

## Lesson 4

### Analyzing concepts



#### Aims

- to understand how new concepts are explained by definition and analysis
- to learn language for analyzing concepts
- to explain concepts by defining and analyzing them using tree diagrams

Pollution is a very familiar concept. However, in an academic course such as Environmental Studies, a concept has to be carefully defined and analyzed. Maysoun is trying to do this in a draft introductory section for an assignment, *Compare and contrast the effects of pollution in an urban and a rural community*.

#### Task 1 Thinking critically

Maysoun's final draft of the definition of pollution is: *Pollution is a process which puts unwanted materials or energy into an environment*.

- 1.1 In what ways is it better than her first draft, *Pollution is chemicals that pollute the environment*?
- 1.2 Is Maysoun's definition of pollution different from the one you wrote in Lesson 3? Which is better, yours or hers? Why?

#### Task 2 Reading quickly for text organization

Read Maysoun's introduction on page 88 quickly. Answer the questions below.

- a How many different types of analysis will she describe in her assignment?
- b What is the purpose of the first paragraph?

#### Task 3 Reading carefully for details

Read Maysoun's introduction carefully and answer the questions below.

- a What are the two related concepts that are defined in paragraph 1?
- b What are the purposes of paragraphs 2 and 3?
- c What will be the purposes of the next two paragraphs?



Compare and contrast the effects of pollution in an urban and a rural community  
Introduction

Pollution is a process which puts unwanted materials or energy into an environment. These unwanted items are called 'pollutants' or 'contaminants'. They are unwanted for the reason that they make ecological systems in the environment unstable and may damage the environment and its organisms.

The concept of pollution can be analyzed in different ways. First, pollution can be described in terms of the pollutants. It can also be classified according to the type of environment that is polluted. Sometimes, pollution is classified by the sources of the pollutants. These three approaches will be described.

Pollution can be described in terms of three general categories of pollutants: pathogens, non-biological materials and energy. Pathogens are any organisms that cause disease to other organisms. Many diseases, such as cholera, are caused by pathogen pollution of water. The non-biological materials can be further subdivided into two categories: particulates and chemicals. Particulates are very small pieces of material, including dust and fibres. Chemicals can pollute as gases, e.g., CO<sub>2</sub> (carbon dioxide), liquids, e.g., detergents, and solids, e.g., metals such as iron. Energy is a pollutant when excess heat, light or noise enters the environment.

Key words

an urban  
community  
a rural community  
unwanted  
energy  
are called  
the pollutants  
contaminants  
ecological  
unstable  
may damage  
can be analyzed  
can be classified  
approaches  
cholera  
non-biological  
can be further  
subdivided  
particulates  
dust  
fibres  
gases  
carbon dioxide  
detergents  
solids  
metals  
iron  
excess

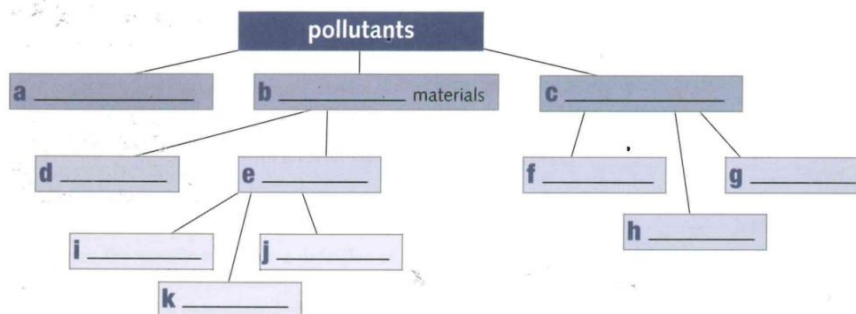
Task 4 Reading and note taking

You are going to make notes on the concept of pollutants, using the information from the introduction above.

4.1 Which paragraphs of the introduction will be relevant?

4.2 Complete the definition and the notes in the tree diagram below.

Definition: Pollutants are unwanted \_\_\_\_\_ and \_\_\_\_\_ in an environment.



### Discussion

- Do you agree with Maysoun's analysis of the concept of pollution so far? Is it clear and logical? Can you think of more examples of pollutants, from your own experience?

### Task 5 Noticing key language

Look again at the introduction on page 88. Find and list key words for defining and analyzing a concept and for giving examples. Compare your list with another student.

### Noticing grammar patterns

Maysoun's analysis explains three systems for classifying pollution. Paragraph 2 gives the basis of each different classification system.

pattern	example
preposition + noun phrase	<i>in terms of the pollutants</i>

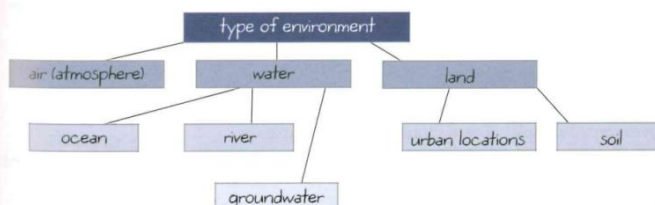
### Task 6 Noticing grammar patterns

Complete a–c, below, showing language for the basis of analysis or classification. The information is taken from paragraph 2 of the introduction on page 88.

- |   | preposition | noun phrase                              |
|---|-------------|--|
| a | in _____ of | the pollutants                           |
| b | _____ to    | the type of environment that is polluted |
| c | _____       | the sources of the pollutants            |

### Task 7 Writing practice

Look at Maysoun's notes for paragraph 4, below. They are in the form of a tree diagram. Use them to complete the draft paragraph below.



Pollution is often classified according to the type of (a) \_\_\_\_\_ that is polluted. The three main types of environment are (b) \_\_\_\_\_, (c) \_\_\_\_\_ and (d) \_\_\_\_\_. The (e) \_\_\_\_\_ is important because humans need to breathe air and because it controls many processes on Earth, for example the weather. (f) \_\_\_\_\_ can be divided into (g) \_\_\_\_\_, (h) \_\_\_\_\_ and (i) \_\_\_\_\_ (i.e., (j) \_\_\_\_\_ below the ground). It is significant because all life requires (k) \_\_\_\_\_. The two main categories for (l) \_\_\_\_\_ environments are (m) \_\_\_\_\_, places where people live, and the (n) \_\_\_\_\_, which is clearly important for food production.

### Key words

to breathe  
the weather  
can be divided into  
the ground  
life  
the main categories  
clearly  
food production



### Task 8 Noticing language

- 8.1 Find the concepts and their examples in Maysoun's introduction on page 88.
- 8.2 Underline the words and phrases that Maysoun uses to give examples in the sentences below.
- a Many diseases, such as cholera, are caused by pathogen pollution of water.
  - b Particulates are very small pieces of material, including dust and fibres.
  - c Chemicals can pollute as gases, e.g., CO<sub>2</sub>, liquids, e.g., detergents, and solids, e.g., metals such as iron.



### Task 9 Writing / speaking from notes

Study the text on page 89, particularly the definition and classification language. Cover the text and try to reconstruct it from memory using the tree diagram.

#### Discussion

- Did you forget any important points or useful language when you did Task 8?

### Task 10 Planning and writing a paragraph

- 10.1 Read the information below, then make a tree diagram for paragraph 5.

Paragraph 5 will begin:

*Finally, sources of pollution can be either natural or the result of human activity.*

You could use some of the terms below for your tree diagram.

hurricanes   industry   agriculture   warfare   accidents   transportation  
technology   cars   factories   tsunamis   power stations   forest fires  
oil spills   volcanic eruptions   fertilizers   pesticides

- 10.2 Use the tree diagram as a plan and write paragraph 5.

#### Discussion

- In the introduction to her assignment about pollution on page 88, Maysoun gives some examples. There should also be examples in the paragraph that you wrote to complete her analysis in Task 9. Why are examples useful in academic texts?

#### Self study

Write 100 words defining and analyzing the concept of sport. Use examples. Compare with other students.

Find and record definition and classification language for a concept in your field that is analyzed into categories.