



## Probability and Prediction

### Activity

Predicting the weather is tricky business. Many factors can affect the movement of air masses. Meteorologists use multiple computer generated models when making weather predictions. Computer models are also used to predict the path of tropical storms such as hurricanes.



### Procedure

#### Part 1: Research

1. Research to gather information about the various types of computer models used by meteorologist to predict the weather. Use both online and print resources.
2. Research to gather information about the various computer models used to predict the path of tropical storms. Use both online and print resources.
3. Write a summary of the information gathered from each source and an assessment of the credibility of the source in your lab journal. Include a bibliography of the sources.
4. Think about your process of predicting weather in Do Task 1. Compare and contrast the information gathered about using models to predict weather with the simulated experience in Do Task 1 by making a Venn Diagram in your lab journal.

#### Part 2: Calculating Probability

6. Look at the provided hurricane spaghetti model.
7. Probability is calculated by dividing the number of events by the number of outcomes. According to the model, the probability of the storm making landfall in Florida is calculated by dividing the one event of a model showing the storm striking Florida by 14 (the total number of predicted paths)  $1/14 = .07$  There is a 7% probability of the storm making landfall (first striking land) in Florida.
8. Use the information from the model to calculate the probability the storm will make landfall in Texas.
9. Record your calculation and write an explanation of how you calculated the probability in your lab journal.
10. Choose two more states and calculate the probability the storm will pass through each of the selected states. Record your calculations in your lab journal.