

“Seeing CO₂”

Purpose: This activity helps participants visualize how much carbon is being put into the atmosphere during a normal drive.

Materials Needed:

- 5 lb. bag of charcoal briquettes
- White trash bag
- Hand wipes

Background information:

- CO₂ is a transparent, colorless gas.
- Charcoal briquettes are made almost entirely of carbon.
- There are just over 5 lbs. of carbon in each gallon of gasoline, which combines with O₂ in the atmosphere to produce almost 20 lbs. of CO₂.

Procedure:

- Show students the bag of charcoal briquettes and ask them if they know what makes up the briquettes.
- Explain:
 - There are about 100 briquettes in the 5 lb. bag.
 - This means that these 100 briquettes are a good visual representation of the approximately 5 lbs. of carbon that make up one gallon of gasoline.
 - If a car travels at 25 miles/gallon, it is using about 4 charcoal briquettes worth of carbon per mile.
- To show a visual representation of this information, use audience participation to pile briquettes on the white trash bag according to how much carbon is released into the atmosphere during a normal drive.
- Lead a discussion:
 - If people could see how much carbon they are releasing into the atmosphere when they drive, how might it impact their driving habits?
- Use the hand wipes to clean up any mess made by the charcoal briquettes.

Adapted from:

Hovorka, S., Hotinski, R., Friedmann, S. (Eds.). (2005). Proceedings from Fourth Annual Conference on Carbon Capture and Sequestration DOE/NETL: *Audience-Pleasing Physical Models to Support CO₂ Outreach*.