Lesson Plan Format

Student Teacher____Emma Tutino_____ Date__5/11/2011__
Grade Level_____2nd_____Subject_____Math_____

PRELIMINARY PLANNING

PA Standards:
2.3 Measurement and Estimation
2.3.2.A. Demonstrate that a single object has different attributes that can be measured in multiple ways.
2.3.2.B Use tools to estimate and measure in standard units.
2.3.2.F Estimate and verify measurements of length, weight, and capacity.
2.6 Statistics and Data Analysis
2.6.2.B Organize and display data using pictures, tallies, charts, bar graphs, and pictographs.
2.6.2.C Describe data displayed in a diagram, graph, or table.

Objectives:
Students will be able to estimate and measure using standard and nonstandard units.

Pre-Assessment: Students should already know units for measuring length, e.g. inches, feet, yards, centimeters, and meters.

Essential Question: (Example --Why is being able to tell time important?)
How do we measure length?
How do we know when it is appropriate to estimate or when it is appropriate to use mental math for an exact answer?
Why is estimation an important tool?
Why is being able to use standard and non standard units important?

Individual Modifications and assignments:

Level 1: Kinesthetic (Green Group)- Students, in groups of four, use footsteps as a measure, to estimate the number of steps: for the length of the teacher's desk; for the length of the blackboard; from one wall in the classroom to the opposite wall; for the perimeter of the classroom; from the classroom door to the restroom; and from the classroom to get outside. Using an actual footstep, students determine the measurement of each distance. Finally, students use an appropriate measuring device (ruler, yard stick, tape measure) to determine the actual distance in the U.S. measurement system and the metric system.

Level 2: Musical (Blue Group) - Students, in groups of four, use a regularly metered song such as "Farmer in the Dell", the "Alphabet Song", or "Baa Baa Black Sheep", as a

measure, to estimate the number of beats: for the length of the teacher's desk; for the length of the blackboard; from one wall in the classroom to the opposite wall; for the perimeter of the classroom; from the classroom door to the restroom; and from the classroom to get outside. Using an actual taping of the song, students determine the measurement of each distance. Finally, students use an appropriate measuring device (ruler, yard stick, tape measure) to determine the actual distance in the U.S. measurement system and the metric system.

Level 3: Logical (Red Group)- Students, in groups of four, use a chart prepared by the teacher which has at least four items measured using an unusual item, such as an eraser, new piece of chalk, or the student's math text. Using the unusual item, students estimate the number of items: for the length of the teacher's desk; for the length of the blackboard: from one wall in the classroom to the opposite wall; for the perimeter of the classroom; from the classroom door to the restroom; and from the classroom to get outside. Finally, students use an appropriate measuring device (ruler, yard stick, tape measure) to determine the actual distance in the U.S. measurement system and the metric system.

Materials:

- *The Littlest Dinosaur* by Bernard Most
- Ruler
- Yard stick
- Tape measure
- Songs on tape (Farmer in the Dell or Baa Baa Black Sheep)
- Eraser
- Chalk
- Paper Clip
- Pencil
- Worksheet for each group

Description	Learning Sequence	Time

INTRO/ Input/Modeling

(Introduction/Motivation/Focus Attention)

Whole Class Instruction

1. Begin by reading the book *The Littlest Dinosaurs* by Bernard Most. During the reading, ask the students the various questions that appear in the book. Discuss the differences between the various dinosaurs and ask how many questions (such as how many Mussaurus would it take to make a Saltopus?) Then review with the students what you have gone over the past few days.
2. Tell students that we have been talking about measuring length. What is length? (How long an item is). How do we measure length? (Students should list and you should write inches, centimeters, meter, foot, yard, etc.) These are standard units. Ask students when each would be appropriate you can show examples. For instance, would you use a yard stick to measure an apple? Would you use a ruler to measure a person?

3. Then tell students that in the book they estimated which is guessing. For instance, how many Mussaurus would it take to make a Saltopus? That is estimation. Also, measuring using a Saltopus is a non-standard unit. Today, students will continue what they have learned by measuring using non-standard and standard units.

THROUGH

(Checking for Understanding, Guided Practice, Independent Practice)

1. Explain the directions to the whole class. Show them the worksheet and where to get the materials they need. Tell them that you will be available if they need extra help.
2. Split the students into groups of four based on their preferred learning style: musical, kinesthetic, or logical.
3. Give each group their specific materials and worksheet.
4. Each group should start estimating and measuring. Circulate around the room to ask questions, help the students, and to assess progress.

BEYOND

Closure **(Review**, Check for Understanding, Summarize, Future Forecast, Transition)

1. All tiers prepare a chart which compares their estimates with the actual measurements.
2. Each group shares their results with the whole class. The teacher conducts a group discussion of the similarities and differences of the measurements. Ask students if their estimates were close to the actual measurement.
3. Assessment: I will check to see if the students were able to accurately determine the measurements using the nonstandard and standard units. Also I may assess their ability to organize and present the data.