Lesson Plan

Title: Distance Between Labyrinths	**Date(s):**

IN Academic Standards:
4.3.2 Estimate distances between two places on a map when referring to relative locations.

Materials/Resources:
Paper, writing utensils, computer, calculator, ruler, two maps of the world, book(s) about Minotaurs and/or the Minoan labyrinth, string, poster board, scissors, tape

Objectives/Learning Targets:
Students will be able to estimate the distance between New Harmony's Cathedral Labyrinth and the labyrinth it is a copy of from Chartres Cathedral in Chartres, France.

Assessment:
Students will be able to estimate the distance between New Harmony and Chartres, France correctly within 300 miles of the correct distance. (4,291 miles)

Introduction/Motivation/Springboard:
Introduce the students to the story of the Minotaur monster, half human and half bull, from the Minoan island labyrinth. The monster was a punishment to the king, and it would pose a threat to the lives of his people. The Minoans then built a labyrinth, like a maze but with only one point of access (the entrance is also the exit). The Minoans then trapped the Minotaur inside the labyrinth, to keep him away from the people and villages. Theseus, a brave prince, set out to destroy the minotaur and free all the people from his terror. This is when I would start asking students what are some ways Theseus could easily get in and out of the labyrinth without getting loss in its twists and turns. After the class discusses this, explain that Theseus used string to map the paths he took, and just followed the string to find his way out.

Procedures/Activities/Tasks/Examples:
1. Introduce New Harmony and its labyrinth
2. Explain the New Harmony labyrinth is a replica of the labyrinth next to the cathedral in Chartres, France.
3. Review how to find the distance between two points by using a ruler, string, and a map
4. Divide students into pairs to work on finding the distance between the two labyrinths using one small map and one larger map.
5. Students will measure the distance on both maps and take the average between the two.
6. The teacher will then go over the actual distance between the two labyrinths
7. After the actual distance is learned, students will find how far off their average was from the real distance, and turn in the difference to the teacher.

Closure Activity/Extensions/Homework:
Students will cut their strings to be the exact length of each measurement. The teacher will also cut a string of the true distance, on both maps, and put it at the top of a poster board. Students will all tape their string below the teacher's string and place their names right above their string. They will do this for each of their pieces of string, one for each map. Students will then be able to see how close they were to the actual distance because they can compare it to the teacher's and to the other student's string.

Reflection: