

Planet earth Quiz: The atmosphere There are 8 questions in Section A and 1 question in Section B. Answer ALL questions.	Marks:	/ 15
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Section A	Multiple-choice questions (8 marks)
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- Which of the following is the chemical property of diamond?
 - It is a solid at room conditions.
 - It burns in air to give carbon dioxide.
 - It cannot conduct electricity.
 - It is hard.
- Air is
 - a pure substance.
 - a mixture of elements.
 - a mixture of compounds.
 - a mixture of elements and compounds.
- Which of the following is the correct order of composition by volume in air?
 - oxygen > nitrogen > carbon dioxide > noble gases
 - oxygen > nitrogen > noble gases > carbon dioxide
 - nitrogen > oxygen > noble gases > carbon dioxide
 - nitrogen > oxygen > carbon dioxide > noble gases
- Which of the following gases CANNOT be found in air?
 - Argon
 - Helium
 - Hydrogen
 - Xenon
- The component in a liquid mixture can be separated by fractional distillation because the components have different
 - melting points.
 - boiling points.
 - solubility.
 - viscosities.
- Which of the following hazard warning labels should be shown on a cylinder of oxygen?
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7. Which of the following statements about hydrogen is INCORRECT?
- It is odourless.
 - It is flammable.
 - It is used in food packaging.
 - It gives a 'pop' sound with a burning splint.
8. Refer to the experiment below:



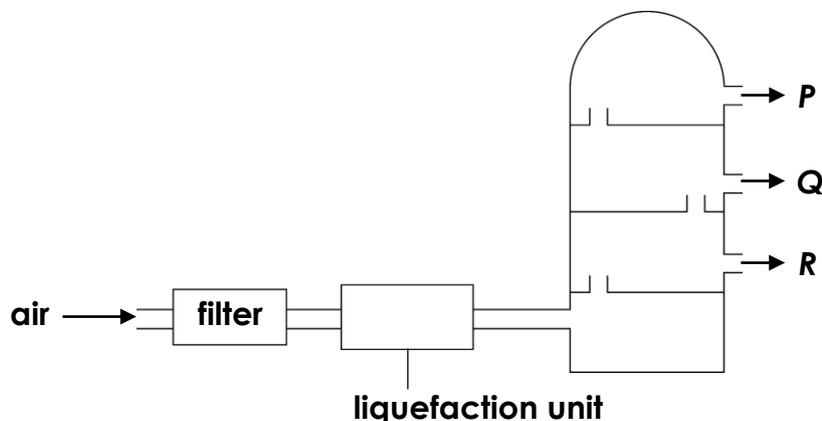
It is a chemical test for

- oxygen.
- hydrogen.
- nitrogen.
- carbon dioxide.

- END OF SECTION A -

Section B Structured questions (7 marks)

1. Liquid air can be separated by fractional distillation into its components as shown below.



- Is fractional distillation a physical change or chemical change? [1]
 - What are components *P*, *Q* and *R* respectively? [3]
- When hydrogen is burnt in air, water is produced.

 - Which component in air reacts with hydrogen? [1]
 - State what would be observed when a burning splint is put in a test tube of
 - hydrogen and
 - water. [2]

- END OF SECTION B -

Marking Scheme

Section A Multiple-choice questions

1. B
2. D
Air is a mixture of elements (e.g. oxygen and argon) and compounds (e.g. carbon dioxide).
3. C
4. C
5. B
6. B
7. C
8. A
Oxygen relights a glowing splint. (1 mark each) 8

Section B Structured questions

1. (a) (i) Physical change 1
(ii) P: nitrogen 1
Q: argon 1
R: oxygen 1
- (b) (i) Oxygen 1
(ii) (1) It burns with a 'pop' sound. 1
(2) It extinguishes. 1

The End