PARKER GLYNN-ADEY, University of Toronto, Mississauga

Geometry, Models, and Inquiry

We outline a curriculum for a one semester course in geometry suitable for advanced undergraduates which uses physical models to foster student inquiry. When presented with a kaleidoscope, we have a natural propensity to ask questions about it. Why does it look that way? What accounts for its high degree of symmetry? One will naturally develop a theory of reflection groups to answer these questions with mathematical precision. Kaleidoscopes and models of solids get people inquiring and asking questions. Physical models will be on hand for people to play with, and teaching resources will be made available online.