

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_



# Bomb ProBot

## STEM Sims

### Lesson 1: How to Use Decision Points

In flowcharting, a decision point is a function that requires the system to answer in one of only two ways. For instance, an optical sensor might be asked if an object is present directly in front of the sensor. The sensor can only respond with either, “yes” or “no.” Feedback from a decision point provides two paths that the flow chart may continue along. Multiple decision points can be connected to create an elaborate pathway.

### Doing the Science

1. Start the Bomb ProBot Simulation by clicking on the “Sim” tab.
2. Drag the “kneel” icon to the center of the information processing unit (IPU).
3. Drag the “probe” icon to the center of the IPU.
4. Note whether a bomb is present or not.
5. Drag the “stand” icon to the center of the IPU.
6. Continue working the robot through the minefield to the “Programming” section by dragging various commands to the IPU. Make sure to avoid all bombs.
7. Design a flowchart for your commands in the space below.

### Flowchart:

### Do You Understand?

1. Which command(s) is/are a decision point in your flowchart?
  
  
  
  
  
  
  
  
  
  
2. Which command(s) is/are *not* a decision point in your flowchart?