

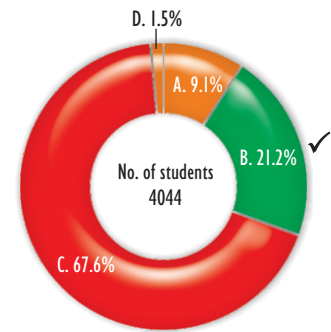
Maths: Class: V Number sense, related concepts and basic number competency

Question

21 hundreds, 35 tens and 4 ones are equal to

Options

- A 2139
- B 2454
- C 21354
- D 21390



Only 21.2% answered correctly

Why was the question asked?

The concept of place value is one of the most important ones to be learnt and internalised. This question was asked to check whether students are able to split/combine the groups of tens/hundreds to identify the number given. Here, they need to understand that 21 hundreds is 20 hundreds and 1 hundreds or 21 hundreds = 21×100 and so on.

What did students answer?

Only about 21% of the students answered the question correctly. And about 68% of the students chose the wrong option D.

Possible reason for choosing A: Only about 9% of the students chose this option. These probably just guessed the answer or answered by seeing 21 hundreds and 39 ($35 + 4$), in this option.

Possible reason for choosing C: Students who chose this option probably just applied the logic of hundreds preceding tens and tens preceding ones in a number (when read from left to right) and wrote 21, 35, 4 in that order to form 21354.

Possible reason for choosing D: Only about 2% of the students chose this option. These students probably guessed the answer without understanding what was being asked.

Learnings

Many students seem to have missed out splitting 21 hundreds into 2 thousands and 1 hundred and similarly 35 tens into 3 hundreds and 5 tens. Because of this, they hadn't realized that the place value of some digits is changing and regrouping is required. This indicates that even though the place value concept is taught in lower classes, students have still not internalized it fully, even in higher classes.

Many students are probably used to splitting a number in 'a' particular way, for example, 5235 as 5 thousands + 2 hundreds + 3 tens + 5 ones. Seeing such expressions, students probably try to find a pattern which they can blindly follow – for example since 5235 is read as 5 thousand 2 hundred thirty five, there should be 3 tens, but they never probably realise that there are 23 tens in 5235!

How do we handle this?

Students not having understood place value may face difficulty in understanding many concepts like Arithmetic Operations.

Various activities related to grouping, splitting and establishing the equivalence between different groupings of the same number, would help a lot in developing a good and proper understanding of place value.

An example of 2 types of groupings of a number is given below:

Activity 1: Ask students to – a) split 160 boys into one group of 100 boys and rest of 10 boys each b) split the 160 boys into groups of 10 boys each

Activity 2: Ask students to – a) split 1670 into groups of only hundreds and tens, groups of only thousands and hundreds b) different students can come up with different types of groupings – two different ways of splitting 1670 into hundreds and tens are 16 hundreds and 7 tens, 15 hundreds and 170 tens.

These activities can be done using place value blocks or any other articles.

Useful resource

Website: <http://www.garlikov.com/PlaceValue.html>

Books: 1. Burns, Marilyn, About Teaching Mathematics, A K-8 resource, pp. 173-182. Sausalito: CA: Math Solutions Publications, 2000.

2. Chapin, Suzanne and Johnson, Art, Understanding the Math You Teach, Grades K-6, pp. 17-18. Sausalito: CA: Math Solutions Publications, 2000.