

**THE DEVELOPMENT OF FOUR-TIER DIAGNOSTIC TEST TO
IDENTIFICATE STUDENTS' MISCONCEPTION ASSISTED BY GOOGLE
FORM ON HEAT AND TEMPERATURE TOPIC**

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ABSTRACT

This research has been done in SMAN 7 Medan that have purpose to develop the four-tier diagnostic test instrument to identificate students' misconception assisted by google form on heat and temperature topic in class XI MIA 3 SMAN 7 Medan academic year 2020/2021. The type of this research is research and development (R&D). This research uses the ADDIE method which consists of five stages which include analysis, design, development, implementation, and evaluation. The participants is all students of class XI MIA 3 in SMAN 7 Medan which consist of 35 students. Data collection techniques through interviews, documentation, tests, and filling out a questionnaire. The results of the development of questions obtained 23 valid questions with reliability of 0.816. The research instrument is a four-tier diagnostic test by dividing students' conceptual understanding into the categories of Sound Understanding, Partial Understanding, Misconceptions, No Understanding. From the results of the research, it was concluded that 51% of sound understanding, 13% of partial understanding, 12% of no understanding and 24% of students had misconceptions about the heat and temperature topic.

Keywords: *Misconception, Four-tier Diagnostic test, Heat and Temperature.*