



## What is Advanced Functions and Modeling?

Advanced Functions and Modeling (AFM) is a new high-school mathematics course offered in North Carolina beginning in fall 2004. This course is designed for students who do not plan to continue math after Algebra 2, but need to have a fourth year of mathematics.

AFM is focused on applying functions through modeling. Students learn to solve problems using analytical skills, probability ideas, and functions. The functions should originate from real world situations so students are able to connect the functions to more concrete ideas. Technology is imperative for this course during instruction for a true understanding of the material. This website organizes links to several [Shodor](#) web lessons and activities that are applicable to this course.

## How will this webpage help me?

This webpage arranges links to Shodor's web lessons and activities by subject, allowing freer use of the technologies provided by Shodor. Teachers as well as students should find this website beneficial to the Advanced Functions and Modeling course. These specific advantages are:

- **Teachers**
  - Lessons have already been created and outlined for easy use.
  - All the lessons follow the [NCTM standards](#).
  - Activities are available that may be helpful to students who are visual or kinesthetic learners.
- **Students**
  - The applets are directly related to information in the AFM course.
  - These activities are interactive and easy to use.
  - Each activity has What?, How?, and Why? pages to guide the user.

## Where do I start?

We suggest that you follow through this website in a specific order by clicking the buttons at the bottom of each page. These buttons guide you first through explanations of lessons and activities. Then you are led through each subject one by one. You can also reach buttons for all of these pages at the top of each page. It is organized like so:

- About AFM:
  - [Home](#)
    - This current web page
- Info about:
  - [Lessons](#)
    - Explains the purpose of a Shodor Lesson
    - Outlines the structure of a Shodor Lesson
    - Shows an example of a Shodor Lesson
  - [Activities](#)
    - Discusses what a Shodor Activity involves
    - Explains the What? How? and Why? pages that correspond to each activity
    - Shows an example of a Shodor Activity
- Subjects:
  - [Estimation](#)
    - Lessons and Activities that:
      - allow one to practice estimating quantity, length and area
      - make comparison estimate
      - improves one's modeling skills
  - [Probability](#)
    - Lessons and Activities that:
      - use real-world examples
      - have the option to run examples to measure probability experimentally
      - are interactive, holding the interests of the students through hands-on activities
      - use modeling to determine probability
  - [Graphing](#)
    - Lessons and Activities that:
      - allow students to enter ordered pairs, input and graph the functions, set windows, show grids, and plot data
      - relate to real life situations
      - helps students "read" points off the grid and readjust the graph
  - [Recursion](#)

Lessons and Activities that:

- discuss concepts through examples and graphs
- enable students to see the effects of different parameters in sequences and series
- allow students to run a simulation, seeing recursion in action
- provide students with the opportunity to create and adjust recursion equations and graphs.

On to next page...

[Lessons](#)



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