

Name \_\_\_\_\_ Surname(s) \_\_\_\_\_

Year and group \_\_\_\_\_ Date \_\_\_\_\_ Grade \_\_\_\_\_

- 1** What are three parts of the atmosphere that differ in their composition and structure?
- 2** Name the components of the atmosphere described here:
  - a)** This gas is not very reactive but it is found in large quantities in the atmosphere.
  - b)** Living things take this in during respiration.
  - c)** This is produced by plant and animal respiration.
  - d)** This acts as a filter against ultraviolet radiation from the sun.
- 3** What is atmospheric humidity?
- 4** Name the atmospheric gases that are taken in and released during photosynthesis and respiration. Briefly explain the usefulness of each of these processes.
- 5** Explain how the following atmospheric phenomena are formed: clouds, fog, rain.
- 6** Explain how the greenhouse effect is produced.
- 7** Would life on our planet exist without the greenhouse effect? Why?
- 8** The destruction of the ozone layer and the increase in the greenhouse effect are two of the most important problems that affect the atmosphere. Match the following statements to the corresponding problem.
  - a)** This is produced by an increase in carbon dioxide from burning coal and petrol.
  - b)** This causes an increase in the planet's temperature.
  - c)** This could cause serious changes in the Earth's climate.
  - d)** This is caused by CFCs.
  - e)** This causes an increase in the number of ultraviolet rays that reach the Earth's surface.
  - f)** The most affected region is Antarctica.

## Answers

- 1** Troposphere, stratosphere and ionosphere.
- 2** *a)* Nitrogen.  
*b)* Oxygen.  
*c)* Carbon dioxide.  
*d)* Ozone.
- 3** Atmospheric humidity is the amount (volume) of water vapour in a specific amount of air.
- 4** Photosynthesis: carbon dioxide is taken in (with water from the ground) and oxygen is released. Plants use this process to make food (vegetable matter).  
Respiration: oxygen is taken in and carbon dioxide and water vapour are released. Living things obtain energy from respiration.
- 5** Clouds: these form when air that is charged with water vapour rises to the upper layers of the troposphere. Here it cools down and condenses into tiny water droplets.  
Fog: these are clouds that form close to the ground, when air containing a high degree of humidity cools down and comes into contact with the ground, which has also cooled down.  
Rain: this is liquid precipitation, which occurs when the water droplets inside a cloud join together and form larger water droplets. When the droplets are big enough, gravity makes them fall.
- 6** Certain gases such as carbon dioxide and methane allow radiation from the Sun to pass through. However, they reflect and send back to the Earth's surface those rays released by the Earth when it heats up. This means that the Earth's temperature does not fall too much, especially at night.
- 7** Without the greenhouse effect life would not be possible on Earth, because the Earth's surface would be frozen.
- 8** *a), b)* and *c)*: increased greenhouse effect.  
*d), e)* and *f)*: destruction of the ozone layer.