KUTZTOWN UNIVERSITY
ELEMENTARY EDUCATION DEPARTMENT
PROFESSIONAL SEMESTER PROGRAM

Teacher Candidate: Amanda Spaar Date: 2/16

Cooperating Teacher: Brandi Benner Coop. Initials:

Group Size: 21 Allotted Time: 50 minutes Grade Level: 2nd

Subject or Topic: Math-Measurement Section

STANDARD: (PA/Common Core):
CC.2.4.2.A.1: Measure and estimate lengths in standard units using appropriate tools.

CCSS.MATH.CONTENT.2.MD.A.3: Estimate lengths using units of inches, feet, and centimeters.

I. Performance Objectives (Learning Outcomes)
- Students will be able to estimate with their thumb, pinky, and arms.
- Students will be able to practice what measurement unit is the best fit for certain objects by playing four corners.

II. Assessment/Evaluation plan
A. Formative

Assessment: (e.g. product, quick response, interview)	Documentation Tool: (e.g. rating scale, rubric, checklist, anecdotal notes)	Scale: (performance levels)
Observation	Anecdotal notes will be written in my binder for students if I notice a theme of errors between multiple students or an individual student.	No scale will be use unless requested.

B. Summative
- Post-test

III. Instructional Materials (includes amount)

- Power Point (x1 for teacher)
- Measuring tape (x1 per student)
- Ruler (x1 per student)
- pencil (x1 per student)
- math workbook pages (x1 per student)

IV. Subject Matter/ Content (prerequisite skills, key vocabulary, new content)

A. Prerequisite Skills

a. Prior knowledge of measurement will vary per student
b. Prior knowledge or use of a ruler will vary per student

B. Key Vocabulary

a. **Estimation**: to make an approximate calculation
b. **Inches**: a small unit of length - the size of their thumb width
c. **Centimeters**: a small unit of length - the size of their pinky width
d. **Foot**: one foot is the size of a normal ruler and 12 inches
e. **Yard**: one yard is three feet
f. **Length**: the size of an object or distance from one point to another.
g. **Height**: the measurement or size of something up and down
h. **Measure**: finding out the length or height of something using a standard unit of measure
i. **Ruler**: a tool or device used to measure length

C. New Content

- Students will know how to estimate using their hands and arms (thumb for inches, pinky for centimeters, top half of arm for foot, and wrist to wrist for yard)
- Students will know that when you measure something with a ruler, they must start at the zero and not just the end of the ruler because the end of the ruler doesn't start at zero.
- Students will know and understand the difference between a ruler and tape measure.
- Students will know the difference between length and height

V. Implementation

A. Introduction –

- I will play slides 2-3 and ask questions about measurement and have students turn and talk
  - Why is measurement important?
  - How can we use measurement everyday?

- Ask students how they may measure or how they have seen others measure everyday.

B. Development –

Follow Day 1 in PowerPoint:

- **Slide 4:**
  - Help children decipher the difference between length and height
    - Have students stand up when I say height and put arms out like a plane when I say length.
- **Slides 5-8:**
  - Have students discuss with their partner if each way of measuring was the best way to measure the tv. They will use the sentence frame "I _____ (do/don't) think this is a good way to measure a TV because..."
- **Slides 9-16:**
  - I will introduce the measurement tools the students will be using to measure (ruler and measuring tape)
  - I will show the students the ruler rules and we will go through them.
  - The paper passer and a friend they pick will hand out rulers and measuring tapes to each student
  - I will explain the ruler, the two sides, how many inches/centimeters are on a ruler, etc.
  - I will explain that a measuring tape is mainly used with measuring round objects and I will have them try and measure their head for fun and share out the measurement they get.
- **Slides 17-31:**
  - Show students how the length of your thumb is about the same size as an inch. Show students how the width of your pinky is about the same size as a centimeter
  - Practice with students by calling out either centimeter or inch and have them put their thumb up when I say inch and put their pinky up when I say centimeter
- **Slides 32-37:**
  - introduce foot and how one ruler is the length of a foot. So 12 inches is 1 foot. When we estimate, the length from our elbow to our fingers is about a foot.
  - tell them how we all have feet tro measure but the length of our feet arent all the same - have them practice measuring their feet - share out
  - introduce yards and how an estimate of yard would be when you hold your arms out, the measure of a yard would be about from wrist to wrist
  - explain how 1 yard is three rulers long - 36 inches
- **Slides 38-49:**

    - Practice with students by calling either feet or yards and have them make an arm muscle for when I say feet and put their arms out wide when I say yard
- **Slides 50-51:**
    - have students get out their math work book pages
    - All problems will be done together as a class or in partner discussions
        - **Page 693:** complete entire page as a class
        - **Page 694:** Students will only complete the estimation portion of the math work
        - **Page 695:** Students will only complete the estimation portion of the sheet and #5
        - **Page 696:** Students will complete #6, 9
        - **Page 697:** Students will complete #1, 2, 3
        - **Page 698:** Students will complete the entire page
- **Slides 52-68:**
    - Students will be playing four corners. Each corner will be designated to a measurement unit.
    - I will show an object on the board and students will move to the corner of the room that they think would best fir the measure of the object. Students will do this 8 times in total, two for each measurement unit

C. Closure –

- I will remind students that we learned about estimating with measurement. We learned about centimeters, inches, feet, and yards.
- I will tell them that tomorrow we are going to learn about inches and look at a ruler.
- I will have students put all their things away and call them to line get their coats to go outside for recess.

D. Accommodations / Differentiation -

- Accommodations and differentiation will be different for each child.
- Students that cannot follow the rules for having a ruler, will lose their ruler and only get to use it when they need to measure
- The child with the IEP is not in the room for math
- The life skills student will have an aid to modify any instruction if needed
- The ELL students will have an aid to modify any instruction if needed
- Students are able to discuss problems that are in the PowerPoints in partners
- There are a range of problems we go through in the PowerPoint I have made so everyone is challenged at one point.

- Our estimation paper will be done in partners so they can help one another measure.

VI. Reflective Response

A. Report of Students' Performance in Terms of States Objectives (Reflection on students performance written after lesson is taught, includes remediation for students who failed to meet acceptable level of achievement)

All students seemed to understand the topic of estimation. While reviewing each unit measure, students were making connections with how one ruler is a foot so that means three rulers are three feet and three feet is 1 yard. This is something they all struggled with on the pre-test, understanding which measuring unit is smallest and which one is largest. I noticed this was also a struggle during the lesson so for tomorrow, inches, I will have students put their measurements from least to greatest so they understand centimeters is when we measure tiny things and yards are for when we measure big things. Students were all able to make estimates when measuring with their hand or arm.

B. Personal Reflection(Question written before lesson is taught.)(Reflective answers to questions recorded after lesson is taught.)

1. **Were students able to understand how to estimate?**

Students were able to understand estimation faster than I assumed they would. Students were ready to measure with a ruler when I wasn't even prepared to have them move on.

2. **What could I have done differently to introduce measurement?**

I think I could have explained the ruler a lot better. Explain to them that there are a bunch of lines on their ruler but we are only focusing on the larger, more bolded lines. When we see the half mark, if the object is past the halfway mark, then they would measure up. If the object is below the halfway mark, then students would measure down. I will include this in my inches presentation tomorrow. I also feel as though I could have been more firm with the rules on the ruler. I was giving students many chances as this is their first time using a ruler but I need to remind them that rulers are a **tool** for measuring, not a toy.

3. **Was four squares a good game to practice estimation but also engage all the students?**

We ran out of time and had to move this activity to day two, inches. I used this as a review/warm-up activity. The activity as a warm-up for the following day was a really good idea because it engaged students from the start of the lesson.

VII. Resources (APA Format)

Spaar, A. (2022). *Measurement Powerpoint*. Google Slides. Retrieved February 23, 2022, from https://docs.google.com/presentation/d/1kLjVrcX_3LZvKU0GWImQPDO2DWolLKb93DmgWFnsx-M/edit?usp=sharing