Part 3 – Methods for Mental Subtraction

Mental math strategies are reviewed here, and new ones are introduced. Your student may already be using some of the new strategies.

The following strategies will be reviewed or taught here. The illustrations are included here to help make the strategies clearer to you as the teacher — your student is not going to be drawing these illustrations.
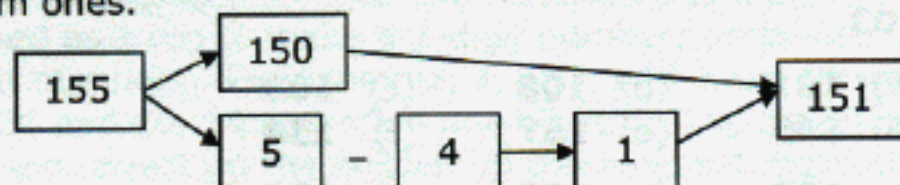
- ➢ Subtract 1, 2, or 3 by counting back.
    51 – 2 = 49; count back 50, 49.
    302 – 3 = 299; count back 301, 300, 299

- ➢ Subtract a 1-digit number from a 2-digit or 3-digit number without renaming by subtracting ones from ones.
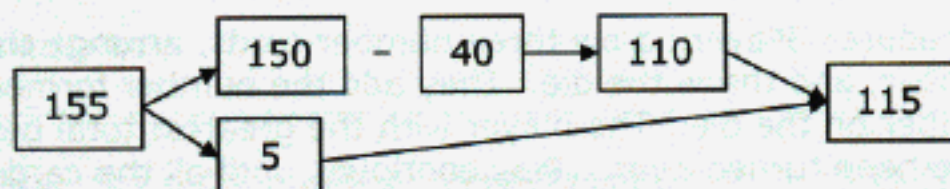   155 – 4 = 151

- ➢ Subtract 10, 20, or 30 by counting back.
    228 – 30 = 198; count back 218, 208, 198 (or count back tens first and then add ones: 21, 20, 19 tens, 198.

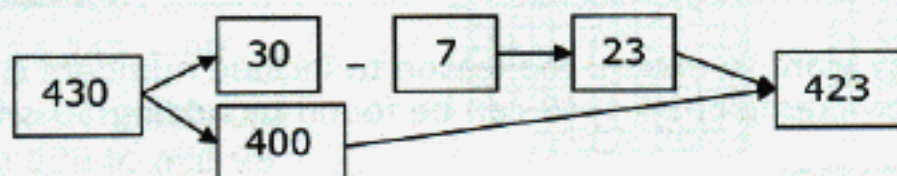- ➢ Subtract tens from each other without renaming.
    150 – 30 = 120

- ➢ Subtract tens from a 2-digit or 3-digit number without renaming by subtracting from the tens.
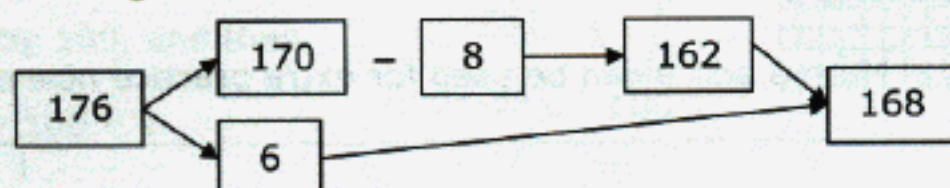   155 – 40 = 115

- ➢ Subtract a 1-digit number from a ten.
    430 – 7 = 423

- ➢ Subtract a 1-digit number from a 2-digit or 3-digit number when there are not enough ones by subtracting from a 10:
    176 – 8 = 168

Unit 4 – Fractions

Part 1 – Halves and Quarters

(1) Halves and Quarters (pp. 52-53)

➢ Recognize one half and one fourth.

➢ Read and write the fractional notation for $\frac{1}{2}$ and $\frac{1}{4}$.

Students were introduced to halves and quarters in *Primary Mathematics 1B*. This is reviewed here and the fractional notation for $\frac{1}{2}$ and $\frac{1}{4}$ is introduced here. Your student should understand that $\frac{1}{2}$ of a whole means one out of two equal parts and $\frac{1}{4}$ of a whole means one out of four equal parts. Two halves make a whole and four quarters make a whole.

➤ Ask the student what he would do if he wanted to share four cookies equally between himself and a friend? He would divide them evenly. How would he share two cookies? What about one cookie? He would have to divide it into two equal pieces and give himself and his friend each a half. Ask him whether, if he gave his friend a little bit off of the cookie, he would be giving a half. No, both pieces must be the same size.

halves

not halves

➤ Use sheets of paper. Show your student how to fold one of them in half. She must line up the corners and edges in order to get equal halves. Show her how to make a sharp crease. Unfold and color half.

Ask her how much is colored. Write $\frac{1}{2}$. Explain that this is read as "one-half" and means 1 out of 2 equal pieces. Tell her a part of something can also be called a *fraction* of something. $\frac{1}{2}$ is a fraction. Let her try some other ways to divide the paper in half.
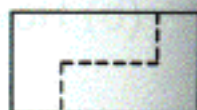
Part 2 – Liters

(1) Liters (pp. 72-75)

➢ Understand the liter as a unit of measurement.
➢ Estimate and measure the capacity of containers in liters.
➢ Compare the capacity of containers in liters.

The SI unit (international standard unit of measurement) of volume is the cubic meter. Most countries, however, measure volume in liters.
1,000 liters = 1 cubic meter.
1 decimeter is 10 centimeters, or one tenth of a meter.
So one liter is equal to a cubic decimeter.

Liter can be abbreviated with a cursive ℓ or a capital L.

3d› The US spelling for liter will be used in this guide.

Show your student a 1-liter beaker or measuring cup. Explain that most countries measure volume in liters. Show your student how to fill the measuring cup or beaker to the line marked as a liter in order to measure one liter.

Use several containers. Ask your student to first estimate the number of liters and then measure by filling up the container from the measuring cup.

Page 72
Learning Tasks 1-6, pp. 73-76

1.   The jug holds the most, the glass holds the least

2.   **1 liter**

3.   (a) **B**   (b) **3 liters** more

5.   **4**

US› Workbook Exercise 52
3d› Workbook Exercises 52-53