

NAME: _____

DATE: _____

Calculating School Trip Emissions

Lesson 15, Handout 1

Students travel to school in many ways. Some students walk; some ride bikes, skateboards, or scooters; most drive in a car or take the bus. This lesson will assist you in developing a way to find out how many pounds of carbon dioxide (CO₂) you create by traveling to school each day. Remember that CO₂ is one of the main greenhouse gases contributing to climate change.

Average Miles per Gallon Chart

Walk, Bike, Skate, Scoot	Food is your fuel, you can go forever!
Hybrid car	48 miles per gallon
Small compact car	30 miles per gallon
2-seater sports car	25 miles per gallon
Station wagon	25 miles per gallon
Small pick-up	22 miles per gallon
Minivan	23 miles per gallon
Small SUV	23 miles per gallon
Large pick-up	16 miles per gallon
Large SUV	15 miles per gallon
Motorcycle	50 miles per gallon
Bus	5 miles per gallon

*If your parents know the exact city mileage of your vehicle, you can enter that as A for question #2.

1. What kind of vehicle do you usually take to get to school in the morning?

2. Now look at the chart above to find out how many miles the vehicle can go from burning up one gallon of fuel. What is the mileage of your vehicle? We'll call this amount A.

A = _____ mpg

3. How many people are usually in the vehicle? We'll call this amount B.

B = _____ people

4. Multiply A times B. This is your Passenger Miles per Gallon. We'll call this amount C.

C = _____ passengers mpg

5. Choose one of the next two choices. If you drive in a vehicle that uses gasoline, it creates 18.8 pounds of CO₂ gas for each gallon of fuel used. If you travel in a bus or diesel vehicle, it uses diesel fuel and creates 21.9 pounds of CO₂ gas for every gallon burned. Which is it for you? Write that below. We'll call this amount D.

D = _____ lbs of CO₂

6. Now we will calculate the CO₂ produced per mile by the vehicle you take to school. Take amount D and divide by amount A. We'll call this amount E.

E = _____ lbs.

7. To determine the pounds of CO₂ per Passenger Mile for your vehicle, take amount E and divide by amount B. We'll call this amount F.

F = _____ lbs.

8. Determine the exact number of miles from your house to school (visit google maps or mapquest online). We will call this amount G.

G = _____ miles

9. Multiply the distance traveled (G) x the Pounds of CO₂ per Passenger Mile (F) to know exactly how many pounds of CO₂ gas is created to commute to school each morning.

Pounds of CO₂ Gas = _____ lbs.

10. What is the best way to reduce emissions from your commute to protect the climate?
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