

from the Scots, to remain, like Calais, the sole remnant of the English conquests.

The domains of Edward V., if he can be said to have reigned as king, were those of his father at the time of his death.

Edward VI. succeeded his father, Henry VIII., as king and emperor of the realm of England and of the land of Ireland, for Ireland was thenceforth to be called a kingdom. Wales had become a part of England. Boulogne, taken in the preceding reign, was restored to France. Edward might be said to have had some claim to sovereignty over Newfoundland and the great unknown regions of the Western World; but no one in England then knew or thought of their value.

A mere list of the names of the kingdoms and provinces that form the vast dominions of King Edward VII. would be hard to give, for the number of separate governments under his rule, even in the British Isles, must be arbitrarily determined, and new colonies, protectorates or dependencies recently established in some distant region might so easily escape notice. Over 350,000,000 people acknowledge him as king and emperor; and 50,000,000 more live under his protection. His subjects, of many nations and tongues, look to him as the fountain of authority, and to his constitutional sovereignty as their security. His flag means freedom, on every sea and shore. God save the King.

Mental Arithmetic.

MISS A. LAURA PECK.

By 'mental' arithmetic we understand operations in arithmetic to be performed mentally by the pupil, without the aid of pencil and slate.

We shall endeavor to consider briefly: (1) of what value the subject is as an educative factor; (2) whether the child derives more benefit when given mental exercises than when his attention, as far as arithmetic is concerned, is directed wholly to written work; (3) some ways in which the subject can be usefully employed in the different grades; and (4) its place on the time-table.

1. The name mental arithmetic invites us to consider the subject as a mind-trainer. What mental faculties are exercised and developed by its use? When a mental problem is presented to a class each pupil must be listening carefully in order to make the question his own—for the question should not be repeated—also, each must depend entirely on his own mental exertions for a correct solution to the problem; hence habits of attention and self-reliance are cultivated. Further, in working out the problem a mental picture of the operations performed will necessarily be formed in the mind, and

in the case of practical problems the child must take the given facts and from them reason out the one asked for. Imagination and the reasoning power are thus brought into play. Then there will naturally be a friendly rivalry as to which can get the correct answer first. This will lead the pupil to have a care that his mental operations are accurate while at the same time he will strive to perform them quickly—thus his mind will become accustomed to thinking rapidly as well as carefully. Lastly, when the correct answer has been given some pupil may be required to state clearly the process by which such answer was found, and thus his power of giving accurate expression to his ideas is increased.

2. In the second place we must not think of mental arithmetic as opposed to the general subject of arithmetic, but as supplemental to it; hence we do not say, 'Is mental arithmetic more profitable than written work?' but 'does the child get more benefit from arithmetic when given mental exercises in addition to his written work than he would from the written work alone?' And here I think comes in the practical value of mental arithmetic. Children are often sent to do errands at a store. If their minds have been exercised by practical mental questions they will be careful to find out the prices of the articles purchased and will know for themselves what amount is to be paid or what change they should get back before the storekeeper has finished writing out the bill. Otherwise they will be likely to pocket the change without knowing whether they have the correct amount or not. The following instance came under my observation: A girl was sent to a store with a \$4 bill. The articles purchased amounted to \$2.51. The clerk who had probably carelessly taken the bill for a \$5 handed back \$2.49. The girl put the money in her purse and not until after she reached home did she discover that she had a dollar too much. And she was not a dull girl; she could sit down and work out on her slate the most difficult problems, but her mind had not been quickened by practical mental work. I heard a man remark that on examination day he had seen his children work out on the board and explain book questions which he himself could not have done; but when he asked them what 78 pounds of old iron would come to at \$1.50 a hundred, they could not tell. Take two boys who have completed the common school course. Both have been carefully instructed in arithmetic, but one has done all his work on his slate, while the other in addition to slate work has had a few minutes of mental exercise each day. Give them a written examination and probably they will come out nearly equal. But given orally some such question as, find the amount of