Last spring, Hunter College began offering a 2-hour, 1 credit course entitled “Precalculus Technology Laboratory”, as a corequisite to the traditional precalculus course. Mathematica is used exclusively in that laboratory. The purpose of this presentation is to: (1) set out a vision of what is different about precalculus when Mathematica is used, (2) discuss implementation and student reaction, and (3) demonstrate new ways of using computer technology to improve the teaching and presentation of visual precalculus concepts with, ways that are not possible in traditional precalculus courses, even with graphing calculators. (Received September 06, 2000)