



TEACHER PAGE
Lesson: Sketching Cones
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New Arizona Math Strand 4 Geometry and Measurement **Grades 9-12**
Articulated 4MH1-05 Draw 2- and 3-dimensional figures with appropriate labels.
Old Arizona Math Standard 4 Geometry Proficiency 1 **Grades 9-12**
4MP1-PO1 Sketch prisms, pyramids, cones, cylinders and spheres.

Learning objectives: the student will be able to:

- distinguish cones from other 3-dimensional shapes
- identify attributes of a cone
- draw 3-dimensional figures (cones).

Overview:

The student is guided through the process of sketching a cone using a drag and place technique.

Classroom Management:

This can be used in large group lessons, small group, or individual assignments. Each student will move through the lesson at differing speeds.

Engaging Students:

Provide a variety of different type of cones for students to see, touch and hold. These models may be purchased geometric models and/or they may be real-life examples (e.g., dice, game pieces, toys, etc.) And use circle sectors of many different sizes to give students experience in building many different shaped and sized cones.

Follow-up:

DIG DEEPER provides the opportunity to explore cross sections and discover a connection to orbits. SO WHAT connects cones to volcanoes. Dimensions are given for students to explore calculating volume of cones. TALK ABOUT IT takes a look at why understanding surface area and volume is important.

Teacher Note:

This lesson might be used in grade 8 to support Articulated Performance Objective 4M81-03: Recognize the three-dimensional figure represented by a net.

Assessment:

Multiple-choice questions must be correctly responded to in order to finish the lesson.

