

It is usually thought that chemical arithmetic is something unique, whereas it is really the same as any other arithmetic. If the fourth question in the July examination had been "If 196 grams of sulphuric acid yields 22.412 litres of sulphuric dioxide, how many litres will 98 grams of acid yield?", nearly every candidate could have worked out the answer, and yet that was all there was in the question, since the formulae supplied the data. The only thing required was to understand that the formulae represented the weight in grams obtaining by adding the numbers represented by the symbols, and that when *weights* are in grams the formula of a *gas* always represents the *volume*, 22.412 litres, under standard conditions of temperature and pressure. If teachers would insist upon this point, and give the pupils a little practice so that they would gain familiarity with the idea, an immense improvement would be made. This year, a number of candidates seemed to have learned mechanically that the volume of a gas represented by its formula is 22.412 litres; but to have failed utterly to see that this knowledge gave them the clue to the problem. A little care on the part of the teachers could cure this fault.

It will be well to draw the attention of pupils to the application of chemistry to ordinary life, even if it may be difficult for the examiner to ask a satisfactory question of that character.

My books, "A School Chemistry" and "The Arithmetic of Chemistry" have been written along the lines which I think most suitable for beginners, and though the questions in the examinations are such as any textbook will provide for, these books most definitely emphasize points of importance.

TONIC SOL-FA IN SCHOOL.

It is quite clear to the Superintendent of Education, that those who do not aid in introducing the tonic sol-fa notation into the public schools are responsible for the lack of good general singing in all our schools, and for the comparatively few who advance far enough to take an interest in learning the classical staff notation. The simplicity of the tonic sol-fa would enable the masses to read music in the common school grades, with the result of stimulating thousands more to take up later the staff notation.

SCHOOL SINGING IN BRITAIN AND AMERICA

Among the most recent of interesting events in the educational world have been the visit of some hundreds of British teachers to America, organized by Mr. Alfred Mosely and the return visit of an even larger number of teachers from the United States and Canada to Great Britain.

"The Musical Herald" publishes in its April issue a representative selection from the remarks on school music contained in the reports of the British teachers; and in its May issue it gives letters on singing in British schools, obtained by itself from American teachers whose names were to be found in the visitors' book of the National Union of Teachers. It is very interesting to compare the opinions expressed, and to observe the almost unanimous testimony that the school singing in Britain is far superior to what is to be heard in the United States. The American teachers are especially enthusiastic in praise of the careful attention to voice-production in the English schools, and to the great proficiency in sight-reading which is due to the use of the Tonic Sol-fa method and notation.

It seems not unlikely that one result of the inter-change of visits will be the introduction of the Tonic Sol-fa method into the United States, where it has in the past been almost entirely unknown. All those interested in the success of good methods for the teaching of vocal music in schools will be grateful to the editor of "The Musical Herald" for the steps he has taken in this matter. (From "The Education Gazette," Capetown, Thursday, 5th August, 1909.)

TONIC SOL-FA IN GERMANY.

The excellencies of the Tonic Sol-Fa method of teaching vocal music took considerable time to be appreciated even in the land of its birth. There it met with direct opposition from established music-teachers and from professional musicians: in Germany and other foreign countries, on the other hand, it was looked on merely with in-