

# Estimation

Today's children use devices every day. For that reason alone our children need to be able to assess whether a difference, sum, quotient, or product is reasonable. Imagine the amount of times we have entered the wrong digit into a calculator or smart phone. Luckily when we look at the total we have the ability to say, "Oops, that doesn't look quite right." Estimation and rounding enable us to recognize that there may be a mistake with our calculations.

Front end estimation is one way the students will be rounding numbers this year. This is when the largest value in the number is rounded. For example in the number 22,697, the two in the ten thousand's place is the number that will be rounded. One strategy we have practiced when we round is to circle the number that is going to be rounded. Next look at the number to the right and underline the number. If the number to the right is 5 or more "raise the score." That means raise the number in the circle up by adding 1. If the number to the right of the circled number is 4 or less "let it rest." That means the number stays the same, you do not change it. After you've rounded the number circled all the numbers to the right become zeros.

Normally the children will be told what period to round. The directions might say round the number in the hundred thousand's column or round the number in the ten's column. If the directions do not specify a period (place value column) there will be two options, the first will be to do front end estimation. The second option is when the question states to use the best estimation. This means to round the period that will enable the child to get closest to the correct answer using mental math. Estimation lessons teach the children mathematical reasoning skills.