

STRUCTURED FOLLOW-UP ABSTRACT

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In Science, students at Carmody Middle School, in Jefferson County have had the lowest scores on the CSAP on Science Standard 2.3, with an understanding of chemical and physical changes being an important aspect of that standard. A unit on chemical and physical change was developed and embedded into a unit on conservation of mass. The unit utilized the 5E pedagogy and consisted of two experiments producing a physical change and two experiments producing a chemical change to prove conservation of mass. The students then did a reading and watched a video on physical and chemical change, with some guiding questions. A physical and chemical change lab practicum was used as an elaboration. The students were given a pre-assessment and post-assessment, consisting of seven questions. They were asked to define chemical and physical change, and identify five demonstrations of various changes in matter as chemical or physical, with supporting evidence. The average score on the pre-assessment was 3.8 out of 7 questions correct, to 6.4 of 7 questions correct on the post-assessment. The results indicate that there was a 68.5% increase in the numeric scores after the unit.