Quantitative Chemistry – Quick fire questions

This worksheet is fully supported by a video tutorial; https://youtu.be/8uqWdmIKd7c

1. Give three ways of measuring the mass or volume of a product or a reactant.
2. How do you calculate the concentration of a solution?
3. Give the formula of oxygen gas.
4. Give the formula of nitrogen gas.
5. Give the formula of hydrogen chloride.
6. Give the formula of ammonia.
7. Give the formula of methane.
8. Give the formula of hydrogen gas.
9. Give the formula of water.
10. Give the formula of carbon dioxide.
11. Balance this N_2 +…….H_2 →…….NH_3
12. Balance this $CaCl_2$ + KOH → $Ca(OH)_2$ + KCl
13. Ammonia reacts with oxygen gas; write this as a balanced symbol equation.
14. Magnesium reacts with carbon dioxide; write this is a balanced symbol equation.
15. Define relative formula mass (M_r).
16. Define relative atomic mass (A_r).
17. What is the mass of argon?
18. What is the mass of calcium?
19. What is the mass of H_2SO_4?
20. What is the mass of MgO?

Higher tier only

21. What does the term mole mean?
22. What is equation for calculating moles?
23. What is Avogadro's constant?

Chemistry only

24. How do you calculate percentage yield of reaction?
25. How do you calculate the atom economy of a reaction?
26. Why might a reaction not give the expected yield?
27. What is the colour change in phenolphthalein?
28. What is the colour change in the methyl orange?

Higher tier

29. How do you calculate the concentration of the solution?
30. How much volume does 1 moles of gas take up at standard conditions?