

Teacher:

Traffic Simulation

Lesson Summary:

This lesson was conducted with the online traffic simulation being put upon the big TV screen in the classroom. The parameters were explained a small discussion over the usefulness of the simulation was had. Who might make use of it and why were discussed and various answers were brought up by the students. The students were then asked which parameters might affect the simulation the most, what would happen if X or Y were changed and it was explored. The lesson concluded with how the simulation was limited and what might be done to expand it and bring it closer to reality. A relation from the simulation to analytical functions was also drawn, as they were currently learning about functions.

GK-12 Lesson Plan

Teacher:

Period:

Class:

Date(s):

SETTING THE STAGE	
<u>Essential Question</u>	How can we analytically understand the flow of traffic on a highway? What variables need to be known/assumptions made?
<u>Content Objective(s)</u> (Student-friendly)	To gain an understanding of how a real life flow of traffic can be modeled using a simulation.
<u>Connection to previous or future lessons</u>	
<u>Critical Thinking Questions</u>	
<u>Key Vocabulary</u>	Simulation
<u>Materials Needed/Safety</u>	http://www.traffic-simulation.de/
ACTIVE INSTRUCTION	
<ul style="list-style-type: none"> ● Launch (Engage) 	Where might a simulation of traffic on a road be useful? Who would use this? Why would they use it? Discuss.
<ul style="list-style-type: none"> ● Investigation (Explore) 	Run the simulation and have the students see all the different variables involved. Let them adjust things and try to find an optimal setting.
TIME FOR REFLECTION	
<ul style="list-style-type: none"> ● Summarization (Explain & Extend) 	Is it easy to tell which gives the best result? Is there a single best answer? How might we find the best combination of settings? Is this simulation accurate? Why or why not? What improvements can you think of?

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<ul style="list-style-type: none">• Assessment (Evaluate)	This is performed along the way.
<ul style="list-style-type: none">• Homework	None.