THE MODEL MENTAL ARITHMETIC FOR PUBLIC AND PRIVATE SCHOOLS

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649650507

The Model Mental Arithmetic for Public and Private Schools by C. F. R. Bellows

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Cover @ 2017

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FOR

PUBLIC AND PRIVATE SCHOOLS

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THE ELLIS PUBLISHING CO.— LIMITED,
BATTLE CREEK, MICH.
SAN FRANCISCO, CAL.

Educ T 118.98.220 Harvard College Library
Dec.
Transferred from
Education Library.

1904, Mar. 2.
Harvard University,
Dept. of Education Library,
Gift of the Publishers.
Harvard College Library
Dec. 20, 1913.
Transferred from
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1898

PREFACE.

MENTAL ARITHMETIC as a means of mental training, especially of the logical powers of the student, has always occupied a high place in the estimation of teachers. In the regard, however, which has been bestowed upon it as an intellectual gymnastic, its value as a medium of acquisition of arithmetical knowledge, has been almost entirely overlooked.

It is from this latter point of view of the subject that the present book has been written.

The tendency of the times in the direction of trimming Arithmetic of all matters of doubtful or remote utility, urges a directness of approach and an economy of space in the treatment even of the essentials of the subject.

Accordingly, the scope of Mental Arithmetic as here exhibited stands for a union of the purposes, of Mental Arithmetic, as a means of mental discipline, and as a medium of acquisition of arithmetical knowledge generally agreed upon as indispensable.

While the familiar custom of presenting forms of analysis of solutions has not been discarded, it will be easily seen that the book has not been made entirely for the sake of exhibiting specimens of mathematical reasoning. The general abandonment of the formal use of "therefores" and "wherefores" and "hences" stiffly set up is sufficient evidence upon this point. On the other hand, a preponderance of questions of a practical nature, clearly evinces the spirit of the book as designed to promote the attainment of useful knowledge.

The book has been prepared with a view to uniting the requirements of a first book in Arithmetic, for use in grammar grades, and also for the purposes of Mental Arithmetic drill in high schools. Although the subject-matter for these different purposes is not separated in the book, nevertheless the two are easily distinguishable.

It is hoped that the contribution here made to the cause of arithmetical teaching in our schools may prove a valuable one.

C. F. R. B.

Battle Creek, Mich.

MENTAL ARITHMETIC.

LESSON 1.

ADDITION.

1. Henry has 2 books in one hand and 1 book in the other; how many books has he in both hands?

Answer.— He has in both hands 2 books and 1 book, or 3 books.

2. John has 2 marbles and Henry has 2; how many marbles have they together?

Answer.— They have together 2 marbles and 2 marbles, or 4 marbles.

3. Susan has 2 paper dolls and Mary has 3; how many paper dolls have they together?

Answer.— They have together 2 paper dolls and 3 paper dolls, or 5 paper dolls.

4. How many are 2 and 1? *Answer.— 2 and 1 are 3.*
How many are 2 and 2?
How many are 3 and 2?

5. Two boys each found 3 marbles; how many marbles did they both find?

6. Willie picked 3 roses and his sister picked 4; how many roses did they together pick?

7. Sarah has 5 classes in the forenoon and 4 classes in the afternoon; how many classes has she during the day?

8. There are 3 boys in a class and 5 girls; how many pupils are there in the class?

Answer.— There are 3 pupils and 5 pupils, or 8 pupils.

9. A boy earned 5 cents on Monday and 5 cents on Tuesday; how many cents did he earn in the two days?

10. How many are 3 and 3? *Answer.—3 and 3 are 6.*
How many are 3 and 4?
How many are 5 and 4?
How many are 4 and 2?
How many are 5 and 5?

11. William had 4 cents in his hand and 4 cents in his pocket; how many cents had he?

12. There are 4 boys in one class and 6 boys in another class; how many boys are there in the two classes?

13. Emma put 3 roses in one vase and 6 roses in another vase; how many roses did she put in both vases?

14. There are 2 girls in a certain family and 5 boys; how many children are there in the family?

15. How many days are 7 days and 3 days?

16. Jennie had 6 little girls and 2 little boys at her party; how many children were at Jennie's party?

17. Henry had 8 cents and his father gave him 2 cents more; how many cents did Henry have then?

18. How many are,—

2 and 3?	1 and 5?	6 and 2?	2 and 7?
1 and 2?	3 and 1?	4 and 4?	6 and 3?
4 and 1?	5 and 2?	6 and 1?	5 and 5?
2 and 2?	4 and 3?	3 and 5?	3 and 7?
7 and 1?	5 and 4?	4 and 6?	8 and 1?
3 and 3?	8 and 2?	2 and 4?	1 and 9?

LESSON II.

19. John had 9 pigeons and bought 2 more; how many pigeons had he then?

20. Charles found two hens' nests. In one there were 8 eggs and in the other 3 eggs; how many eggs were there in both nests?

21. A man paid 9 dollars for a coat and 3 dollars for a vest; how many dollars did he pay for both garments?

22. Mary picked 7 quarts of cherries from one tree and 4 quarts from another; how many quarts did she pick from both trees?

23. A farmer sold 8 chickens and 4 ducks; how many fowls did he sell?

24. There are 9 girls and 4 boys in a class; how many pupils are there in the class?

25. Henry earned 5 cents in the morning before school, and 6 cents in the evening; how many are 5 cents and 6 cents?

26. There are 6 pupils in each of two classes; how many pupils are there in both classes?

27. How many cents are 5 cents and 7 cents?

28. Willie had 7 cents and his mother gave him cents more; how many cents had he then?

29. There were 8 birds on one tree and 5 birds on another; how many birds were there on both trees?

30. A farmer sold 4 sheep to one man and 9 sheep to another man; how many sheep did he sell to the two men?

31. If I pay 9 dollars for a coat and 5 dollars for a pair of pants, how many dollars do I pay for both?

32. How many boys are 8 boys and 6 boys?