

Lesson 1: Intro to Math Modeling

Date: August 18, 2025

1 Demo of board briefing starting with Me First!

- First name or Appropriate Nick name
- Hometown - Houston, TX
- Academic History - PhD: Duke, Masters: Harvard, Bachelors: USMA
- Service History - Armor Officer, last Army job I was an Infantry BN XO, Deployed 4x to Iraq / Afghanistan
- Family - 5 kids: 4-18 years old, 1 just started college, we live in Cold Spring, NY across the river



Figure 1: My Family

2 Modified Name Game - Write On the board, brief yours and everyone before you, starting from your right

- First name or Appropriate Nick name
- Hometown
- Company
- Sports or activity you enjoy

3 Pair up with person to your right and do the Mentimeter Quiz as a team

4 Lecture

4.1 Go to boards and tell me why math / applied math / math modeling is important, or why not - in YOUR honest opinion

4.2 Lets draw the modeling process - what are the action words in this figure?

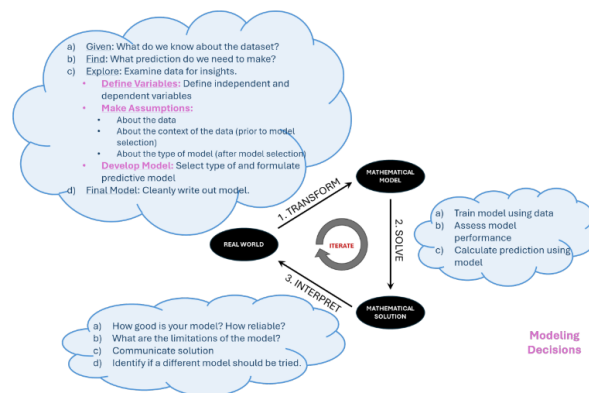


Figure 2: Modeling Triangle

4.3 My opinion: most fundamental to all of this is the Scientific Method

- Ask a question

- Do background research
- Form a hypothesis
- Test with an experiment
- Analyze the data
- Draw conclusions
- Communicate results
- Refine and repeat (iterate) as needed

5 Board sheet lets map out this problem and discuss

6 Admin Check List

- Canvas
- Connect
- Homework: Scavenger Hunt Exercise
- Instructor Website
- Bonus Points

7 Now get with your partner - write out a problem (simple like the peanut butter problem), and have the group to your right solve. Then we will brief to the class.

8 Office Visit