**Weather & Atmosphere, Lesson 6:**

**Global Climate Change – Carbon Footprint Worksheet**

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| **Instructions** |
| Your “Carbon Footprint” is a calculation that tells you how much carbon dioxide you produce. Since carbon dioxide is a greenhouse gas, this worksheet can help you see how you contribute to global warming. |

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| **Family Survey** |
| Answer each question for a yearly total (multiply a monthly total by 12).   1. Number of miles driven per year \_\_\_\_\_\_\_\_\_\_\_ X (multiplied by) the vehicle’s average gas mileage \_\_\_\_\_\_ =   \_\_\_\_\_\_ gallons of gasoline used. (Do this for each vehicle your family owns)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ X \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ X \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ X \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_           Total \_\_\_\_\_\_\_\_\_\_\_\_   1. Number of miles of air travel for your family \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Average number of miles your family travels by bus/other mass transit\_\_\_\_\_\_\_\_\_\_\_\_\_ . 3. Kilowatt-hours of electricity used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .   (Look at your utility bill to find out a monthly amount and multiply by 12.)   1. Therms of natural gas used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .   (Look at your utility bill to find out a monthly amount and multiply by 12.)   1. Gallons of propane or bottled gas used \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ . 2. Other sources of energy your family uses? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Total number of people living in your household \_\_\_\_\_\_\_\_\_\_ . |

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| **Your “Footprint” on the Global Environment – The Greenhouse Effect** |
| Use the information you gathered in your Family Survey to calculate how much CO2 (Carbon Dioxide) you generate per year. Carbon Dioxide is one of the main gases involved in creating the global Greenhouse Effect.  1.Gallons of gasoline used \_\_\_\_\_\_\_\_ x 22 pounds CO2/gallon = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  2.Miles of air travel  \_\_\_\_\_\_\_\_ x 0.9 pounds/mile  = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  3.Miles on mass transit \_\_\_\_\_\_\_\_ x 0.5 pounds/mile  = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  4.Kilowatt hours   \_\_\_\_\_\_\_\_ x 1.5 pounds/ kWh  = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  5.Therms natural gas  \_\_\_\_\_\_\_\_ x 11 pounds/therm  = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  7.Gallons of propane  \_\_\_\_\_\_\_\_ x 13 pounds/gallon  = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  Total pounds of CO2 generated (add up all the numbers on the right) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .  Total pounds generated (divided by) number of people in your household =  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Total You Generated) |

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| **Reducing Your Impact** |
| In the space below, write down some actions that you and your family could do to reduce the Greenhouse Effect.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |