**Lesson Title:** Circle Tool Activity

**Unit Title:** Circles

**Teacher Candidate**: Jessica Coots

**Subject, Grade Level, and Date:** Geometry Honors, February 6th, 2014.

**Placement of Lesson in Sequence**

 This lesson will be done at the beginning of the unit, introducing the concept that all circles are similar.

**Central Focus and Essential Questions**

The central focus of this lesson is to discover, using the online tool and through discussions, the similarities of circles. After the use of the online tool and discovering similarities about circles, they should be able to prove that all circles are similar.

**Content Standards**

**HSG-C.1** - prove that all circles are similar.

|  |  |
| --- | --- |
| **Learning Outcomes** | **Assessment** |
| Students will know that all circles are similar.Students can prove that all circles are similar.  | The assessment of this activity will be informal questioning that I will give while students are using the online tool. Such as, “what similarities do you see when you change the sizes of the circle?” “Do you notice any relationships between the radius and the circumference?”After doing the activity, we will go over some notes in class and students will be given a worksheet in which they continue to look at the relationships of circles. This worksheet will be used as a benchmark assessment.  |

|  |  |
| --- | --- |
| **Learning Targets** | **Student Voice** |
| -I know that all circles are similar. -I can prove that all circles are similar.  | Students will write their learning target at the top portion of their notes so that they know what their learning target is and what they need to achieve.  |

**Prior Content Knowledge and Pre-Assessment**

Since this lesson is placed at the beginning of the section, there is not too much information they must know. However, they should know what a circle is and be familiar, possibly not proficient, in the terms of a radius, diameter, circumference, and $π$.

|  |
| --- |
| **Academic Language Demands** |
| **Vocabulary & Symbols** | **Language Functions** | **Precision, Syntax & Discourse** |
| * (Fill in)

-Circle-Radius-Circumference- $π$ | * (Fill in)

Students will be able to demonstrate the use of this vocabulary by using these terms when explaining relationships found with all circles.  | **Mathematical Precision:****Syntax:** Students should be able to understand the different types of transformations and how they impact the geometric figure they are using. **Discourse:** Students should be able to explain, using the correct vocabulary, the relationships that are discovered between all circles. For example, a student should could say, “the radius is half of the diameter.” |

|  |  |  |
| --- | --- | --- |
| **Language Target** | **Language Support**  | **Assessment of Language Target** |
| -I can explain similarities in circles using the correct terminology.  | If students are struggling at all with the language or how to use the language, or even what the language means in terms to a circle, they are more than welcome to ask me questions.  | Students will be assessed on their language target when I ask them questions while they work on their projects. For example, I could ask, “Do you notice any relationship between the radius and the circumfrence?”  |

**Lesson Rationale (Connection to previous instruction and Objective Standards)**

This lesson is being presented at the beginning of the unit, however, students should know what a circle is and some of the properties that involves a circle. Such as what the circumference of a circle is or what the area of a circle is. Some students may even already know or have an inkling of relationships within all circles.

**Differentiation, Cultural Responsiveness and/or Accommodation for Individual Differences**

This is an in-class activity in which students will be using computers. It is encouraged that students work and converse with one another. If anyone is confused or has questions about what is required or what they should be doing, they are more than welcome to ask for help.

**Materials – Instructional and Technological Needs (attach worksheets used)**

-access to a computer

-possibly paper and a pencil

|  |
| --- |
| **Teaching & Instructional Activities** |
| **Time** | **Teacher Activity** | **Student Activity** | **Purpose** |
| 5 min | Collect yesterday’s homework |  | So it can be assessed. |
| 5 min | Talk about learning targets and give directions for the activity | Write their learning targets,  | So students know what they are being assessed on. Also, so they understand what they are investigating in this activity |
| 40 min | Give the students the link to the online circle activity. Instruct them to investigate and search for relationships within all circles. | Students will start investigating the relationships of all circles.  | To give students a chance to find relationships and start the process of proving all circles are similar.  |