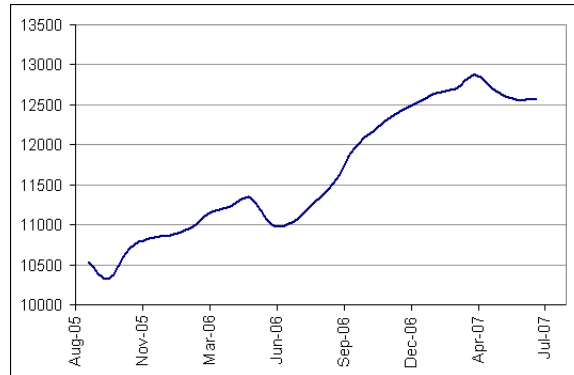


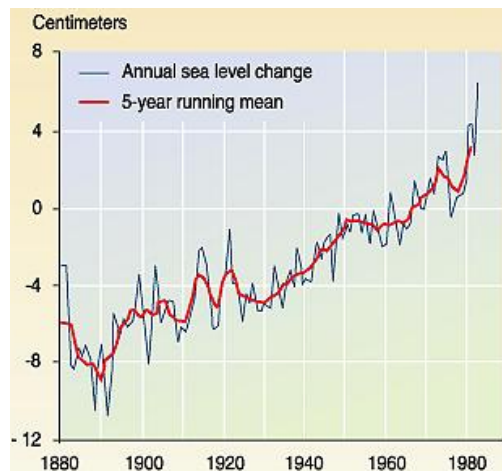
Visualizing Math with STELLA: An Introduction to Behavior over Time Graphs

A behavior over time graph (BOTG) is used to show what happens to something over time. In a BOTG, the horizontal axis is always time and the vertical axis is what we are watching. For example, changes in the overall value of the stock market are typically displayed in a BOTG. In this case, the vertical axis is the value of the stock market.



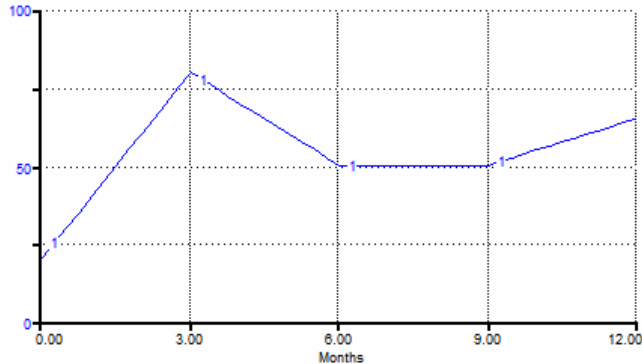
This graph shows a general increase in the value of the stock market. There are some short-term downward blips, including a small decrease at the end of the graph.

As another example, consider the changes in sea level from 1880 to 1990. Note that while there short term ups and downs, it shows an overall rise in sea levels over this time period.



Exercises

1. Look at the following BOTG. Can you tell a story about what is happening in this graph?



2. Now think about a situation of your own that you can explain and show with a BOTG. For example, your savings, the amount of money you have made this year babysitting, how many hours you spend studying each day, the number of hours you watch TV every day, etc. Draw two or three different BOTGs, write stories about them, and share them with your class.

About STELLA

Using STELLA modeling and simulation software, students can create models and run simulations of systems over time. The results of simulations are displayed with visual representations such as BOTGs to support diverse learning styles.

Thousands of educators and researchers have made STELLA the gold standard; using it to study everything from economics to physics, literature to calculus, chemistry to public policy. K-12, college, and research communities have all recognized STELLA's unique ability to stimulate learning.

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