

Investigating ideas of Phayao high school students about Kepler's law motions and Classical Mechanics

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This research aims to survey the ideas of 120 high-school students, in Phayao province, about Kepler's laws of motion and classical mechanics. Both topics, all students already studied in Astronomy and Physics classes. Their ideas are investigated by the open-ended questions which allow them to answer and give their reasons to support. Students' responses are categorized by determining how they apply classical mechanics principles to explain Kepler's laws of motion. The results reveal that about 50% of all students can describe the Kepler's laws of motion by determining an angular speed and gravity. Surprisingly, most of them did not give any reasons about conservation of angular momentum, conservation of energy and action-reaction law (Newton's third law) in solar system. Some critical data are also collected by interviewing the teachers who teach Astronomy and Physics in the surveyed schools.

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