**Geometry – Unit 9 Plan**

**VOLUME AND SURFACE AREA OF SOLIDS**

**Big Ideas**

In our study of geometry so far, we have focused on two-dimensional shapes. We will now turn our attention to three-dimensional shapes called solids. We will investigate prisms, cylinders, pyramids, cones and spheres and develop methods to measure the volume and surface area of these solids. Throughout the unit, we will apply what we learn to solve real world problems.

**Assessments**

Classwork

Homework

Miniquizzes

Performance Task

Unit Test

**Key Learning Targets**

* Construct common solids
* Investigate solids and develop methods to measure volume and surface area
* Apply knowledge of volume and surface area of solids to solve real world problems

**DAY 1**

Objectives:

* Investigate solids and develop methods to measure volume and surface area

Agenda:

Introduce and name solids

Discuss methods to measure volume and surface area

Discuss formulas to measure volume and surface area of prisms and cylinders

Practice finding volume and surface area of prisms and cylinders

(9.1.2 & 9.1.3)

Homework:

9-19, 9-21, 9-22, 9-24, 9-29, 9-30

**DAY 2**

Objectives:

* Investigate solids and develop methods to measure volume and surface area
* Apply knowledge of volume and surface area of solids to solve real world problems

Agenda:

Volume and surface area of an I-Beam

Which is a better fit, a cube in a cylinder or a cylinder in a cube?

Homework:

9-33, 9-34, 9-40, 9-41, 9-49, 9-50

**DAY 3**

Objectives:

* Investigate solids and develop methods to measure volume and surface area

Agenda:

Miniquiz

Discuss formulas to measure surface area of pyramids and cones

Demonstration of volume of pyramids and cones (water and/or 3 rt. Pyramids)

Practice finding volume and surface area of pyramids and cones

(11.1.2, 11.1.3, & 11.1.4)

Homework:

11-36, 11-52, 11-56, 11-57

**DAY 4**

Objectives:

* Investigate solids and develop methods to measure volume and surface area
* Apply knowledge of volume and surface area of solids to solve real world problems

Agenda:

Practice Sheet

Tent Problem Performance Task

Homework:

11-8, 11-9, 11-12, 11-17

**DAY 5**

Objectives:

* Investigate solids and develop methods to measure volume and surface area

Agenda:

Miniquiz

Discuss formulas to measure volume and surface area of spheres

Practice finding volume and surface area of spheres

(11.1.5)

Homework:

11-64, 11-66, 11-74, 11-79

**DAY 6**

Objectives:

* Investigate solids and develop methods to measure volume and surface area
* Apply knowledge of volume and surface area of solids to solve real world problems

Agenda:

Ice cream cone problem

Homework:

9-99, 9-103, 11-101, 11-114

**DAY 7**

Objectives:

* Successful assessment!

Agenda:

* Unit 9 Test

Homework:

See you next class!