

# Lesson: Measuring Lengths and Heights

**Common Core Standard:** 2.MD.A.1 – Measure and estimate lengths using appropriate tools.

**A. GRADE LEVEL:** 2nd–3rd Grade

**B. SUBJECT:** STEM/Mathematics

**C. DATE:** [Insert Date]

**D. DURATION:** 2 Days

**E. LESSON FOCUS:** Students will learn to measure and estimate the lengths and heights of various objects using appropriate tools. They will apply these skills to real-world scenarios such as measuring furniture, rooms, or other objects for space planning.

## F. MATERIALS:

- Rulers (inches and centimeters)
- Measuring tapes
- Yardsticks
- Chart paper
- Markers
- Paper and pencils
- Objects to measure (e.g., books, desks, chairs, walls)
- Worksheets for recording measurements

## G. LESSON OBJECTIVES:

By the end of the lesson, students will be able to:

1. Accurately measure the length and height of objects using rulers, measuring tapes, and yardsticks.
2. Estimate the lengths and heights of objects before measuring.
3. Record and compare their measurements in standard units (inches, centimeters).
4. Apply measurement skills to plan the arrangement of furniture or other objects in a given space.

## H. PROCEDURES:

### 1. INTRODUCTION:

- Start with a discussion on why measuring is important in everyday life, such as arranging furniture in a room or planning a project.
- Introduce the measurement tools (rulers, measuring tapes, yardsticks) and explain when to use each tool.
- Define key terms:
  - **Length:** The distance from one end of an object to the other.
  - **Height:** How tall an object is from the base to the top.
  - **Estimate:** A rough calculation or guess of a measurement before measuring.

## **2. EXPERIMENT:**

### **Day 1:**

- **Activity 1: Demonstration**
  - Demonstrate how to use a ruler to measure the length of a desk. Show how to align the ruler with the object and read the measurement accurately.
- **Activity 2: Guided Practice**
  - Pair students and provide each pair with different objects to measure (e.g., books, pencils).
  - Have students first estimate the length or height, then measure it using the appropriate tool.
  - Record both estimates and actual measurements on their worksheets.

### **Day 2:**

- **Activity 3: Measuring Larger Objects**
  - Take measurements of larger objects like chairs, tables, or parts of the classroom (e.g., height of the door, length of the whiteboard).
  - Demonstrate how to use a measuring tape for longer distances.
- **Activity 4: Space Planning Project**
  - Provide students with a simple floor plan of a classroom or a small room.
  - Assign them the task of planning where to place furniture by measuring and calculating the required space.
  - Students will use their measurement skills to ensure furniture fits properly within the space.

## **3. OBSERVATION:**

- Walk around the classroom during activities to observe students' measurement techniques and accuracy.
- Provide immediate feedback and assistance to ensure correct usage of measurement tools.
- Encourage students to compare their estimates with actual measurements and discuss any discrepancies.

## **4. GENERALIZATION:**

- Lead a class discussion on how measurement skills are used in real life, such as in construction, sewing, cooking, and organizing spaces.
- Ask students to share examples of when they have used or might use measuring skills outside of school.
- Emphasize the importance of accuracy and estimation in various tasks.

## **5. ASSESSMENT:**

- Review the students' worksheets to assess their ability to estimate and measure accurately.
- Observe participation and accuracy during guided and independent activities.

- Conduct a short quiz where students must measure objects and answer related questions to demonstrate their understanding of measuring techniques and applications.

**Note1: Safety**

Ensure that all measuring tools are handled properly to avoid accidents. Remind students to keep rulers and measuring tapes away from faces and to store them safely after use. Supervise the use of larger tools like yardsticks to prevent any injuries.

**Note2: Accommodation for ELL, ESE, etc.**

For English Language Learners (ELL), use visual aids and demonstrate measurement techniques multiple times. Pair ELL students with peers who can assist them. For students with Exceptional Student Education (ESE) needs, provide hands-on support and simplified measurement tasks. Use clear, simple instructions and allow extra time for these students to complete their measurements and recordings.