

# Estimation

Estimation is a strategy for determining approximate values or quantities, usually by referring to benchmarks or using referents, or determining the reasonableness of calculated values. Determining whether an estimate is reasonable or not reasonable is an important metacognitive process involving reasoning and analyzing. Students need to know how, when and what strategy to use when estimating. Estimation is used to make mathematical judgments and develop useful, efficient strategies for dealing with situations in daily life. Providing contextualized experiences for estimating provide purpose and authenticity.



	Compares more or less (possibly using a benchmark)	Estimates within a reasonable range (states a reasonable too high and too low estimate)	Makes a reasonable estimate (use of a provided referent, visualization)	Adjusts estimate with new information (uses their own referent, seeks out more information)	Uses estimation as a strategy to verify results
<b>General</b> I Can Statement	I can say which amount is more or less.	I can estimate within a reasonable high-low range.	I can make a reasonable estimate drawing upon a range of strategies.	I can use new information to adjust my estimate.	I can use estimation as a strategy to verify my results.
<b>K-5 Task</b> Jar Task "Look for"s	"I know the amount of cubes in the jar is more or less than I can hold in my hand."	"I know the number is more than <10> and less than <50>, and make my estimate within this range."	"I can count the bottom layer and use this visual referent to make a reasonable estimate."	"I can adjust my estimate once we have counted some of the quantity."	"I can use my estimate to prove there are enough objects in the jar to share with the class."
<b>6-9 Task</b> Computational Estimation Addition of Fractions (ie. $\frac{1}{2} + \frac{3}{4} =$ )	"I know the sum of these two fractions will be more or less than 1."	"I know the sum will be between 1 and 2 because..."	"I can visualize fraction tiles or pattern blocks to help me think about a reasonable estimate."	"The benchmarks on a number line helped me think about decomposing the fractions into parts to estimate."	"I can use my estimate to verify that my calculated answer makes sense."

Curricular content connections:

- o Quantities (visual, place value, fractions, etc.)
- o Measurement
- o Computation