As part of an idling reduction campaign, students can analyze the data that they collected during the observations to determine how much gasoline was used during the observation periods.

Different sized engines consume gas at different rates when they are idling. To simplify, place your vehicles in one of two categories:

* LDGV: Light-Duty Gasoline-fueled Vehicles (subcompacts, compacts, mid-size sedans)
* LDGT: Light-Duty Gasoline-fueled Trucks (pickup trucks, SUVs, minivans)

Here is the approximate rate of fuel used during idling for LDGV and LDGT.

|  |  |
| --- | --- |
| **Vehicle Type (Engine Size in Liters)** | **Idling Fuel Use (with no car accessories, like AC or radio, running)** |
| LDGV (1-3 liters) | 0.0053 gal/min (or 0.32 gal/hr) |
| LDGT (4-5 liters) | 0.0118 gal/min (or 0.71 gal/hr) |

*Source:* *https://www.energy.gov/eere/vehicles/fact-861-february-23-2015-idle-fuel-consumption-selected-gasoline-and-diesel-vehicles*

To calculate how much gasoline is used by an idling vehicle, you can use this simple formula:

(# of vehicles) X (average number of minutes idling) x (gal/min) = Gallons of Gas

Or for a single vehicle: (total minutes idling) x (gal/min) = Gallons of Gas

To calculate how much money that gasoline costs, just for the school dismissal period, multiply the amount of gas by the current cost of regular gas per gallon: $5.49. To calculate the potential yearly cost for the idling, multiply that number by 175 (days in school year).

A simple example:

A sedan (LDGV) is idling for 15 minutes.

(1 LDGV) X (15 minutes of idling) X (0.0053 gal/min) = .08 gal gas (.08 gal gas) X (**$5.49**) = $0.44

Just one LDGV car idling for 15 minutes has wasted .08 gallons of gasoline. That doesn’t seem like much, but if it idles for 15 minutes every day of the school year, that’s 14 gallons of gasoline burned during the school dismissal period. At a price of $5.49/gallon, that’s $77/year spent in gasoline to get you nowhere. **For a LDGT, more than double this amount is spent, and even more for diesel fuel!**

A more complicated example:

There are 35 LDGT idling for an average of 15 minutes each and 25 LDGV idling for an average of 10 minutes each.

Let’s break this down.

*For the 35 pickups/SUVs/minivans (LDGT) idling for an average of 15 minutes each:*

35 X (15 minutes average of idling) X (0.0118 gal/min) = 6.2 gal gas

*For the 25 subcompacts/compacts/sedans (LDGV) idling for 10 minutes:*

25 X (10 minutes average of idling) X (0.0053 gal/min) = 1.3 gal gas

Total them up:

Gallons of gas wasted during the time period: 6.2 + 1.3 = 7.5

Amount of money wasted on gas during the time period: 7.5 X $5.49 = $41.17

**With this scenario, if all those cars idle the same amount every day just during the dismissal period of a 175-day school year, $41.17 x 175 = $7,205**

**What about the climate impact from the resulting CO2 emissions?**

For this example, with a gallon of gas equaling 19.37 pounds of carbon dioxide (CO2) emissions—the greenhouse gas that is the chief cause of climate change—the 7.5 gallons burned daily by the idling vehicles above equals 145 lbs. of CO2 emitted. For the 175-day school year, this equals 25,375 pounds, or **12.69 tons of CO2 emitted.** This is for one school.