# ESTIMATION STATION:
# Taking the Guesswork Out of Estimation

**Grade Level: K – 3**
**Lab Time: 1 ½ hours**

## DESCRIPTION

Most of a child's daily "real life" encounters with mathematics include estimation. In the Estimation Learning Lab students learn to use referents from shoes and blocks to stuffed animals to estimate length, capacity, mass, volume, distance, quantity and time.

## OBJECTIVES

This Lab addresses the National Council for the Teaching of Mathematics (NCTM) Standard #5 – Estimation through an exhibit and activity based approach. This is accomplished through these objectives:

- to provide children with an interactive approach to estimation
- to empower the student with a sense of quantity, space and volume
- to provide "real life" encounters with estimation to promote understanding of mathematical ideas
- to offer children a chance to estimate using various strategies
- to present students with the fact that mathematics involves more than being exact
- to experience, through actual testing, whether or not an estimate is reasonable
- to allow children to become comfortable with the idea of estimating through practice

## Learning Standards and Goals

NCTM Standard for Measurement in grades K-2

- recognize the attributes of length, volume, weight, area and time
- compare and order objects according to their attributes
- develop common referents for measures to make comparisons and estimates

NCTM Standard for Reasoning & Proof in grades K-2

- make and investigate mathematical conjectures

NCTM Standard for Connections in grades K-2

- recognize and use connections among mathematical ideas
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole
- recognize and apply mathematics in contexts outside of mathematics

NCTM Standard for Measurement in grades 3-5

- select and use benchmarks to estimate measurements

NCTM Standard for Connections in grades 3-5

- recognize and apply mathematics in contexts outside of mathematics

## Illinois State Goals

State Goal 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication and division), patterns, ratios and proportions.

*Early Elementary*

6.C.1b

- Show evidence that whole number computational results are correct and/or that estimates are reasonable.

6.D.1

- Compare the numbers of objects in groups

*Late Elementary*

6.C.2b

- Show evidence that computational results using whole numbers, fractions and decimals are correct and/or that estimates are reasonable.

State Goal 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.

*Early Elementary*

7.B.1a

- Given a problem, describe possible methods for estimating a given measure.

7.B.1b

- Compare estimated measures to actual measures taken with appropriate measuring instruments.

*Late Elementary*

7.B.2a

- Determine and communicate possible methods for estimating a given measure, selecting proper units in both customary and metric systems.