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Tanya Cofer* (tcofer@ccga.edu). *The Surprising Mathematics Hidden Inside the Trihexaflexagon: Using hinged polygons to teach group theory.* Preliminary report.

Flexagons are easily constructed paper objects that can be manipulated as an amusement or game. But these clever little objects also hold subtle and intriguing algebraic structure. In this talk, will report on the design and implementation of a project I gave in a course on abstract algebra. In the project, students were challenged to get creative and decorate trihexaflexagons with designs and colors in order to realize the different subgroups of a dihedral group. I'll share some of the cool designs students came up with as well as some surprising and enlightening outcomes of this engaging class project. (Received September 18, 2016)