Experiment

A psychologist was interested in whether drinking water during the school day would have an effect on children’s cognitive performance. He was given permission by the head teacher of a local high school to carry out his investigation on 100 of the 15 year olds studying Mathematics GCSE. The students were put into matched pairs based on their gender and their performance on a previous maths test. One from each pair was put into condition A; Condition A were each given a litre of bottled water to drink through the school day. The other person from the matched pair was assigned to condition B; Condition B received no bottle of water. During the last lesson of the day, all of the students were given the same maths test (maximum marks of 50) to determine how much they had learnt during that day’s maths lesson. The results are shown in Table 1 below:

*Table 1: Summary table of scores in the maths test of students given water and not given water.*

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| --- | --- |
|  | **Number of students** |
| **Score in the maths test ( / 50)** | **Condition A (water given)** | **Condition B (no water given)** |
| 0 - 10 | 0 | 2 |
| 11 - 20 | 6 | 13 |
| 21 - 30 | 23 | 15 |
| 31 - 40 | 14 | 17 |
| 41 - 50 | 7 | 3 |
| **Total number** | **50** | **50** |

(Eduqas, AS Component 2, SAMs)

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