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Atoms, molecules and chemical formulae for Class 9

Practice worksheet - Science · Grade 9

Name: _____ Date: _____

Show your working. Answers and explanations follow on a separate page.

Try each task before opening its answer. Give an example or reason, not only a label.

Write an answer and your reason before opening the explanation. Check the reasoning as well as the final answer.

1. How many atoms are in one O_2 molecule?

2. Is O_2 a compound?

3. How many oxygen atoms are in $4H_2O$?

4. How many total atoms are represented by $2CO_2$?

5. Count oxygen atoms in $Al_2(SO_4)_3$.

6. Are Co and CO the same?

7. Should solid NaCl be described as separate NaCl molecules here?

8. Does a positive ion have excess electrons?

Practice continued

9. Balance Ca^{2+} and O^{2-} into a simplest formula.

10. Balance Na^{+} and O^{2-}.

11. Find relative molecular mass of H_2 using H = 1.

12. Find relative molecular mass of CH_4 using C = 12 and H = 1.

13. Why may an open reaction container lose measured mass?

14. Does a coefficient change a substance's formula?

Answers and explanations

Answer key - Science · Grade 9

Atoms, molecules and chemical formulae for Class 9

1. 2.

The subscript counts oxygen atoms.

2. No.

It contains only one element.

3. 4.

Each of four molecules contains one O.

4. 6.

Two groups of three atoms.

5. 12.

There are three sulfate groups, each with four O.

6. No.

Co is cobalt; CO represents carbon monoxide.

7. No.

Use formula units for its ionic structure.

8. No.

It has fewer electrons than protons.

9. CaO.

One of each balances charge.

10. Na_2O.

Two positive charges balance one oxide ion.

11. 2.

Two hydrogen atoms contribute 2 × 1.

12. 16.

12 + 4 × 1 = 16.

13. Gas can leave the measured system.

The complete system still conserves mass.

14. No.

It changes the amount represented, not the composition of each particle.