Stock and Flow Models, Continued . . . and Heat

Please seat yourselves in every other row so the NINJAs and instructors can circulate easily among you.

Today's Agenda

Today we'll finish off the SIR model from Chapter 14, implement a model of wolves and elk, and start on Chapter 15, which is about heat.

Nondimensionalization

Write notes here related to nondimensionalization and the exercise from Chapter 14.

Analysis

Write notes here related to the analysis of the SIR model.

Lotka-Volterra

In the Lotka-Volterra model of predators and prey, what are the differential equations?

What do x and y represent?

What do each of the terms in the equations mean?

Write notes here related to your implementation of the model.

Heat

In the video, why does book feel warmer than the metal case, even though they are the same temperature?

In the video, why does the ice melt faster on the aluminum plate than on the plastic plate?

Write notes here related to Newton's "Law" of Cooling.

Reflection Question

In your own words, write a definition of "heat". What did you learn today about heat? What questions do you have about heat?

Next Steps

Before class on Thursday, please do the following things:

- ☐ Write your name here: _____
- ☐ By tonight: Scan this worksheet and submit it on Canvas.
- ☐ By Wednesday night: Read Chapter 16 and complete the reading quiz. Read and run the Chapter 16 notebook.
- ☐ Also read the Project 2 description on Canvas, and think about the goals you might set for yourself in this project.
- ☐ Meet in the STUDIOS on Thursday.