How Far Can You Throw?

**Introduction:** One of the physical education requirements for 6th grade students is to throw a variety of objects demonstrating both accuracy and distance. In this lesson, students will combine physical education with measurement. They will also calculate mean, median, mode, and range.

**Grade Level and Subject:** 6th grade Math and P.E.

**TEKS:** P.E. 1F
Math 8B, 10A, 10B

**Materials:** one basketball, one softball, tape measures, pencil and paper, an empty field or playground area where objects can be safely thrown, small cones, calculator, results chart (found at the end of this lesson)

**Resources:** Math textbook

**Activity:** Take the students to an empty playground area, yard, or field outside of the school. Set out the basketball and softball. Designate a starting point. The cones can be used to mark this point. Assign one student to be the recorder and several students to measure distance. Line up the students. Have each student take a turn throwing the basketball and softball. Measure the distance in feet and inches between the starting and landing points of the balls. The recorder will record the distance each ball was thrown next to each student’s name. Take turns until all the students have had an opportunity to throw the balls. (Make sure the recorder and students who do the measuring take a turn, too.) Go back into the classroom, and give each student a results chart. Share the data with the class, allowing them adequate time to fill out their charts. Convert feet and inches into inches only. Review how to find mean, median, mode, and range. Calculate these for both the softball and the basketball. Once the students have had time to find the results, ask the following questions, and discuss the results of the activity.

- Was there an overall difference between the mean, median, mode, and range of the distance the basketball was thrown as compared to the distance the softball was thrown?
- If there was a difference between the results, discuss possible reasons why.
- What other objects could be used in this task?
- What is the purpose in finding mean, median, mode, and range for a set of numbers?

**Evaluation:** Evaluate the students based on their participation in the activity and discussion, as well as the final completion of their results chart.
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<th>Basketball Distance</th>
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