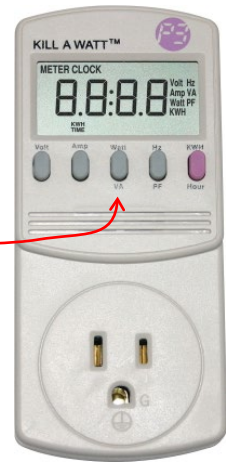# WINDOWS TO THE UNIVERSE: PLUGGED IN TO CO_2

ELECTRICITY USED BY APPLIANCE IN ONE YEAR

Use a Kill-A-Watt meter to measure the power drawn by some appliances while in use and record them below.

a) Plug the Kill-A-Watt into an outlet
b) Plug appliance into the Kill-A-Watt, press "Watt"
c) Record the power used (B)
d) Estimate the hours it's used each day (C)
e) Multiply the power times the hours (B x C) for Watt-hours per day
f) Divide by 1000 to change to kilowatts (1 kW = 1000 W) for kWhr per day
g) Multiply by 365 for KWhr per year[15]

A	B	C	D		E	F
	Power Used	Daily hours of use	Energy per Day			Energy per Year
Appliance	Watts	Hours/Day	Watt-hours	kilowatt-hours		KWhr/year
			B x C	D/1000		E x 365
"100 W" Incandescent						
"100 W" CFL						
"100 W" LED						

2017 MIDDLE ATLANTIC
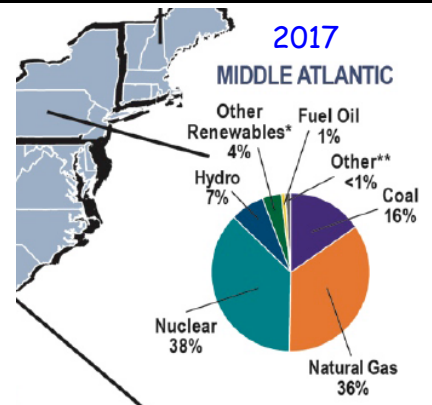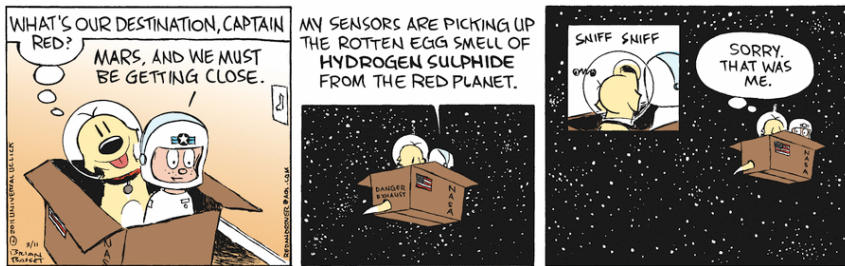
Using the 2017 New York fuel diversity[1] shown by the Edison Electic Institute[2] and the pounds of CO_2 released by each fuel producing 1 kWhr, calculate the CO_2 released by annual use of each appliance.[2]

Appliance	kWhr produced (G)			Pounds of CO_2/kWhr			Total CO_2
	Coal	N. Gas	Oil	Coal	N. Gas	Oil	CO_2
	F x 0.16	F x 0.36	F x 0.01	G x 2.095	G x 1.321	G x 1.969	(sum) pounds
"100 W" Incandescent							
"100 W" CFL							
"100 W" LED							

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[1] https://www.nytimes.com/interactive/2020/10/28/climate/how-electricity-generation-changed-in-your-state-election.html
[2] http://www.eei.org/issuesandpolicy/generation/fueldiversity/Documents/map_fuel_diversity.pdf