



Zero Sum Security

STEM Sims

Lesson 1: Centralized Area

For a security team, having a large number of security officers can be essential, but equally important is the placement of the security officers. What happens when there is an uneven distribution of security officers? Test this out to see if it creates a more or less secure port.

Doing the Science

1. Start the Zero Sum Security Simulation by clicking on the “Sim” tab.
2. Read the threat provided on the screen.
3. 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.
4. Record the number of guards stationed at each area in the table.
5. Find the ship category with the highest security level and move all the men into the area by clicking and dragging the security guard icon into the area. Unclick to release the security guard.
6. Repeat steps 3-4 for the centralized security team.

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							
Unevenly Distributed	Personal Craft							
	Cargo Ships							
	Cruise Ships							
	Overall							

Do You Understand?

1. What happened when there were a lot of security officers in only one area?

2. Is a security team better when it is spread out or centralized?

3. What strategy do you have for placing the security guards?