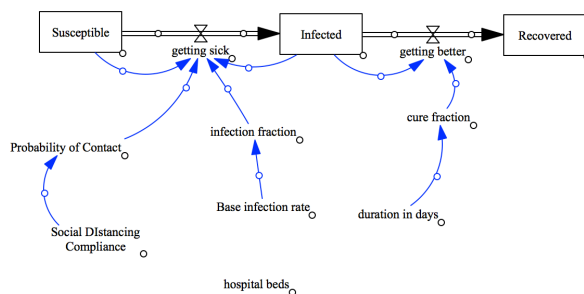


(Open Book/Notes allowed for rework)

We started this course by asserting that scientists communicate in two basic ways: drawing pictures and telling stories. We've spent several weeks doing that!

Do your best to answer the following, then send me back ([panoffrm@wofford.edu](mailto:panoffrm@wofford.edu)) a PDF of your answers.

1. A model that has at least one element of randomness can be described as \_\_\_\_\_.
2. A model whose behavior depends solely on its parameter values and the initial conditions can be described as \_\_\_\_\_.
3. Consider the following simple *system model* of the spread of a communicable disease:



- a. Identify the 4 basic components (building blocks) of system models

- b. Convert the above drawing of a system model to a story, consistent with the model of the spread of a disease. Be as complete as you can. Include a sketch a typical graph of the S-I-R components.:

4. In an agent-based model, we always start with a well-told story using sentences that are of the form: If . . . . . Then . . . . .
- What are the 4 basic components of the stories of most agent-based models?
  - Tell me a good agent-based model story of the spread of a communicable disease, including movement, catching the disease, and one or more ways to recover:
5. List as many of the characteristics of System Models and Agent Models that you remember that distinguish one from another:

SYSTEM MODELS

AGENT MODELS

6. In class and lab, we explored several different agent-based models and programming environments to study the spread of a contagious disease. List as many “adjustable parameters” as you remember that were in the models, *and* identify how a change in each parameter/property of the agents or world speed up or slow down the spread of a contagious disease.

7. (non-graded) The course has only a few weeks left!

- a. What is something new you have learned so far?

- b. What is one topic that you would like to learn, or learn more of, before the course is over?