

Looking for Length

Summary

Students will complete a variety of measuring activities.

Main Core Tie

Mathematics Grade 6

[Strand: RATIOS AND PROPORTIONAL RELATIONSHIPS \(6.RP\) Standard 6.RP.3](#)

Materials

Equipment for measuring lengths (e.g., ruler, tape measure, yardstick, trundle wheel)

Reference materials (e.g., road maps, atlases)

- [Looking for Lengths in All the Right Places worksheet](#)

- [Looking for Lengths in Your Living Room worksheet](#)

Optional:

String

Scissors

Markers

Additional Resources

Book

- *How Big is a Foot?*

, by Rolf Myller; ISBN 0440404959

Background for Teachers

Students need to be aware that we use both a standard and a metric system for measuring. They should be familiar with the vocabulary for both systems (e.g., inch, foot, yard, millimeter and centimeter). Students should also have a background knowledge in linear measurement.

Intended Learning Outcomes

2. Become mathematical problem solvers.
3. Reason mathematically.
4. Communicate mathematically.
6. Represent mathematical situations.

Instructional Procedures

Invitation to Learn

Before beginning, ask students to name different events that require continuous measurement, such as football games, construction, pharmacy, and butchers.

Instructional Procedures

Start the lesson by reviewing the names used for measurement. Some of these include inches, foot, yard, millimeter, centimeter, and meter. Point out a previously selected larger item from the classroom. Ask students to estimate its length using a different unit of measurement. Compare it to other objects by using statement such as, "It is longer than..." or "It is wider than..."

Which unit of measurement should be use to measure the object? Guide the students toward meters or yards. Discuss why we wouldn't use centimeters or inches to measure the length of a chalkboard. Select two students to measure the object. Have them report their findings to the class. Remind entire class that measuring is not 100% accurate.

As a class, create a three or five-point rubric to assess the measurement activity.

Have students form groups of three to four. Each group will create appropriate tools for measurement (e.g., crayon, chain of paper clips, a pencil box, string, etc.). Use colored markers to indicate the appropriate lengths.

Allow students 20 minutes to complete the [Looking for Lengths in All the Right Places worksheet](#). They need to move about the classroom freely and complete their own worksheet. While monitoring students, encourage them to estimate the lengths of certain objects around the room. If time allows, review the information the students have collected. If time is not permitted, review the next class day. Discuss when estimation is appropriate and when more precise measurement is necessary. For example when they are trying to figure out how many steps they will take to walk a certain distance, estimation is appropriate. However, if they are cutting a hole to put a window in their house, an exact measurement is needed.

How can we describe length without using words related to measurement? Explain how in England of Old a foot changed depending on the reigning King.

Would we use inches to measure the distance down to the lunchroom or office (or another distance far from your room)? Would you use feet to measure your hand? Why or why not?

Can you think of other ways to measure items?

What type of careers would use measuring or estimating lengths?

Agree or disagree with the following statements:

Estimating is not a guess.

If you can measure, never estimate.

Exact measurements are always needed.

The smaller the unit of measurement, the more exact the measurement.

Extensions

Resource students gather information using either metric or standard form.

Provide gifted students with only standard units of measurement and challenge them to convert standard to metric.

Family Connections

Give students the [Looking for Lengths in Your Living Room worksheet](#) to complete at home. Give them a couple of days to work on this with family members. When the assignment is due, discuss the information and their findings as a class.

Assessment Plan

Use class generated three-point rubric to assess students' work.

Authors

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