This project is working to develop and evaluate a concept inventory to assess student’s mathematics abilities as affected by the use of real-world examples from the life sciences. The objective is to investigate whether life science students taking a course that places the calculus concepts in a biological context are more readily able to understand the underlying mathematical concepts, and apply them to other examples, than students who have not had this exposure to examples from the life sciences. This addresses a fundamental question in teaching mathematics: whether placing the mathematics in a concrete, real-world context helps students learn the mathematical ideas and enhances their skills in applying the mathematics. We will present our preliminary results from our concept inventory connecting calculus and quantitative biology. (Received September 16, 2016)