



Fleet Manager

STEM Sims

Lesson 3: Tradeoffs

Business owners are often faced with the difficult decision of whether to spend more money in the short run in order to save money over the long term. Major purchases, like buying a new vehicle for a business, take large amounts of money out of the owner’s pockets. But in a time when fuel costs are very high, large expenditures now might save serious dollars later. Can you help the owner of a fleet of vehicles decide which to keep and which to replace?

Doing the Science

1. Start the Fleet Manager Simulation by clicking on the “Sim” tab.
2. Click on the “Fleet Status” button. Note and record in Table 1 the total operating cost per mile of the 10 vehicle fleet.
3. Close the box by clicking the “X” in the upper right-hand corner, and then click on one of the vehicles in the fleet.
4. Click the “Use” button, then the “Drive” button. When the vehicle completes the route, click the “Status” button.
5. Record in Table 1 the Vehicle name, Vehicle Color, Total Distance Driven, Fuel Used, and Operating Costs for the vehicle.
6. Close the box by clicking the “X” in the upper right-hand corner, and then click the “Fleet” button.
7. Select a different vehicle and repeat steps 3-6. Test a total of three different vehicles.
8. Select the vehicle that you previously tested with the highest operating cost (use the vehicle’s color if you can’t remember the names of the vehicles) and click the “Trade-In” button at the bottom of the screen.
9. Shop for a new vehicle by clicking on one of the five available models. Once you have completed your selection, click the “Purchase” button. Make sure to record in Table 1 the information about the new vehicle (type and color).
10. Repeat steps 3 – 6 to test drive your new vehicle.
11. Click on the “Fleet Status” button. Note and record in Table 1 the total operating cost per mile of the 10 vehicle fleet.

Table 1.

Vehicle	Color	Total Distance Driven (miles)	Fuel Used (gallons)	Miles per Gallon (mpg)	Operating Costs (\$/mile)
Total Fleet	-----				
Total Fleet	-----				

Do You Understand?

1. What happened to the total operating costs of the fleet when you purchased a new vehicle?
2. How would the total operating costs of the fleet change if you removed the price of the new vehicle from its operating costs?
3. What are some advantages of adding a new vehicle to the fleet of a business?
4. What are some disadvantages of adding a new vehicle to the fleet of a business?
5. Discuss how the term “tradeoff” comes into play when deciding on what vehicles to keep, convert, trade-in, or purchase when managing a fleet of vehicles.