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Title: *Teaching Mountain Building and Tectonics with Reusable Modeling Compound*

Keywords: Education, Outreach, K-12

Type: Illustrated Paper

Abstract: Hands on learning is an important aspect of cognitive processing in all subjects, but especially in the sciences. Schoolchildren seem often to struggle with science, due to the daunting reputation it has acquired, particularly in the primary schools. For this reason, it is important to integrate a hands on approach to any lesson which can help get children engaged and actively building memory. For teaching about mountain building and plate tectonics, reusable modeling compound provides an ideal medium for hands-on work. "Play dough" and similar products are available in the familiar sets of small cans of different colors, or in bulk tubs for \$5-\$10/pound. Unlike modeling clay, these compounds can be readily separated after use and reused for another project or class. It is also possible to make your own reusable modeling compound from non-toxic ingredients found at the grocery store. With flour, at about 30 cents per pound, the most expensive ingredient in this recipe is the food coloring! For the National Science Foundation? University of Tennessee GK-12 Earth Project, which seeks to improve earth science education in rural middle schools in east Tennessee, we have put together a simple activity in which we use play dough to teach tectonics and mountain building. We have found the modeling compound to be a cost-efficient and interest-holding way to teach complex ideas including superposition, plate interactions, and other themes that can be integrated into backyard geology. Faculty and graduate students who conduct science outreach may find our activity useful.

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