

PRIMARY EDUCATION

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SUBTRACTION

Teach a subtraction table. This may be done by using the addition table and questioning somewhat as follows, using objects at first.

Q. If 6 books and 3 books are put together how many will there be? A. 9 books.

Q. If 3 books be taken from 9 books how many will be left? A. 6 books.

Q. If 6 books be taken from 9 books how many will be left? A. 3 books.

Question in the same way with all the combinations. Use abstract numbers after the first two or three lessons. While this may be all that is needed with most of the class some may need a subtraction table written on the board and memorized as in the case of the addition table. The following form will be found convenient:

2	from 2	leaves 0
2	" 3	" 1
2	" 4	" 2
2	" 5	" 3
2	" 6	" 4
2	" 7	" 5
2	" 8	" 6
2	" 9	" 7
2	" 10	" 8
2	" 11	" 9

If this form of table should be used, subtraction questions may be given with no number greater than 2 in the subtrahend, as soon as the table of twos has been learned and with 3, 4, 5, etc. in the subtrahend as soon as tables with these numbers have been learned.

There are two methods of doing subtraction when figures in the subtrahend are greater than those in the minuend. One method is to take one from a higher order in the minuend and reduce it to the order required, the other is to borrow from some outside source and pay back. The last method when resolved into a rule is to add 10 to any figure in the minuend when required and then add 1 to the next figure in the subtrahend, or more briefly to imagine 1 placed to the left of any figure in the minuend when needed and to add one to the next figure in the subtrahend.

After examining hundreds of classes in subtraction, and after getting the opinion of many teachers who have used both methods, I find the last method much easier to teach and the pupils who use that method much more accurate in their work. This is especially true in questions that have a number of noughts following each other in the minuend.

A simple method of leading the pupils to deduce the rule with the reason for each step follows:

FIRST METHOD

Place on the table say 3 bundles of tooth-picks, each containing 100 tooth-picks, to the right of it place 4 bundles of tens and to the right of that 5 ones. Write the number on the board thus, 345. The hundred bundles must be made up of ten bundles of tens. Ask the class to take from the tooth-picks on the table 1 bundle of hundreds, 6 tens and 8 ones. Place on the board thus:

345

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Ask for the 8 ones first. The pupil finds he cannot get 8 ones out of 5 ones. Tell him, if he does not suggest it himself, to take one bundle out of the 4 tens and take the string off. From the one ten he gets 10 ones. He finds 10 ones with the 5 ones and makes 15 ones. He then takes the 8 ones from the 15 ones and has 7 ones left.

Next since he cannot get 6 tens from three tens he takes a hundred bundle, takes the outside string off and has 10 tens which he puts with the 3 tens, making 13 tens, takes the 6 tens away and has 7 tens left. Then he takes the 1 hundred from the 2 hundred and has 1 hundred left.

SECOND METHOD

Place on the table 4 tens and 5 ones and write on the board 45. Ask the class to give you 2 tens and 5 ones. Place on the board thus:

45

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Ask for the 5 ones first. The class will see that they cannot get 5 ones from 5 ones.

Give one member of the class a few tens.

Borrow from him 1 ten. Take the string off as in the first method and place the 10 ones with the 5 ones, making 15 ones. They then give you 5 ones leaving 8 ones. Arrange on the board thus:

10

45

- 25

8

Next ask for the 2 tens which they will give you and let them pay back the one ten which was borrowed.

Ask how many tens they have taken from the 4 tens and they will answer 3. Arrange thus

10

45

25

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