**Lines, Rays, Line Segments, Planes, and Angles**

**Abstract**

This lesson is designed to introduce students to lines, rays, line segments, planes, and angles.

**Objectives**

Upon completion of this lesson, students will:

* have been introduced to lines, rays, line segments, planes, and angles
* have learned the differences between lines, rays, line segments, planes, and angles

**Standards**

The activities and discussions in this lesson address the following [NCTM Standard:](http://standards.nctm.org/document/chapter6/index.htm)

*Geometry*

specify locations and describe spatial relationships using coordinate geometry and other representational systems

* use coordinate geometry to represent and examine the properties of geometric shapes;

**Student Prerequisites**

* *Arithmetic:* Students must be able to:
  + draw and understand the coordinate plane
  + graph a line

**Key Terms**

This lesson introduces students to the following terms through the included discussions:

* geometry
* points
* line
* planes
* line segment
* ray
* angles
* vertex

**Lesson Outline**

* Geometry
* Morphemes
* Building Blocks of Geometry
* Undefined terms
* Points
  + Visual Representation
  + Notation
* Lines
  + Visual Representation
  + Notation
* Planes
  + Visual Representation
  + Notation
* Definitions
* Line Segment
  + Definition
  + Visual Representation
  + Notation
* Ray
  + Definition
  + Visual Representation
  + Notation
* Angle
  + Definition
  + Visual Representation
  + Notation
* Real Life Examples
* Exercise/Assessment
* Name the Figure
* Note: There may be more than one way to name each figure
* Review
* Youtube Video

Choice of Smart Board Features

* Drawing toolbar
* Picture Gallery
* Drag and drop items
* Video
* Themes used for Backgrounds

Meaningful Use of Smart Board Features:

We are going to use the drawing toolbar to draw lines and shapes that will further enhance the students understanding about geometry. The picture gallery will be very useful when it comes to our real life examples of the geometric terms that are in our lesson. In our assessment part of our lesson, we will have students drag answers from a word bank and put them into the blank spaces of the questions. The video will be a good review right before the assessment to hopefully help the students understand better the basics of geometry. Finally, the themes will be used to bring some color to the whiteboard.

Presentation of Contents:

We will be using the Smart Board and its features to present our content. We will have definitions along with real life examples of the basics of geometry we are trying to teach the students. We will also use a short video to review the content before we have a couple students come and do the short assessment.

Group Member Engagement and Interaction

Our presentation will be split up into two parts. The first part is where John is going to give definitions to the terms and explain what each term means. He will give a brief example of how these terms can be used by viewing space. The second part of the presentation is when Nick is going to use real life examples of pictures to show the students where the terms exist in everyday life.

Student Teacher Engagement and Interaction

Throughout the presentation, we will be asking the students questions to reinforce the content that we are teaching. Also, at the end of our presentation, we will use a couple of assessments to allow the students to show us what they have learned throughout the lesson. The first assessment will be for the students to match the terms with their definitions.