Atoms, molecules and compounds quiz

Learning objectives

1. Identify atoms, molecules, elements and compounds using particle diagrams.
2. Use particle diagrams to classify a substance as an element or compound and as molecules or atoms.

Introduction

This quiz will help you understand the difference between atoms, elements, molecules and compounds. It will also test your knowledge of the gases in our atmosphere. Write your answers underneath each particle diagram.

Questions

1. Label as either an atom or molecule

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| Two white circles joined together. A 'H' is in the centre of each circle.a.  | Three circles joined together. Two circles are white with a 'H' in the centre of each circle. One circle is red with an 'O' in the centre.b.  | Two dark blue circles joined together. An 'N' is in the centre of each circle.c. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is black with a 'C' in the centre.d.  |
| Five circles joined together. Four circles are white with a 'H' in the centre of each circle. One circle is black with a 'C' in the centre.e. | Two dark green circles joined together. 'Cl' is in the centre of each circle.f.  | One blue circle. 'Ar' is in the centre of the circle.g. | Two red circles joined together. An 'O' is in the centre of each circle.h. |
| One light blue circle. 'He' is in the centre of the circle.i. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is yellow with a 'S' in the centre.j. | Two circles joined together. One circle is red with an 'O' in the centre. One circle is black with a 'C' in the centre.k. | Two green circles joined together. An 'F' is in the centre of each circle.l. |

1. Label as either an element or non-element

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| Two white circles joined together. A 'H' is in the centre of each circle.a.  | Three circles joined together. Two circles are white with a 'H' in the centre of each circle. One circle is red with an 'O' in the centre.b.  | Two dark blue circles joined together. An 'N' is in the centre of each circle.c. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is black with a 'C' in the centre.d.  |
| Five circles joined together. Four circles are white with a 'H' in the centre of each circle. One circle is black with a 'C' in the centre.e. | Two dark green circles joined together. 'Cl' is in the centre of each circle.f.  | One blue circle. 'Ar' is in the centre of the circle.g. | Two red circles joined together. An 'O' is in the centre of each circle.h. |
| One light blue circle. 'He' is in the centre of the circle.i. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is yellow with a 'S' in the centre.j. | Two circles joined together. One circle is red with an 'O' in the centre. One circle is black with a 'C' in the centre.k. | Two green circles joined together. An 'F' is in the centre of each circle.l. |

1. Label as an element, molecule or both

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| Two white circles joined together. A 'H' is in the centre of each circle.a.  | Three circles joined together. Two circles are white with a 'H' in the centre of each circle. One circle is red with an 'O' in the centre.b.  | Two dark blue circles joined together. An 'N' is in the centre of each circle.c. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is black with a 'C' in the centre.d.  |
| Five circles joined together. Four circles are white with a 'H' in the centre of each circle. One circle is black with a 'C' in the centre.e. | Two dark green circles joined together. 'Cl' is in the centre of each circle.f.  | One blue circle. 'Ar' is in the centre of the circle.g. | Two red circles joined together. An 'O' is in the centre of each circle.h. |
| One light blue circle. 'He' is in the centre of the circle.i. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is yellow with a 'S' in the centre.j. | Two circles joined together. One circle is red with an 'O' in the centre. One circle is black with a 'C' in the centre.k. | Two green circles joined together. An 'F' is in the centre of each circle.l. |

1. Label as either a molecule, compound or both

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| Two white circles joined together. A 'H' is in the centre of each circle.a.  | Three circles joined together. Two circles are white with a 'H' in the centre of each circle. One circle is red with an 'O' in the centre.b.  | Two dark blue circles joined together. An 'N' is in the centre of each circle.c. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is black with a 'C' in the centre.d.  |
| Five circles joined together. Four circles are white with a 'H' in the centre of each circle. One circle is black with a 'C' in the centre.e. | Two dark green circles joined together. 'Cl' is in the centre of each circle.f.  | Sixty carbon atoms chemically bonded to form a cage-like sphere.g. | Two red circles joined together. An 'O' is in the centre of each circle.h. |
| Six carbon atoms, six oxygen atoms and twelve hydrogen atoms chemically bonded to make a glucose molecule.i.  | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is yellow with a 'S' in the centre.j. | Two circles joined together. One circle is red with an 'O' in the centre. One circle is black with a 'C' in the centre.k. | Two green circles joined together. An 'F' is in the centre of each circle.l. |

1. How much is found in our atmosphere?

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| Two white circles joined together. A 'H' is in the centre of each circle.a.  | Three circles joined together. Two circles are white with a 'H' in the centre of each circle. One circle is red with an 'O' in the centre.b.  | Two dark blue circles joined together. An 'N' is in the centre of each circle.c. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is black with a 'C' in the centre.d.  |
| Five circles joined together. Four circles are white with a 'H' in the centre of each circle. One circle is black with a 'C' in the centre.e. | Sixty carbon atoms chemically bonded to form a cage-like sphere.f.  | One blue circle. 'Ar' is in the centre of the circle.g. | Two red circles joined together. An 'O' is in the centre of each circle.h. |
| One light blue circle. 'He' is in the centre of the circle.i. | Three circles joined together. Two circles are red with an 'O' in the centre of each circle. One circle is yellow with a 'S' in the centre.j. | Two circles joined together. One circle is red with an 'O' in the centre. One circle is black with a 'C' in the centre.k. | Two green circles joined together. An 'F' is in the centre of each circle.l. |