LESSON PLAN 1

Name: Danica Elder **Date: 7/17/19**

Subject and Grade Level: 3rd Grade Math

Topic: Measurement by Non-Standard Units

STANDARDS

A. Virginia Standard of Learning: 3.8a: The student will estimate and a) measure the distance around a polygon in order to determine its perimeter using U.S. Customary and metric units.

B. Virginia Aligned Standards of Learning: 3M-MG 2: The student will measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks.

Objective: Given a line or object to measure will be able to measure to the nearest inch using a ruler with 80% accuracy.

Materials: Rulers, objects in room, papers and pencils, list of items in classroom to measure (with answer key

Technology Connection: The students will use an iPad's measuring app, such as the Measure app to measure objects around the classroom.

Character Education Principle:
Work Ethic. The confidence that diligent work is honorable and will be rewarded with personal satisfaction, a sense of accomplishment and/or material prosperity.
"Be steadfast, unmovable, always abounding in the work of the Lord, forasmuch as you know that your labor is not in vain in the Lord." (I Corinthians 15:58)

At the close of the lesson, discuss the importance of hard and excellent/accurate work when measuring. Why is it important? What happens if we do not work hard?

Pre-Assessment: Give each student an object or line to measure with a ruler and record their accuracy in measuring to the nearest inch.

Procedures

a. **Set**: The teacher will read "Inch by Inch" by Lio Lionni
b. Developmental Activities
    1. **Instruction**:
        - **a.** Show the class the ruler they will be using to measure the objects around the room. Using the SmartBoard projector, describe the difference between the centimeter and inch lines and emphasize the use of inches in this lesson. Give examples of why measuring and knowing measurement is important in everyday life, then ask one or two students to give a real-life example they can think of.
        - **b.** Demonstrate how a ruler works by first measuring a pencil step-by-step using the SmartBoard Projector to give an up-close view to the students.
        - **c.** Choose students who feel confident in knowing which lines the inches are to come up and point to them and/or measure the pencil themselves. Correct if necessary.

    2. **Guided Practice**: The teacher will hand out (or have a student hand out) one ruler per student and instruct them to measure the length of their desks on one of the long sides. Use this time to go around and encourage and correct their reading or management of the rulers.

3. **Independent Practice**: Students will receive the list of objects to measure around the room and complete the list. They can work alone or in partners for this activity. Students will also take turns using the Measure app on an iPad to measure one of the objects listed. Once done, the whole class will go over the answers with the teacher.

c. **Closure**: Discuss the similarities between what the students learned today and what the inch worm in the story was doing in the book used in the Set. Additionally, discuss the Character Principle discussed above.

Diversity / Differentiation for Exceptionalities

Description of Class: Class is comprised of 12 boys and 10 girls. 4 of the students have been diagnosed with a Learning Disability; 1 student is diagnosed with ASD; 1 student has an Intellectual Disability

- **Learning Styles** (*modalities / multiple intelligences*) – Hands-on measuring (kinesthetic); verbal instructions on how to measure an item with a ruler (auditory); printed out instructions with easy to read steps (visual); working in a group (interpersonal); working independently (intrapersonal);
- **LEP** - Allow students to answer with numbers in their primary language during pre-assessment and evaluation; highlight inch lines on rulers to make the difference more clear
- **LD, ED, ADD, ID** – ID: Use cubes or other identical objects to measure in non-standard ways in order to build up to ruler usage; ID, ASD, LD: use ruler with inch marks highlighted to assist with visual clarity; allow an adult to write answers for the students' measurements if needed
- **Multicultural Connections** – Discuss different systems of measurement in different countries/cultures (standard vs. metric, etc.); measurement throughout history

Impact on Instructional Design:

The inch worm book is geared toward younger children which should help students of all developmental stages in the class comprehend the subject before it is introduced. The SmartBoard projector and screen will help any students who have attention difficulties focus in on the correct area of the room and on the instruction. During guided practice, students can work in partners, especially if one partner has a good grasp of the concept while the other learns from that student. Additionally, there will be rulers with the inch lines specifically highlighted in order to help ensure understanding of the lesson and accuracy of the measurements. During independent practice, the teacher can, without physically helping, verbally go through the steps of measuring an item so as to keep all students on the same page. The teacher can hold up the "Inch by Inch" book during Closure to give a visual reminder of the story read at the beginning of the lesson in order to spark short term memory.

Evaluation: Each student will be handed a paper quiz with three shapes to measure with a ruler. The shapes' sides will be measured in inches and each shape will be a quadrilateral and this should be done with at least 80% accuracy. The student with ID needs to measure 6 of the 12 sides correctly (50%) to pass.