Math Background

Use Rounding to Estimate Sums and Differences

Rounding

Students learn how to round numbers to the nearest ten or nearest hundred. They first establish the tens or hundreds above and the tens or hundreds below the number they are rounding. Then they determine, using place value, place-value drawings, or Secret Code Cards, which ten or hundred is closer to the number they are rounding.

Round to the Nearest Hundred

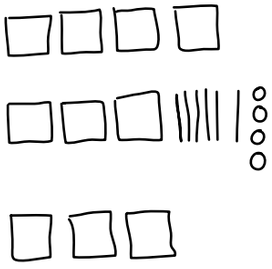
3̲64 **Underline the place to which you are rounding.**

Hundreds Above and Below

400
364
300

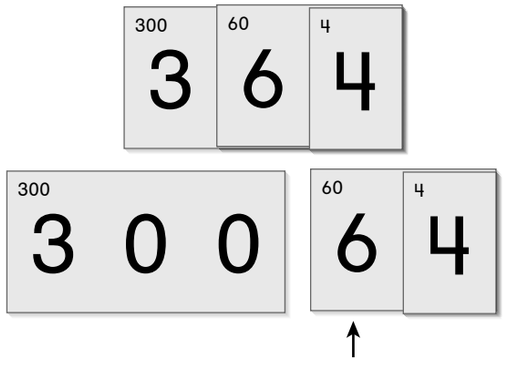
364 is more than 350 (halfway), so round up to 400.

Place-Value Drawings



364 has more than 5 ten-sticks, so round up to 400.

Secret Code Cards



64 has more than 5 tens, so round up to the next hundred.

Round to the Nearest Ten

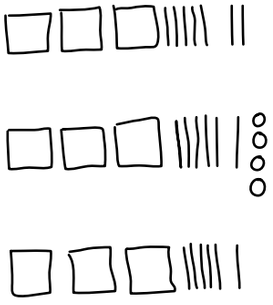
36̲4 **Underline the place to which you are rounding.**

Tens Above and Below

370
364
360

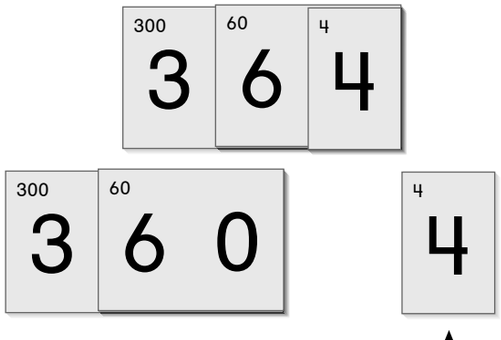
364 is less than 365 (halfway), so round down to 360.

Place-Value Drawings



364 has less than 5 ones, so round down to 360.

Secret Code Cards



4 has fewer than 5 ones, so round down to the existing ten.

Estimating Sums and Differences

For rounding to estimate sums or differences, students round each number to the nearest ten or nearest hundred, and then add or subtract.

There are 48 children on one bus and 33 on another bus. About how many children are there altogether?

48 rounds to 50
33 rounds to 30.

Add 50 and 30 to get an estimate of 80.

Rounding Money Amounts

Students round money amounts to the nearest dime or nearest dollar, using the rules for rounding. If the amount is equal to or more than half of the next whole dime (or dollar) amount, round up. If it is less than half of the next whole dime (or dollar) amount, round down.

Round $3.62 to the Nearest Dime

Underline the place to which you are rounding. Find the digit to the right of the dimes place. Since 2¢ is less than half of a dime, round down to the lesser dime: $3.60.

$3.70
$3.62 is less than
$3.62
$3.**65** (halfway),
$3.60
so round down to $3.60.

Round $3.62 to the Nearest Dollar

Underline the place to which you are rounding. Find the digits to the right of the dollars place. Since 62¢ is more than half of a dollar, round up to the greater dollar: $4.00.

$4.00
$3.62 is more than
$3.62
$3.**50** (halfway),
$3.00
so round up to $4.00.

Data in Tables and in Bar Graphs

A major focus of this unit is learning to understand tables and bar graphs. As students interact with these data formats, they continually write and solve problem situations and pose questions for their classmates from the data they can read in these formats.

Working with bar graph scales builds on students' earlier work with understanding the scale in rulers and how it is built from small lengths. This helps students see the lengths involved in bar graphs, and the bars in bar graphs help students think of the bar graph scale, rulers, and number lines as a length model (for example, the 6 does not mean that point, it means 6 of the length units used in the scale). Work with both horizontal and vertical bar graph scales helps to prepare students for work with such scales on coordinate grids in Unit G.

Working with tables helps students learn to look across rows and down columns. This helps to prepare them for the array and area situations they will encounter in Unit 4 in multiplication and division situations. Students will continue to interact with tables in Units 4 and 5 where they will use the multiplication table and solve small scrambled mini-multiplication tables called Missing Number Puzzles. Students return to a focused use of tables in Unit 7, where tables summarize measurement information.