

Measuring the Earth	
Objective	Each student will individually create a slideshow presentation about measuring the Earth. The purpose of this activity is to get students interested and involved in doing science, give them a reason to use some of the math they have learned. The students will understand and appreciate for the process of science. As a class, they will then use FluidSurveys to compile all the slideshows data together.
Learning Environment	The class will use a computer with internet access in the computer lab or at home.
Types of Students	Grades 8-9.
Standards	ISTE/NETS Standards Facilitate and Inspire Student Learning and Creativity
Materials	Computers in computer lab with internet access, FluidSurveys.
Procedures	<p>1. The students will learn how to use FluidSurveys with the help of their teacher.</p> <p>2. The students assigned to think how they can measure the earth's circumference. Contact a class directly north or south of you (in a different state if possible) and set a specific date and time to take the measurements. They are to measure the height of an object (a pole is good) and the length of its shadow at a specific time. The measure of the angle is found by dividing the length of the shadow by the height of the object on your scientific calculator and then push 2nd function tangent. However, this is not the central angle. The angle from the other school must be subtracted from your angle and the absolute value of this difference is the central angle. The circumference of the earth can then be calculated by setting up a ratio and solving for the circumference.</p> $\frac{\text{central angle}}{360 \text{ degrees}} = \frac{\text{distance from schools}}{\text{circumference}}$ <p>3. After each student has created their own slideshow, all of the presentations data will be combined using FluidSurveys.</p> <p>4. When the final project is complete, the students will present their project.</p>
Application	Using FluidSurveys, the students will create a presentation of all the data collected about measuring the Earth.
Evaluation	<p>The students will present their whole project. Each student will present his or her section of the project.</p> <p>The students will be evaluated based on the following:</p> <ul style="list-style-type: none"> • Using FluidSurveys skills – 20 points • Creativeness – 10 points • Individual participation – 20 points <p>50 points</p>

