Title: Can You Afford Yourself In 50 Years?

Author(s) and Attribution: James Graham, Julia Sanders, Esther Brodeur Nashua High School North

Summary: Students will determine their current cost of living and will use exponential growth to estimate their cost of living when they retire.

Context for Use: regular classroom, high school math class – algebra 1, algebra2, or consumer math; two 90 minute blocks spread over 5 days

Learning goals (Measurable Outcomes) of your activity: students will be able to calculate future costs based on an average rate of inflation; show understanding of the info provided & the interpretation of the data; students will communicate their results in both written and spoken form, using their calculations to back up their statements

Quantitative Concepts/Skills: Interpret and model real-world problems given symbolically, visually, numerically, and verbally through exponential growth. Be able to communicate quantitative information effectively in spoken, written, and visual form. Engage in hypothetical reasoning- to imagine that which does not yet exist Engage in hypothetical reasoning- to imagine that which does not yet exist.

Sustainability Concepts/Skills: Interpret and model consumption data with and without green materials. Re-assess budgeting and consumption habits based on future numbers. Set life priorities and model budgeting around personal opinions.

Background: Students will need a basic understanding of general math concepts as well as a familiarity with the exponential growth equation.

Materials Needed: Students will need a means to gather data for costs of consumption, though it will depend on the classroom. Prices for various items can be found on the computer, presented by the instructor or found in various flyers and other sales materials. If the exponential growth aspect of the lesson is going to be stressed, estimation of expenses is a possibility as well.

Resources: [www.usinflationcalculator.com](http://www.usinflationcalculator.com), for determining inflation based on previous history.
Assessment plan: Depending on the class, assessment can be done in a variety of ways. Students can give presentations with graphs or other visual representations of what they discovered. Written essays with a heavy math influence can also be used. Both of these assessments would be graded using a rubric measuring many different areas (ability to communicate, amount of math embedded in the presentation, correct use of mathematical concepts, etc.)

Main Activity and related files: Please submit these as separate files.