The purpose of this study is to determine if students use multiple representations of mathematical thinking to solve math problems and to help them approach what they feel is a difficult problem. The multiple representations of mathematical thinking in this study include: tables, graphs, pictorial/concrete model, written explanation, and the algebraic equation. In this action research study, two classrooms of 8th grade mathematics students were utilized to investigate how students solve open math problems and what representations were used as tools to find the solution. The two classrooms involved in the study were students identified as not passing their state mandated assessment. It was concluded from data taken from the school’s benchmark assessment that overall in the area of algebra, that these students performed better than the 8th grade students who were labeled as passing or exceeding the state standard of mathematics. One of the representations that the students struggled with was the representation of writing an explanation of the solution or patterns involved in the given mathematics problems. As a result of this research, it will be suggested to the participating teacher and other readers to continue with the multiple representations by having the students work in a more open-ended environment without a prompt. In other words, have students choose the representations at hand to help them figure out the solution to a given mathematics problem without guiding them through a representation first.