



**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.
2. Select the “Fleet Status” button. Note and record in Table 1 below the total operating cost per mile of the 10-vehicle fleet.

**Table 1. Fleet Data**

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

3. Close the box by selecting the “X” in the upper right-hand corner, and then select one of the vehicles in the fleet.
4. Select the “Use” button, then the “Drive” button. When the vehicle completes the route, select 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 selecting the “X” in the upper right-hand corner, and then select 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 select the “Trade-In” button at the bottom of the screen.
9. Shop for a new vehicle by selecting on one of the five available models. Once you have completed your selection, select 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. Select the “Fleet Status” button. Note and record in Table 1 the total operating cost per mile of the 10-vehicle fleet.

**What Do You Understand?**

1. Describe what happened to the total operating costs of the fleet when you purchased a new vehicle. Provide a reason for this change happening.

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2. How would the total operating costs of the fleet change if you removed the price of the new vehicle from its operating costs?

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3. What are some advantages of adding a new vehicle to the fleet of a business?

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4. What are some disadvantages of adding a new vehicle to the fleet of a business?

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5. Discuss how the term “tradeoff” is involved when deciding on what vehicles to keep, convert, trade-in, or purchase when managing a fleet of vehicles.

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