

Operation Classroom ~ Makeni, Sierra Leone, July 2005

1. Lesson Title/Topic: Measuring a mountain!
2. Target audience: Students of Sierra Leone
3. Time allocation: Two-five day project
4. Lesson objectives:
 - A. Pre-activities: Review/Introduction of trigonometric ratios for right angle triangles [Sine, Cosine and Tangent].
 - B. Activities; Investigate the Law of Sines. Make a conclusion by studying the entries in a table that shows the measure of the sides, measure of the angles, and the ratios of $\sin A/a$, $\sin B/b$ and $\sin C/c$ for three triangles [acute, right and obtuse] [Round to tenths]

mA	mB	mC	a	b	c	$\sin A/a$	$\sin B/b$	$\sin C/c$
3	4	5	36	54	90	.19592842	.20225425	.2
 - C. Post activities: Measure the height of a distant object
5. Process Skills student will demonstrate: Trigonometric ratios for sine, cosine and tangent. . Finding the measure of angles in a triangle if two angles are known.
6. Materials: Protractors, math tables and/or calculators.
7. Procedures: Filling in a table. Making drawings. Actual measures of angles and distance.
8. Conclusions: Methods of solving the problem
9. Assessment and evaluation: Reasonable answers. Using tables and/or calculators.
10. Extensions (Relate topic to World): Surveyors measuring distances.
11. Resources: Geometry books: Trigonometric ratios, Law of Sines.
12. Reference: Geometry- Problem of the Week- Measuring the Matterhorn

