

## **Boolatan experiment**

### **ABSTRACT**

"Boolatan Experiment" is a simple, ready-to-do experiment, and an inquiry approach that helps rural primary school pupils in mastering the 12 science process skills as stipulated in the primary science curriculum. The "Boolatan Experiment" consists of 11 stations whereby pupils need to rotate to complete the assigned experiments and worksheets. The integration of STEM concepts in this experiment includes measuring, recording, and observing (Science), counting, classify and arrange in patterns, measure volume of liquid (Mathematics), use of LCD to display slides and video in presenting ideas (Technology), and caution to control the amount of material ratio to affect the findings (Engineering). 33 rural primary school pupils from Sabah had conducted the experiments. Positive feedbacks were recorded from the science teachers and pupils involved. Rural primary school pupils' performances in 'Scientific Skill' were measured at four time intervals, i.e., pre-test, post-test 1, post-test 2, and post-test 3. The collected performance scores were analysed using the Repeated Measures One-Way ANOVA. The Greenhouse- Geisser value showed a significant difference in the performance scores before and after using the STEM- Science teaching module. Pairwise comparison results also showed that the achievement mean scores increased from 3.121 to 6.030 and the differences were found statistically significant at  $p < .05$ . Hence, it can be concluded that "Boolatan Experiment" can be used to enhance rural primary school pupils' acquisition of science process skills and diversify the use of STEM activities in teaching science at rural primary school.