

2 and 3 Dimensional Geometry

Math 1, Unit 6

Anaheim Union High School District

Why are we studying this?

Students will apply their understanding of ratio and proportions to solve problems involving scale drawings.

Students will extend their knowledge of 2 dimensional figures to 3 dimensional figures, exploring surface area, volume and cross-sections of cubes and right rectangular prisms.

Scale drawings, surface area and volume are common in many careers, such as cartography (the science or practice of drawing maps), architecture, engineering and even building movie sets!

Sample question we will be able to answer:
What is the relationship between the circumference of a circle and its diameter?



Scale of 1:1



Scale of 1:2



Scale of 2:1

Subtopics Include

- Real World Problems Involving Area and Perimeter
- Surface Area and Volume of Cubes and Right Rectangular Prisms
- Relationships and Formulas for Circumference and Surface Area of Circles
- Scaling and Area
- 2D Cross-Sections of 3D Shapes

Dear Student & Parent/Guardian,

This unit will involve a lot of exciting hands-on learning, such as:

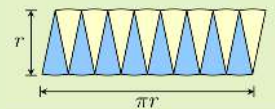
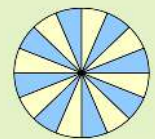
- Constructing 3 dimensional figures out of play-doh and slicing them with a plane
- Using circular objects and string determine the relationship between the circumference and diameter of a circle
- Making a scale drawing of Small World
- Using toothpicks and marshmallows to create 3 dimensional figures to understand parallel, perpendicular, intersecting and skew lines and planes

We know you will enjoy this unit of instruction!

-AUHSD Math Teachers

Essential Questions Addressed in this Unit

- How do linear and square measures scale differently?
- How can we derive formulas for area, surface area and volume of geometric figures?
- What is the relationship between a circle's radius and its circumference and area?
- What shapes result from intersecting different planes with a polyhedron?



A Note About Homework:

Homework in this unit will focus on concepts learned prior years, necessary for success in Math7, as well as current topics including scale drawings, circles, and surface area and volume of 3 dimensional shapes.

