



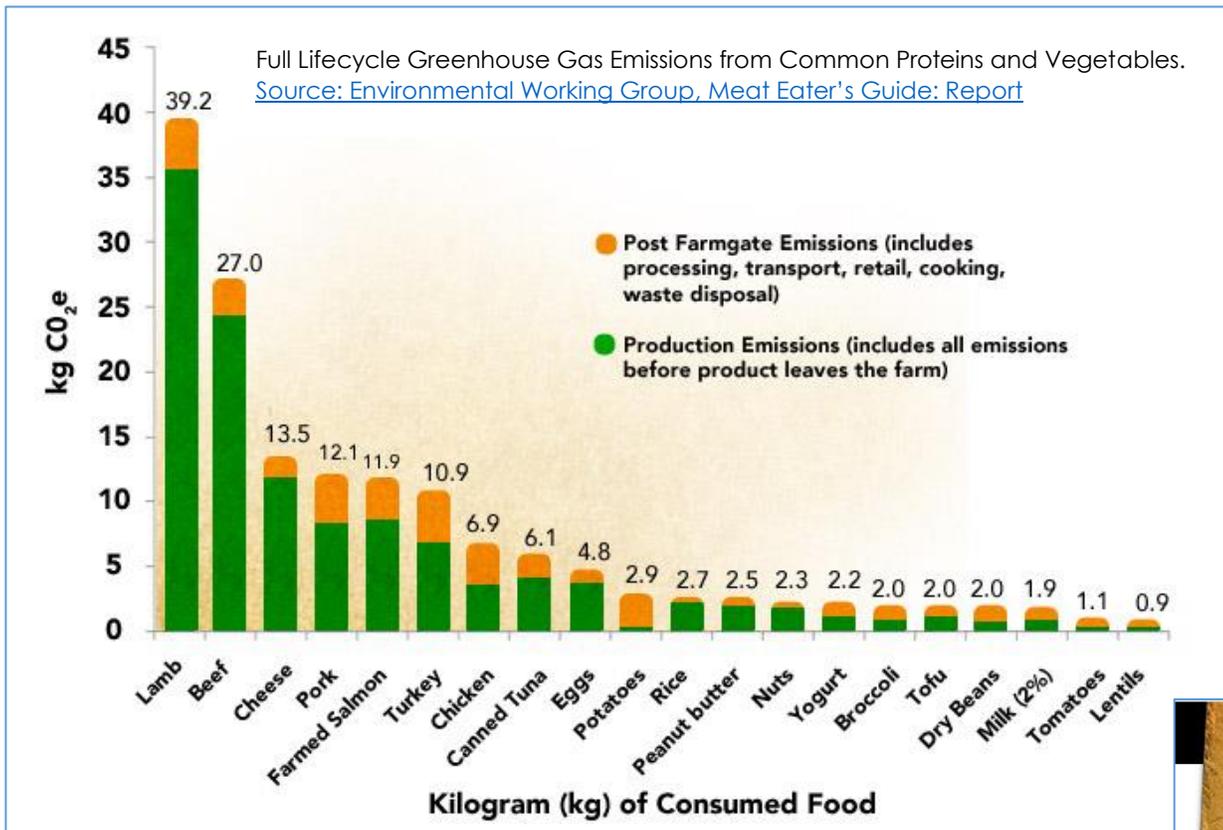
Food Audit

Eat Less Meat

The production of meat proteins emits a lot of greenhouse gases (GHG's), which contribute to climate change. *

In this audit you will:

- Determine the type and quantity of meat proteins you eat,
- Substitute some of those for plant-based proteins,
- Calculate the greenhouse gas emissions you reduced by eating less meat.



* To learn more about how meat and meat production contribute to GHG's, read and research [here](#).





Pre-audit

Before you start to eat less meat, you need to know what your protein-eating habits are now. Use the chart on page 3 to keep track of the proteins you eat for one week.

Here are some things to consider before you begin so that your information is consistent:

- Will you keep track of just your protein-eating, or will you keep track of how your whole family eats? Include the number of people on your chart. **Consistency is best** – if you track protein-eating for 3 people the first week, try to track the protein-eating of the same 3 people the second week.
- Will you record the number of servings of protein at each meal, or the weight of each serving?
 - Recording the number of servings is simpler and assumes a common weight of protein – 0.10kg
 - Recording the weight of each type of protein will allow you to do more accurate GHG emissions calculations, but means you will need a weigh scale, and you will need to weigh and record each portion of protein at each meal.



Pre-audit: Eat Less Meat

Week 1: _____ Name: _____

Number of people: _____

If the meal included protein, write the source of protein in the box. For example, chicken, beef, fish, cheese, lentils, etc.

Note whether the data records the amount of protein (e.g. 0.10kg) or the number of servings.

Date:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast Weight(kg), or number of servings							
Lunch Weight(kg), or number of servings							
Dinner Weight(kg), or number of servings							
Snacks Weight(kg), or number of servings							

Use the chart on page 4 to total the proteins eaten in week 1.



Total protein meals	Weight (Kg) OR →	Number of servings (x 0.1kg)	kgCO _{2e} /kg of food	Total week 1
Lamb			X 39.2	
Beef			X 27.0	
Cheese			X 13.5	
Pork			X 12.1	
Farmed Salmon (fish)			X 11.9	
Turkey			X 10.9	
Chicken			X 6.9	
Canned Tuna (fish)			X 6.1	
Eggs			X 4.8	
Potatoes			X 2.9	
Rice			X 2.7	
Peanut Butter			X 2.5	
Nuts			X 2.3	
Yogurt			X 2.2	
Broccoli			X 2.0	
Tofu			X 2.0	
Dry Beans (chickpeas, kidney beans, etc.)			X 2.0	
Milk (2%)			X 1.9	
Tomatoes			X 1.1	
Lentils			X 0.9	



Do the math:

1. Using the chart on page 4 and your week 1 data, total each source of protein eaten by weight(kg), or number of servings.
2. If you are using the number of servings for your amounts, assume 0.1kg of meat per serving (that's about 1/4lb). Multiply the number of servings of each type of meat by 0.1kg to get the total weight.
3. Multiply the amount of each protein by the amount of greenhouse gas emissions each protein produces (kgCO_{2e}/kg of food).
4. Add up the greenhouse gas emissions from all types of proteins eaten in week 1.

_____ **Week 1 Total kgCO_{2e}**



Action and post-audit: Eat Less Meat

Week 2: _____ Name: _____

Number of people: _____

Can you eat less meat this week? You aren't trying to eat no meat, just less than before. Now that you know that some proteins produce fewer GHG's than others, can you substitute proteins such as eggs, lentils or nuts, or eat smaller servings of meat (and larger servings of vegetables)?

If the meal included protein, write the source of protein in the box. For example, chicken, beef, fish, cheese, lentils, etc.

Note whether the data records the amount of protein (e.g. 0.10kg) or the number of servings.

Date:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Breakfast Weight(kg), or number of servings							
Lunch Weight(kg), or number of servings							
Dinner Weight(kg), or number of servings							
Snacks Weight(kg), or number of servings							

Use the chart on page 7 to total the proteins eaten in week 2.



Total protein meals	Weight (Kg) OR →	Number of servings (x 0.1kg)	kgCO _{2e} /kg of food	Total week 2
Lamb			X 39.2	
Beef			X 27.0	
Cheese			X 13.5	
Pork			X 12.1	
Farmed Salmon (fish)			X 11.9	
Turkey			X 10.9	
Chicken			X 6.9	
Canned Tuna (fish)			X 6.1	
Eggs			X 4.8	
Potatoes			X 2.9	
Rice			X 2.7	
Peanut Butter			X 2.5	
Nuts			X 2.3	
Yogurt			X 2.2	
Broccoli			X 2.0	
Tofu			X 2.0	
Dry Beans (chickpeas, kidney beans, etc.)			X 2.0	
Milk (2%)			X 1.9	
Tomatoes			X 1.1	
Lentils			X 0.9	



Do the math:

- Using the chart on page 7, and your week 2 data, total each source of protein eaten in week 2 by weight(kg), or number of servings.
- If you are using the number of servings for your amounts, assume 0.1kg of protein per serving (that's about 1/4lb). Multiply the number of servings of each type of protein by 0.1kg to get the total weight.
- Multiply the amount of each protein by the amount of greenhouse gas emissions each protein produces (kgCO_{2e}/kg of food).
- Add up the greenhouse gas emissions from all types of proteins eaten in week 2.

_____ Week 2 Total kgCO_{2e}

- How much did you reduce GHG's by eating less meat?

Week 2 total. _____

- Week 1 total _____

= kgCO_{2e} reduced _____



Curriculum Connections

Grade 4 Mathematics: N4.1

Demonstrate an understanding of whole numbers to 10 000 (pictorially, physically, orally, in writing, and symbolically) by: representing, describing, comparing two numbers, ordering three or more numbers. **N4.2** Demonstrate an understanding of addition of whole numbers with answers to 10 000 and their corresponding subtractions (limited to 3 and 4-digit numerals) by: using personal strategies for adding and subtracting, estimating sums and differences, solving problems involving addition and subtraction. **N4.3** Demonstrate an understanding of multiplication of whole numbers (limited to numbers less than or equal to 10) by: applying mental mathematics strategies, explaining the results of multiplying by 0 and 1 **N4.7** Demonstrate an understanding of decimal numbers in tenths and hundredths (pictorially, orally, in writing, and symbolically) by: describing, representing, relating to fractions.

N4.8 Demonstrate an understanding of addition and subtraction of decimals limited to hundredths (concretely, pictorially, and symbolically) by: using compatible numbers, estimating sums and differences, using mental math strategies, solving problems.

P4.1 Demonstrate an understanding of patterns and relations by: identifying and describing patterns and relations in a chart, table or diagram, reproducing patterns and relations in a chart, table, or diagram using manipulatives, creating charts, tables, or diagrams to represent patterns and relations, solving problems involving patterns and relations. **SS4.1** Demonstrate an understanding of time by: reading and recording time using digital and analog clocks (including 24 hour clocks), reading and recording calendar dates in a variety of formats.

Grade 5 Mathematics: N5.1 Represent, compare, and describe whole numbers to 1 000 000 within the contexts of place value and the base ten system, and quantity. **N5.2**

Analyze models of, develop strategies for, and carry out multiplication of whole numbers. **N5.6** Demonstrate understanding of decimals to thousandths by: describing and representing, relating to fractions, comparing and ordering. **N5.7** Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths).

P5.1 Represent, analyse, and apply patterns using mathematical language and notation. **P5.2** Write, solve, and verify solutions of single-variable, one-step equations with whole number coefficients and whole number solutions. **SP5.1** Differentiate between first-hand and second-hand data.

Grade 6 Mathematics: N6.3 Demonstrate understanding of the order of operations on whole numbers (excluding exponents) with and without technology. **N6.4** Extend understanding of multiplication and division to decimals (1-digit whole number multipliers and 1-digit natural number divisors). **P6.1** Extend understanding of patterns and relationships in tables of values and graphs. **P6.2** Extend understanding of preservation of equality concretely, pictorially, physically, and symbolically. **P6.3** Extend understanding of patterns and relationships by using expressions and equations involving variables. **SP6.1** Extend understanding of data analysis to include: line graphs, graphs of discrete data, data collection through questionnaires, experiments, databases, and electronic media, interpolation and extrapolation. **SP6.2** Demonstrate understanding of probability by: determining sample space, differentiating between experimental and theoretical probability, determining the theoretical probability, determining the experimental probability, comparing experimental and theoretical probabilities.

Grade 7 Mathematics: N7.2 Expand and demonstrate understanding of the addition, subtraction, multiplication, and division of decimals to greater numbers of decimal places, and the order of operations.

P7.3 Demonstrate an understanding of one- and two-step linear equations of the form $ax/b + c = d$ (where a , b , c , and d are whole numbers, $c \leq d$ and $b \neq 0$) by modeling the solution of the equations concretely, pictorially, physically, and symbolically and explaining the solution in terms of the preservation of equality.

P7.4 Demonstrate an understanding of linear equations of the form $x + a = b$ (where a and b are integers) by modeling problems as a linear equation and solving the problems concretely, pictorially, and symbolically.

Grade 8 Mathematics: N8.3 Demonstrate understanding of rates, ratios, and proportional reasoning concretely, pictorially, and symbolically. **P8.2** Model and solve problems using linear equations of the form: $ax=b$, $x/a = b$, $a \neq 0$, $ax+b=c$, $x/a + b=c$, $a \neq 0$, $a(x+b)=c$,

concretely, pictorially, and symbolically, where a , b , and c are integers.

SP8.1 Analyze the modes of displaying data and the reasonableness of conclusions.