

Dear math teachers,

I have the pleasure of informing you that the children in second primary will be carrying out a short math test in two different days as part of a scientific study in which the school is collaborating with Universitat Pompeu Fabra. The main goal of the investigation is to delve into the learning processes of numeric representation.

The test consists of three 6-minute tests:

- Additions test
- Subtractions test
- Operations test

To guarantee the correct procedure during the test, here are detailed a series of simple instructions:

1. Each test will contain more mathematical equations than they could answer in six minutes. Please, indicate to the children that they have to answer the maximum of questions possible, but that they should not worry about not having been able to finish them all. The game consists of completing the maximum number of correct answers.
2. So that the data is not distorted, your vigilance is very important so that no child lets themselves "become influenced" by the answers of the classmate next to them, independently of them having the same test or not.
3. Each of the three tests is a booklet of several pages. On the first page is indicated the name of the test (Additions, Subtractions, Operations) and there is a space for the children to write their class name and their name. They should not turn the page until all the children are ready and the time starts counting.
4. It is important to be precise in regards to time, six minutes per test. Please, the use of a timer is recommended for this purpose. Once the six minutes are over, each child will have to stop writing, close the booklet and hand it in when the teacher comes to pick it up. After this, the next test will then be carried out with the same procedure.
5. The children, starting at the beginning, will be able to skip the questions that they wish if they find them complicated. The challenge is to have as many correct answers as possible, it doesn't matter which ones they are.
6. The third test, the Operations one, consists in figuring out which mathematical symbol corresponds to the equation for it to be correct: $+$, $-$, \times . On the first page of the text there is an explanation regarding what the test is about. Nevertheless, it is necessary to explain it verbally to the children before they start the test.
7. In short, first the instructions are explained to the children, then the Additions test is handed out, they write their name on the test and when everyone is ready they are indicated that they can turn the page and start. At this moment the timer must start counting the 6 minutes. Once the six minutes are over, children must stop answering,

close the booklet and hand it to the teacher when she comes. Next, the process will start again but with the Subtractions test and, finally, with the Mathematical operations test.

8. The instructions to the children are:

- a) When the test is handed out to you, write your class name and your name and do not turn the page to start the test until I tell you to.
- b) Work fast and well, the challenge is to have as many correct answers as possible.
- c) You will not have enough time to finish all the equations, since you will only have six minutes per test. When the time is over, put your pen down, close the booklet and hand it to me when I come to pick it up;
- d) Starting at the beginning, you can skip the equations that you find too complicated;
- e) Focus only on your own test, looking at your classmate's test is a waste of time.

Please, do not hesitate in asking whatever doubts or inquiries you might have.
Thank you very much for your collaboration,

Nuria Ferres-Forga

nuria.ferres@upf.edu

Researcher of Universitat Pompeu Fabra