



Zero Sum Security

STEM Sims

Lesson 2: Threat Level

A good thing about getting tips from the public is that one tip could be accurate and very useful. Having a better idea about where a potential threat is located can help narrow down the search, which can potentially save lives. Port ImPort has the intelligence that suggests the area somewhere will place a bomb. Using this information, can you secure the area to save lives?

Doing the Science

1. Start the Zero Sum Security Simulation by clicking on the “Sim” tab.
2. Read about the threat level provided on the screen.
3. Click on “Switch” to go to Port: ImPort.
4. Click on “Run” to view the default setup’s security and annoyance levels. Click on “Personal Craft”, “Cargo Ships”, “Cruise Ships”, and “Overall” to view the security and annoyance level for each category. Record these levels into Table 1 below.
5. Count the number of security guards in each area and record these values in Table 1.
6. Arrange the security guards to provide better coverage for the threat. Count and record the number of security guards in each area.
7. Record the security and annoyance level for this arrangement.
8. Repeat steps 6-7 for another strategy to distribute the security guards.
9. If you need to read about the threat again, click on the “Current Threat:” button on the left.

Table 1.

Security Guard Setup	Type of Ship	Security Level	Annoyance Level	Number of Guards				
				Entry	Luggage or Cargo	Board-walk	White Walkway	Ocean
Default Setup	Personal Craft							
	Cargo Ships							
	Cruise Ships							
	Overall							
Customized Setup 1	Personal Craft							
	Cargo Ships							
	Cruise Ships							
	Overall							
Customized Setup 2	Personal Craft							
	Cargo Ships							
	Cruise Ships							
	Overall							

Do You Understand?

1. Explain the pros and cons of having prior knowledge of a possible threat location. How does the knowledge of a threat affect where you place security guards?