse triangles by selecting only right triangles among others and relating the angle measures
- explain the attributes of obtuse triangles.

Overview, Content and Teacher Note:

This lesson thoroughly explains the measure of the 3 interior angles of an obtuse triangle. Through “lightspeed,” space ships, an asteroid belt, and a game of capturing the correct triangle (obtuse, of course), students will have ample practice in classifying these triangles before answering questions about them to determine their level of understanding. **Teacher Note:** This lesson also relates to **New Articulated Math Strand 4, Grade 6** through **4M61-01**, Classify polygons by their attributes (e.g., number of sides, length of sides, angles. . .) This Performance Objective also relates to the similar lesson called “Right Triangles.” The skill needed for real fun and ease with the interactivity of these 2 lessons plus their context, is aimed at 4, 5 and grade 6 students experienced with computers and computer games.

Engage Students:

From the DIG DEEPER section, direct students to make obtuse triangles. Ask them to find the center of their triangle and balance it in some way. Why is difficult to find the exact center of this particular triangle? (The measure of its angles causes the problem.) Or students may start this exercise with any shape of triangle to discover a particular problem with obtuse triangles. Proceed with this lesson.

Follow-up and Extensions;

SO WHAT introduces obtuse triangles used in building and architecture. The “centroid, orthocenter and circumcenter” of obtuse triangles in the DIG DEEPER should lead to defining the words for similarities to other geometric terms. Some students may wish to explore locating these centers in obtuse triangles. Students are introduced to the Bermuda Triangle in the TALK ABOUT IT that lends itself to research of the hurricanes, and weather/storms in the Atlantic. In the west, fire spotters in lookout towers use triangles to help locate fires for firefighters. How do the triangles help?

Assessment:

