

Mary Pickering
Lesson Plan: Circle
Grade Level: 7

A circle is the set of points in a plane that are the same distance from a given point called the center (Prentice Hall, 2008). The Native American Sioux think of the circle as never ending and symbolic of the earth and the universe; generally speaking life itself. The objective of this lesson plan is students will identify the parts of a circle and the application of its importance to the culture of the Native American Sioux Nations.

The math teacher's primary endeavor is twofold making the content subject of math meaningful and real while coincidentally influencing the development of the critical thinking minds of the students entrusted in her care. The importance of the circle to the fundamental beliefs of a culture allows students to look at something simple through the lenses of a diverse perspective that is real.

The significance of the circle in relation to the ceremonial rituals and governing forces of the Native Sioux peoples has upheld despite the insurmountable obstacles faced when the European settlers invaded their lands. Regardless of the establishment of reservations it remained the main objective of the than forming United States government to colonize these people through the process of assimilation with the goal of eradicating their belief system which greatly influenced their cultural formation. To support, the misconception of the Ghost Dance elaborated in Jeffery Ostler's text, *The Plains Sioux and U.S. Colonialism from Lewis and Clark to Wounded Knee*.

It must be noted that the following lesson plan is just a precursor to the numerous tangents that can be taken in developing the math concept of the circle in relation to the Native American Sioux Nations.

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Lesson Plan
Grade: Math (7th grade)
July 20, 2010

Lesson Plan: **Identifying the Parts of a Circle**
Length: Math periods (2)

Objectives:

- **Students will identify the parts of a circle.**
- **Students will find the radius, chord, diameter, and circumference of a circle.**
- **Students will construct a circle diagram which replicates a Native Sioux gathering.**
- **Students will find the radius, diameter, and circumference of their constructed diagram.**
- **Students will use critical thinking skills to determine the placement of the Native Sioux people and items of importance in their diagram.**

Supplies: ruler, compass, large poster paper, colored and lead pencils, markers paints, Native Sioux photographs representing tribal gatherings, circular form of the bottom of a tepee

Prior Knowledge: Review the following vocabulary

- **circle**
- **chord**
- **radius**
- **diameter**
- **circumference**

Anticipatory:

Show students a variety of photographs of Native Sioux tribal gatherings.

Ask students if they can observe any similarities or differences between the pictures? Can you identify any connections between math and pictures? (geometric shapes, circle) What do you notice of how the people are standing in the circle? (pictures should show object in the center). Today, we are going to learn how to identify the parts of a circle using the photographs that we are looking at. The circle and its formation play an important role in the Native Sioux culture. Ask for reasons why this could be?

Direct Instruction:

- (1) Draw a circle on the board with the parts of the circle drawn in with letters designating each part of the circle. Have students identify the parts of the circle as you prompt with the vocabulary term. Check understanding.
- (2) Teach students how to find the diameter of a circle. Check understanding. Practice with given problems.
- (3) Teach students how to find the circumference of a circle. Check understanding. Practice with given problems.

Application:

Explain to students the diagram. (Can be flexible here on requirements)

Students draw and identify the parts of their circle.

Students will use their prior knowledge to find the radius and the circumference of their circle.

Students will each share their drawing with the class, and explain the reasons for why they put the people and objects where they did in accordance with the circle.

Display math pictures.

Note:

I presently teach at a reservation school where the enrollment consists of 98% Dakota Natives. Part of this lesson is being used to check understanding of the circle and its importance to the Native culture. It is not appropriate to talk about some ceremonial traditions. I would stay clear of entering into a discussion of these with my students--- for example, discussion surrounding the Ghost Dance or the Sun Dance.

As always a lesson has to be differentiated to meet the unique needs of your students.

Documents:**Photographs:**

- Nebraska Historical Society (2010)
Natives Standing in Circle # 19 RG2845-119-93 SFN 231 26
- *The Tipi Portable Home of the Plains*
Western National Parks Association (2003)
Scott Thybony
- *The Plains Sioux and U.S. Colonialism from Lewis and Clark to Wounded Knee*
Cambridge University Press (2004)
Jeffrey Ostler

