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Chapter 13

Introducing Computational Estimation

It is important to not use the word guessing when working with estimation and explicitly help students see the difference between a guess and an estimation.

When teaching estimation it is important to discuss situations in which estimations are used in real life.

Use the language of estimation ( about, close, just about, a little more or less, than, and between)

Use context to help with estimations

Accept a wide range of estimates

Focus on flexible methods, not answers

Ask for information, but no answer

Ex. $349.29 + $ 85.99 + $175.25

Is this amount going to be over or under 1000?

Use the cluster problem approach - has students solve a collection of problems related to but easier than the target problem. Then those problems are used to solve the harder problem.

Front-End Methods- focus on the leading or leftmost digits in numbers

Rounding Methods- are used to substitute a “nice” number that is close so that a computation can be done more easily.

Compatible numbers strategy- is where a number can be grouped into a benchmark value (10, 100, 500.)

Use whole numbers to estimate rational numbers

Activities

Activity 13.1 Over or Under? (pg.243)

37+ 75 over/under 100

712-458 over/under 300

17 x 38 over/under 400

Rounding in Addition (pg.246)

4827 + 710 + 85

5000 + 1000 + 0 = 6000

Activity 13.6 What was your method? (pg.249)

Select a problem like 139 x 43 and ask the students to estimate what the answer will be. Then have them explain what strategy they used.