



Zero Sum Security

STEM Sims

Lesson 4: Double Trouble

After displaying your great talent, your boss has asked you to not only manage one port, but two. You have to use the skills you have learned to secure both of the ports. Try to have the lowest security and annoyance level for both of the ports. Good luck!

Doing the Science

1. Start the Zero Sum Security Simulation.
2. Read about the threat level provided on the screen.
3. Move guards to staging area (upper-right hand corner box area).
4. Drag and release security guards to different areas to best protect the port.
5. Dragging and releasing a security guard to the top right picture will transfer security guards to the other port if more manpower is needed.
6. Select “Switch” at any time to switch between the ports.
7. After you switch to the second port, the security guard will be on the upper right boardwalk. Select and drag the security guard to the desired location.
8. After you are satisfied with the guards’ positions, select “Run” to view the security and annoyance levels. Select “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.

Table 1. Security Status

Security Guard Setup	Type of Ship	Security Level	Annoyance Level	Number of Guards				
				Entry	Luggage or Cargo	Board-walk	White Walkway	Ocean
Port ExPort	Personal Craft							
	Cargo Ships							
	Cruise Ships							
	Overall							
Port ImPort	Personal Craft							
	Cargo Ships							
	Cruise Ships							
	Overall							

9. Count and record in Table 1 the number of security guards in each area.

What Do You Understand?

1. What was the best strategy for managing the security guards of both ports?

2. Was it better to keep an equal number of security guards at both ports or have one port have more guards and one port have fewer guards? Provide a reason to support your answer.
