

Heat Produced by an Automobile

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Problem description

The second law of thermodynamics prohibits perfect engines. Every vehicle loses some energy to heat.

- How much heat does a typical car produce during the day?
- How does the driving pattern affect the heat production?
- What is the relative temperature increase of the environment due to a single car?
- Scale-up your results to a country like the Netherlands.
- What about the whole world?

Approach

1. Make a model
2. Use publicly available data to answer the questions above
3. Think of an experiment (measurement) to verify your predictions