

## Grade 8 Natural Science Worksheet

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### Carbon footprint analysis

Every time you do something that uses energy and creates pollution, you leave a “mark” on the planet. Environmental scientists call this your “carbon footprint”. Carbon footprints can be used to assess the amount of damage being doing by an individual, a city or a country to the environment.

### Part One: Your family’s habits

Answer the following questions by choosing the answer that best describes your or your family’s habits.

1. When you leave a room, what do you do to the lights?
  - a. Leave them on.
  - b. Try to remember to switch them off but not always.
  - c. Always turn them off.
  
2. Do you leave appliance such as the TV, PlayStation, the computer, etc. on standby?
  - a. Always.
  - b. Sometimes.
  - c. Never.
  
3. How do you get to school?
  - a. In a car.
  - b. In a taxi or bus.
  - c. Walk or cycle.
  
4. How often do you turn on the heating/air conditioner at home?
  - a. It’s always on, either warming or cooling the home.
  - b. Only when we need it.
  - c. Never.
  
5. How does cooking get done at home?
  - a. Usually on an open fire or in an electric oven/on an electric stove.
  - b. Gas stove.
  - c. Microwave.

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6. Which of these describes the appliances in your home?
  - a. Washing machine, dishwasher, tumble drier
  - b. Washing machine
  - c. None
  
7. How many television sets in your home?
  - a. More than two.
  - b. One or two.
  - c. None.
  
8. What does your family do with supermarket shopping bags?
  - a. Get new ones each time we go shopping.
  - b. Re-use the ones we get till they break.
  - c. Use cloth bags.
  - d.
  
9. Do you recycle?
  - a. Never.
  - b. Sometimes.
  - c. Always.
  
10. Do you buy recycled goods?
  - a. Never.
  - b. Sometimes.
  - c. Always.

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### Part Two: Your carbon footprint

- Now assess your carbon footprint:

Mostly A:

You have a very large carbon footprint! You need to think wisely about the environment.

Mostly B:

You are on the right path and with a little effort; you could reduce your footprint.

Mostly C:

You are well on the way to contributing to a great environment as your carbon footprint is small.

- Do some research and find out how the carbon footprint of a family can be reduced. Write your findings in the form of a pamphlet that can be used to educate families in your area.

[16 marks]

### Rubric for assessing a pamphlet

Criteria	4	3	2	1
A definition of the carbon footprint.				
A description of the kind of benefits or rewards there are for reducing the carbon footprint.				
A description of the things that can be done by a family to reduce their carbon footprint.				
Design of pamphlet; layout and professional presentation; neatness and attractiveness.				
<b>Total</b>	<b>/16</b>			

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### Suggested Solutions

Question number	Possible marks	Solution
1		There is no right or wrong answer to any of these questions. The learner needs to show that he/she has answered each question and then assessed his/her carbon footprint.
2		There is no right or wrong answer to any of these questions. The learner needs to show that he/she has answered each question and then assessed his/her carbon footprint.
3	16	See rubric in Appendix of Assessment Tools.

### Appendix of Assessment Tools

#### Rubric for assessing a pamphlet

Criteria	4	3	2	1
A definition of the carbon footprint.				
A description of the kind of benefits or rewards there are for reducing the carbon footprint.				
A description of the things that can be done by a family to reduce their carbon footprint.				
Design of pamphlet; layout and professional presentation; neatness and attractiveness.				
<b>Total</b>	<b>/16</b>			