

# Homework - Unit 6 - Lesson 6

## Reading

3

### Clean water

UNIT AIMS

#### READING SKILLS

Identifying key information and data in a text  
Matching textual information with diagrams  
Recognizing stages in a process

#### EXAM PRACTICE

Labelling a diagram  
Completing a table  
Completing a flowchart

- 1 The words in the following list can be associated with water and sanitation. How many alternatives, related to the same topic, can you think of for each word? What are the opposites for each of these alternatives?

a clean      b scarcity      c consumption      d disease

### Skills

#### Identifying key information and data in a text

- a To identify the main topic and sub-topics in a reading passage, scan it for words that are repeated frequently. Also look for synonyms (words with the same meaning) or related words.
- b To find key data, scan the text again for numbers and symbols that give factual and statistical information related to the topic and sub-topics.
- c Read the words on either side of the key words carefully to identify trends, negatives or comparisons.

- 2 Scan the following passage and underline the main topic and two sub-topics.

For the inhabitants of nations where water is abundant and the processes for making it safe for human consumption well established, clean water may not seem an urgent issue. But in countries where water and the funds for converting it into drinking water are scarce, water quality is a matter of life and death. According to the World Health Organization (WHO), over a billion people live in parts of the world where there is simply not enough water. This forces them to drink water from unhygienic sources and risk contracting water-borne diseases.

- 3 Find facts and statistics in the passage below about water and sanitation. Complete the table with numbers and words from the text.

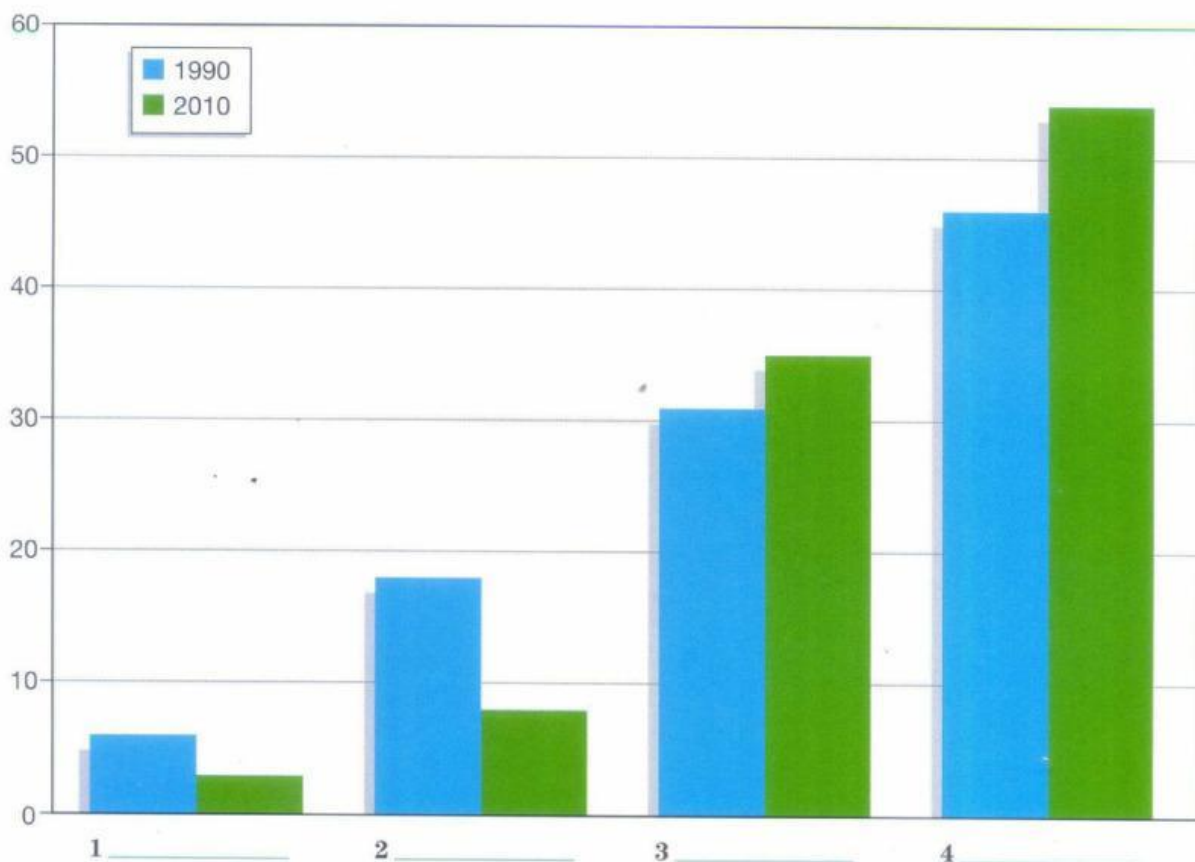
|                                   | 1 _____<br>water | domestic water<br>supply | adequate<br>sanitation |
|-----------------------------------|------------------|--------------------------|------------------------|
| world population                  | 83%              | 2 _____ %                |                        |
| developing countries              |                  |                          | 3 _____ %              |
| South Asia/<br>sub-Saharan Africa |                  |                          | 4 _____ %              |

Over the last 10 years there have been positive developments in the supply of safe water throughout the world. For example, World Health Organization figures show that 83% of the world's population has access to water from sources that have been treated to make it suitable for drinking. Statistics also indicate that over 50% of the population has water piped directly to their home.

On the other hand, some 2.6 billion people, half the population of the developing nations, do not have access to drainage or sanitation. Figures for South Asia and sub-Saharan Africa show that only around 30% of the population benefits from an acceptable level of sanitation.

- 4 Read the passage below and label the graph with no more than TWO WORDS from the text for each question.

In the 20 years between 1990 and 2010, there was a clear improvement worldwide in the provision of safe water for consumption. By 2010 the percentage of homes with a piped supply of water had risen to 54%, and the availability of treated water had increased by 4% since 1990 to 35% of the world's population in 2010. At the same time, the proportion of the world's population still using surface water for drinking reached an unprecedented low of 3%, whilst the percentage of the population using untreated water for drinking fell to 8%.



Trend in the proportion of the global population using piped drinking water on premises, other improved drinking water sources, unimproved sources and surface water, 1990–2010. (UNICEF JMP report 2012)

## Exam skills

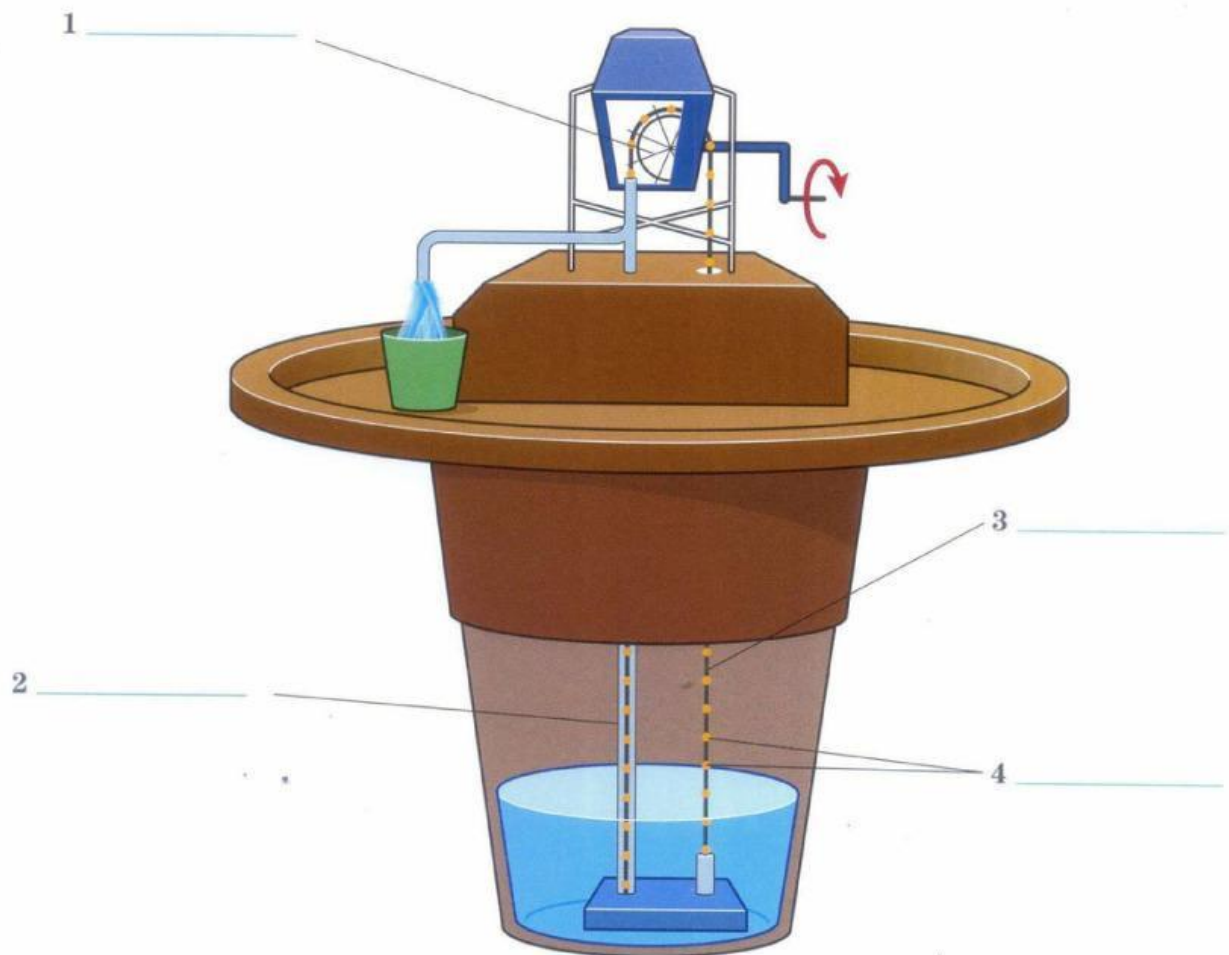
### Diagram label completion

In this type of exam question you will have to label a diagram with words from a reading passage. The question will tell you exactly how many words you should use. Be careful not to use more words than the question requires, as you will lose marks. The answers to the questions may not be in the same order as the information in the text.

## Skills

When you are asked to label a diagram from a text:

- look at the diagram and try to predict the kind of vocabulary you will need to complete the labels.
- scan the text for key words or numbers.
- match these with the diagram.



- 5** Look at the diagram and answer questions a and b.
- a** What does the diagram show?
  - b** Which three key words would you expect to find in the description of this mechanism?
- 6** Complete the labels on the diagram with **NO MORE THAN THREE WORDS** for each blank space from the following reading passage.

A water pump must be sustainable, which means it must be able to be fixed locally, cheaply and quickly. A rope pump is a simple technology that can be constructed from recycled parts like bicycle wheels, scrap metal and plastic.

A long continuous loop of rope, with washers at regularly spaced intervals, runs around a wheel at the top of a well and around a smaller roller encased below the water line. The rope runs through a PVC pipe and, as the wheel is turned, water is drawn up the pipe by suction.

## Skills

To identify the relative positions of different parts of a piece of machinery or equipment from a description, scan the text for prepositions.

- 7** Scan the reading passage again for prepositions and answer questions a–f.
- a** Where are the washers?  
\_\_\_\_\_
  - b** Where is the large wheel?  
\_\_\_\_\_
  - c** Where is the small wheel?  
\_\_\_\_\_
  - d** Where does the rope pass around the wheel?  
\_\_\_\_\_
  - e** Where does the rope pass around the roller?  
\_\_\_\_\_
  - f** In what direction does the water move?  
\_\_\_\_\_

## Exam skills

### Flow chart completion

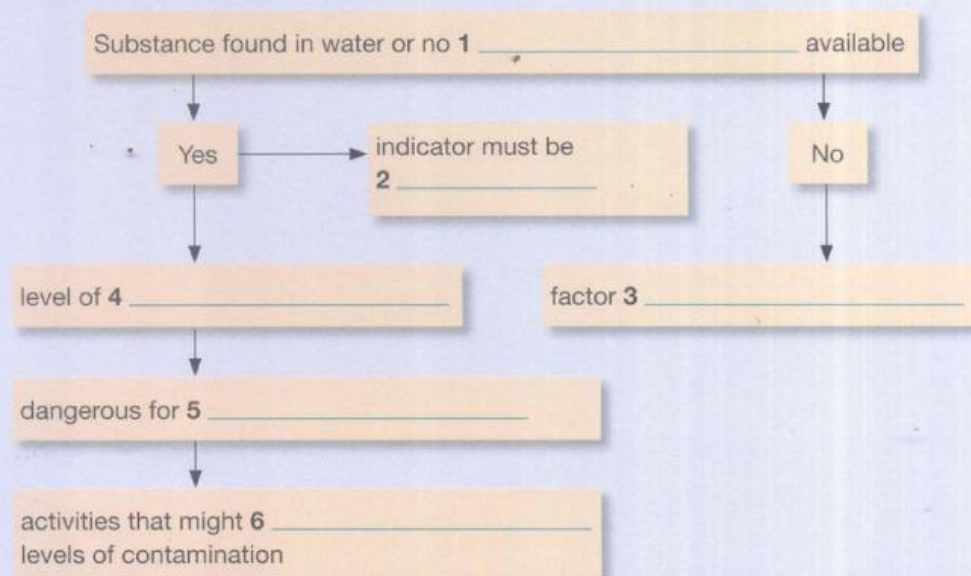
In one type of question you will be asked to complete a flow chart, usually a series of boxes connected by arrows which show a series of events. To prepare for this task, scan the text for words that indicate the relationship between one event and another, for example, words that express *sequence* or *condition* like: *first, second, then, after, before, finally, if, if not*.

- 8 Complete the flow chart about assessing water quality with **NO MORE THAN TWO WORDS** in each space from the reading passage that follows.

The selection of indicators and parameters for a programme of water quality assessment and analysis is likely to be country- (and possibly region-) specific and may also be specific to certain sources of water. Furthermore, the range of analysis and frequency of testing will be constrained by the resources available for water quality sampling and analysis and, whilst it may be desirable that a great number of indicators and parameters are analysed frequently, budget constraints may restrict the frequency of sampling and testing, or the number of indicators/parameters to be analysed. In general, however, there are some basic rules that should guide the development of water quality assessment programmes.

The first step in deciding whether a particular indicator/parameter should be included in the assessment programme is to make a judgment on the following critical questions:

- Is the contaminant or substance known to be present or absent in the waters of the country?
- If known to be present or if no information is available, then the indicator/parameter should be included. If it is known to be absent, then it should be excluded.
- If known to be present, at what concentration does the contaminant exist and does the concentration approach or reach levels which are of public health concern?
- What is the extent (temporal and spatial) of the presence of the contaminants?
- Are there any current or planned activities in catchment areas that may cause the contaminant to be present in water or levels to increase?



## Reading Passage 3

You should spend 20 minutes on questions 1–12, which are based on Reading Passage 3.

### The Millennium Development Goals

The MDG drinking water target has been reached. Over 2 billion people gained access to improved water sources from 1990 to 2010, and the proportion of the global population still using unimproved sources is estimated at only 11 per cent. This is less than half of the 24 per cent estimated for 1990. Almost 6.1 billion people, 89 per cent of the world's population, were using an improved water source in 2010. The drinking water target has thus become one of the first MDG targets to be met.

While this tremendous achievement should be applauded, a great deal of work remains.

First, huge disparities exist. While coverage of improved water supply sources is 90 per cent or more in Latin America and the Caribbean, Northern Africa and large parts of Asia, it is only 61 per cent in sub-Saharan Africa. Coverage in the developing world overall stands at 86 per cent, but it is only 63 per cent in countries designated as 'least developed'. Similar disparities are found within countries – between the rich and poor and between those living in rural and urban areas.

Second, complete information about drinking water safety is not available for global monitoring. Systematically testing the microbial and chemical quality of water at the national level in all countries is prohibitively expensive and logistically complicated; therefore, a proxy indicator for water quality was agreed upon for MDG monitoring. This proxy measures the proportion of the population using 'improved' drinking water sources, defined as those that, by the nature of their construction, are protected from outside contamination. However, some of these sources may not be adequately maintained and therefore may not actually provide 'safe' drinking water. As a result, it is likely that the number of people using safe water supplies has been over-estimated.

Finally, more than 780 million people remain unserved. Although the MDG drinking water target has been met, it only calls for halving the proportion of people without safe drinking water. More than one tenth of the global population still relied on unimproved drinking water sources in 2010.

Assessing progress towards the MDG target alone creates an incomplete picture, since countries that started out with low baseline coverage have had to work much harder to halve the proportion of the population without water and sanitation. Added to this is the challenge of rapid population growth, which can easily mean that any gains in people served are overtaken by population growth. Moreover, it is the poorest countries that are often characterized by a combination of low baseline coverage and high population growth. This means that countries may be making significant progress in the absolute number of people served, but still be persistently 'off track'.

In response, the JMP\* has developed an alternative indicator that represents the proportion of the current population that has gained access over the period from 1995 to the most recent update, in this case 2010. It is thus the percentage of people living in a country today who have gained access in the last 15 years.

This indicator can be used to assess a country's performance irrespective of whether it started out with high or low baseline coverage. The indicator is expressed as: the increase since 1995 in the number of people with access as a proportion of the current (2010) population.

The graph shows selected countries in sub-Saharan Africa that have performed above the regional average of nearly 26 per cent. Some countries have made remarkable progress in providing large proportions of their population with access to improved drinking water sources, and this is true even of countries that are off track in terms of MDG progress. Rwanda and Sierra Leone, for instance, both experienced conflict during the period 1995 to 2010, but have nevertheless shown greater progress than that suggested by the regional average. In Rwanda, more than 30 per cent of the population have gained access to improved drinking water sources since 1995; this represents over 3 million people. Even countries that have not reported such good progress are noteworthy in terms of the number of people served.

The Democratic Republic of the Congo has provided improved water sources for only about 16 per cent of its population since 1995; still, this represents more than 10 million people. It is remarkable that sub-Saharan Africa has outstripped Eastern Asia in terms of the proportion of the current population that have gained access in the last 15 years.

\* JMP – Joint Monitoring Programme

#### Questions 1–6

Complete the table with information from Reading Passage 3. Write **NO MORE THAN TWO WORDS OR A NUMBER**.

| 1990                          | 2010                                                                   |
|-------------------------------|------------------------------------------------------------------------|
| Projected percentage for 1990 | 11% of world's population using 1 .....                                |
| 2 ..... %.                    | 3 ..... % of global population using treated water.                    |
|                               | 4 ..... % of sub-Saharan population has access to safe drinking water. |
|                               | 86% of population in 5 ..... use improved water sources.               |
|                               | 63% have improved water in 6 ..... countries.                          |

Questions 7–10

Complete the flow chart with information from Reading Passage 3. Select your answers from the list A–F.

- A drainage
- B measurement
- C unpolluted
- D water sources
- E inaccurate
- F costly

**Problem 1**

Testing water quality 7 ..... and difficult to organize



**Solution 1**

Proxy indicator

= proportion of population using 8 ..... drinking water

**Problem 2**

Data does not reflect true progress

9 ..... systems not maintained

Poor countries have low baseline and high population growth



**Solution 2**

Alternative 10 ..... introduced

= increase in percentage of population with access to clean water over 15 years

Questions 11–12

Label the graph with information from Reading Passage 3. Write **NO MORE THAN FOUR WORDS AND/OR A NUMBER**.

Percentage of population which has gained access to safe drinking water since 1995

