

5 Assessment TEST

Name _____ (surname)
 Year and group _____ Date _____ Class _____

1 What are three parts of the atmosphere that differ in their composition and structure?

2 Name the components of the atmosphere described here:

- This gas is not very reactive but it is found in large quantities in the atmosphere.
- Living things take this in during respiration.
- This is produced by plants and animal respiration.
- 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. Would life on our planet exist without the greenhouse effect? Why?

7 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.

- This is produced by an increase in carbon dioxide from burning coal and petrol.
- This causes an increase in the planet's temperature.
- This could cause serious changes in the Earth's climate.
- This is caused by CFC.
- This causes an increase in the number of ultraviolet rays that reach the Earth's surface.
- The most affected region is Antarctica.

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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. Living things obtain energy from respiration.
 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 humidity cools down and comes into contact with the ground, which has also cooled down.
 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 Green gases, such as carbon dioxide and methane, absorb 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 doesn't 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.
 a) a) and c) increased greenhouse effect.
 b) a) and d) destruction of the ozone layer.

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Topic and language assessment sheets for each unit and term, with answers.

5 LABORATORY PRACTICALS EXTENSION

11. Pressure-related phenomena (III)

Experiment 3

Materials

- A straw or small glass tube.
- A flask.
- A one-hole stopper (made of cork or rubber).
- Some water.

Instructions

- Fill the flask with water and close it with the stopper. Insert the straw or glass tube into the stopper, make sure it is airtight.
- Try to drink the water from the flask through the straw.

Activities

1 Were you able to drink the water in the flask? Explain what happened.

Experiment 4

Materials

- A flask.
- A Bunsen burner.
- Wine glass.
- A card.
- A balloon.

Instructions

- Place the balloon over the top of an empty flask (full of air) as shown in the picture.
- Gently heat up the flask and watch what happens to the balloon.

Activities

1 What happens to the balloon?

2 Why does the balloon inflate even though the amount of air inside the flask has not changed?

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5 LABORATORY PRACTICALS EXTENSION

11. Pressure-related phenomena (III)

Answers

Experiment 3

1 The student will not be able to drink the water due to the vacuum created inside the flask. Even though the pressure on the air inside the straw diminishes when you breathe in, the air outside cannot exert force on the water because the stopper has made the flask airtight.
 As the air outside cannot exert force on the water, the water cannot go up the straw. This would only be possible if the walls of the flask were elastic and therefore could contract at the same time as the inside of the flask was being emptied (for example with a plastic water bottle).

Experiment 4

1 The balloon inflates slightly.

2 When the air inside the flask is heated up, its particles spread out and the air expands. In this way the balloon inflates even though the amount of air inside the flask does not change.

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Reinforcement and extension worksheets which have been specifically developed to accompany this course. All worksheets are accompanied by a complete answer key.