

Project 3 Brainstorming worksheet

Write down what you hope to accomplish or learn in this project. Then share your goals with your teammates and discuss team goals. Finally, make a plan for how you're going to work together. Will you use the pair programming approach? Will you divide and conquer? Will you have a brief team check-in at every class period and team meeting to make sure everyone is happy with how things are going and problems are resolved quickly?

1. For this project, you have the opportunity to investigate multiple types of questions. For each type of model you are considering, list several questions you might be able to answer using output from the model. Think about all the discussions we've had about ModSim-appropriate questions: make them specific, make sure they're based on output and not data, and make them about the world and not about the model. For each question write down if it's an explanatory question or a prediction question.

2. Now think about ways you could extend one of these simple models to answer some other questions. Some examples include adding a stochastic element to a deterministic model, design an experiment to collect your own real-world data, or applying these methods to other physical systems. Choose one or more options you could try and use this space to explore what questions you could answer with that extension of the model. **(Your project must be more than a simple re-implementation of the models from class.)**

3. In the space below, draw at least two figures. One should be a time series, the simple output from a single run of the model. Another should be a visualization of some kind that shows the answer to your question. Often it will be a parameter sweep, but for some projects it will be something you design.