Name_____ Period _____ Date _____

Evacuation Planning   STEM Sims

Lesson 2: I've Got Gas!
Most vehicles today need gasoline to operate. Very few cars run on electricity and require no or little fuel. How do you think a gasoline shortage affects the evacuation of an area during a disaster?

Doing the Science
1.   Start the Evacuation Planning Simulation by clicking on the "Sim" tab.
2.   Select the following: Time to Evacuate = 1 hour, Stores Close = 1 hour, and City Gasoline Supply = 25%.
3.   For the #1 route, select a single route to the far left of the screen. To define a route, click on the red "*X*'s." Clicking again on a green arrow changes the direction of the arrow. Do not allow the route to branch at any point.
4.   For the #2 route, select a single route to the far right of the screen. Do not allow the route to branch at any point.
5.   Select the "Start" button and allow the simulation to run to the end.
6.   Note and record the data for the run in Table 1 below.
7.   Select the "Overview" button to change the existing Gasoline Supply to 50%.
8.   Select "Start" and run the simulation. Note and record the data for the run in Table 1 below.
9.   Repeat steps 7 and 8 for 75% and 100% Gasoline Supplies.

Table 1.

Trial	Gasoline Supply	# Evacuated Cars	# Not Evacuated Cars	# Out of Gas Cars	Congestion Index
1	25%				
2	50%				
3	75%				
4	100%				

Do You Understand?
1.   What happened to the number of cars that ran out of gas as the gas supply was increased from 25% to 100%? Does your answer make sense?

2.   Can you provide a reason for your results that appear to go against common sense?