1106-N1-377 **Peter Lawson Maceli*** (plm2109@columbia.edu). *Graph theory by example.* Preliminary report. For the past two years, I have been teaching a class in graph theory for high school students as part of the Columbia University Science Honors Program. Since graph theory is such an accessible and visual field of mathematics, it provides an ideal setting for a class where the main focus is on developing mathematical intuition and instinct. Questions, problem solving, and student examples drive the course, which is structured more as a guided exploration rather than lecture. Many deep concepts and ideas in graph theory are illustrated by small graph examples. Allowing students the freedom to make these discoveries themselves helps them develop a new perspective on the roles creativity and ingenuity play in the mathematical process. In this talk, we describe several lessons from the course, which explore some non-traditional topics from graph theory. (Received August 26, 2014)