

Sample Lesson: Explore Lengths

Overview of Unit

Students spend approximately one month exploring customary and metric units of measurement. Below is a description of an introductory lesson that may occur over one to two days.

Grade Level

Grades K-2

Objective

Students will understand the concept of length by using models.

Materials

Paperclips, pencils, pink erasers, whiteboard markers, and ruler

Key Vocabulary

Length: The measurement of distance between two points

Nonstandard unit: An object, such as a paper clip, used to measure length

Instruction

Gather students in common meeting area. Ask them to describe their experiences with measuring length. Accept all reasonable answers. Answers may include getting measured at the doctor's office, measuring a room or an outdoor space, or measuring a door to determine if it is wide enough to fit a piece of furniture through it. (10 minutes)

Write the word *length* on the board. Ask students to think about what the definition of *length* is. Ask several students to share their definitions. After sharing several ideas explain that length is the measurement of distance between two points. (5 minutes)

Have students move back to the tables and pair up. Hand out approximately 15 paperclips per pair. Ask students to estimate how many paperclips long the pencil is. Record estimates on table provided. Lay paperclips end to end along the pencil. This is the actual length using a nonstandard unit. Have students record the length on the table. Repeat this process for several other items such as a book, a desktop, a bookshelf, and their pencil boxes. (10 minutes)

Ask students to measure the length of their desks with their hands. (5 minutes)

Use another nonstandard unit to measure the same items. Have students record their estimates and measurements on the table. (10 minutes)

Assessment

Circulate during activity and ask students to explain why they chose the estimates they did.

Discuss their actual measurements. Ask them how close their estimate was to their actual measurement. Depending on ability students will respond orally or in the written form.

Ask students to describe something they noticed or discovered. Did anything surprise them?

Ask students why there were different lengths when we measured the desk tops with our hands?

Possible answer: Everyone has different size hands

Hold up a ruler. Ask students to explain how a nonstandard unit, such as a pencil, is like a standard unit, such as a ruler. *Possible answer: The length of a nonstandard unit remains the same as does the length of a standard unit.*

Tell students that during the next lesson they will explore length using standard measurement with rulers and tape measures.

Literature Connection

How Big is a Foot? by Rolf Myller

How Tall, How Short, How Far Away by David Adler

Is a Blue Whale the Biggest Thing There Is? by Robert E. Wells

Measuring Penny by Loreen Leedy

Extensions

Kindergarten: Recipe Math

First Grade: Measurements About Me

Second Grade: Build your Own Ruler & Snaky Measurements

These activities have been adapted from the book *Measurement* by Bob Krech.

In Depth Exploration

Measure for Treasure, Length, the Case of the Caribbean Treasure by Lindy M. Chambers

Depending on the student's level this activity can be conducted under teacher supervision or independently.

Measurement Recording Table

Object	Estimate	Number of Nonstandard Unit	Number of Nonstandard Unit
Pencil	5 Paperclips _____ 6 Tip erasers	3 paperclips	6 Tip erasers
White board marker			
Dictionary	_____		
Desk top	_____		

