Name_____ Period _____ Date _____

Fueling Station

STEM Sims

Lesson 2: Quartertime!

In most cases, as more variables are added to a problem, the more complex the solution becomes. In Lesson 1 you solved a problem with three fueling stations. Now, can you step up and decide where to place a new fueling station that least impacts four existing stations? Have a gas!

Doing the Science

1. Start the Fueling Station Simulation by clicking on the "Sim" tab.
2. Click the "New Problem (4)" button located at the top of the screen.
3. Note and record in Table 1 the letter and location of each current fueling station.
4. Follow the on-screen instructions to place each current station in its appropriate location. Do this by dragging the letter icon of the station to its location on the gridded street map.
5. After all four stations are properly located, click the "Please Select One" drop down menu and choose "Segment." Again, follow the on-screen directions to draw line segments. Click on the "Make It" button to actually draw the segment. If you need help, click the "Terms" button at the bottom left-hand corner of the screen to find out more about segments.
6. After all four stations have been connect via four line segments, click the "Please Select One" drop down menu and choose "Midpoint." Again, follow the on-screen directions to draw the four lines' midpoints.
7. After you create the midpoints for each of the four segments, click the "Please Select One" drop down menu and choose "Perpendicular Bisector." Again, follow the on-screen directions to draw the four lines' perpendicular bisectors.
8. Use your drawing to determine the best location for the new fueling station. Write the location of the new fueling station in Table 1.

Table 1. Fueling Stations' Locations

Fueling Station's Letter	Location
New Fueling Station	

Do You Understand?

1. Describe how you arrived at the best location of the new fueling station.

2. Describe how this task differed from the one you completed in Lesson 1.