FLINN SCIENTIFIC

19.1

Name_____

Balancing Equations Worksheet

Table 1. Counting Atoms

Name and Use	Formula	Atoms in Formula
1. Silicon dioxide Use: Sand	SiO_2	Si = Silicon 1 O = Oxygen 2
2. Butane Use: Lighter fluid	C_4H_{10}	
3. Iron(III) oxide Use: Rust	Fe_2O_3	
4. Sulfuric acid Use: Car batteries	H_2SO_4	
5. Magnesium hydroxide Use: Milk of magnesia	$Mg(OH)_2$	
6. Sucrose Use: Sugar	$C_{12}H_{22}O_{11}$	
7. Trinitrotoluene (TNT) Use: Explosives	$C_7H_5(NO_2)_3$	
8. Calcium dihydrogen phosphate Use: Fertilizer	$Ca(H_2PO_4)_2$	

©2019, Flinn Scientific, Inc. All Rights Reserved. Reproduction permission is granted from Flinn Scientific, Inc., Batavia, Illinois, U.S.A. No part of this material may be reproduced or transmitted in any form or by any means, electronic or mechanical, including, but not limited to photocopy, recording, or any information storage and retrieval system, without permission in writing from Flinn Scientific, Inc.

Table 2. Balancing Equations

1. 2 $H_2(g)$ + ____ $O_2(g)$ → 2 $H_2O(l)$

Reaction type: Synthesis

Molecular representation:

2. ____ $PbCl_2(aq)$ + ____ $Na_2SO_4(aq)$ → ____ $PbSO_4(s)$ + ____ $NaCl(aq)$

Reaction type:

Molecular representation:

3. ____ $Si(s)$ + ____ $Cl_2(g)$ → ____ $SiCl_4(l)$

Reaction type:

Molecular representation:

4. ____ $Cl_2(aq)$ + ____ $KBr(aq)$ → ____ $KCl(aq)$ + ____ $Br_2(aq)$

Reaction type:

Molecular representation:

5. ____ $Na(s)$ + ____ $Cl_2(g)$ → ____ $NaCl(s)$

Reaction type:

Molecular representation:

© 2019 Flinn Scientific, Inc. All Rights Reserved.

6. _____ $N_2(g)$ + _____ $H_2(g)$ → _____ $NH_3(g)$

Reaction type:

Molecular representation:

7. _____ $NaHCO_3(s)$ → _____ $Na_2CO_3(aq)$ + _____ $CO_2(g)$ + _____ $H_2O(l)$

Reaction type:

Molecular representation:

8. _____ $Al(s)$ + _____ $O_2(g)$ → _____ $Al_2O_3(s)$

Reaction type:

Molecular representation:

9. _____ $CH_4(g)$ + _____ $O_2(g)$ → _____ $CO_2(g)$ + _____ $H_2O(g)$

Reaction type:

Molecular representation:

10. _____ $Zn(s)$ + _____ $HCl(aq)$ → _____ $ZnCl_2(aq)$ + _____ $H_2(g)$

Reaction type:

Molecular representation:

© 2019 Flinn Scientific, Inc. All Rights Reserved.

11. _____ $Li(s)$ + _____ $O_2(g)$ → _____ $Li_2O(s)$

Reaction type:

Molecular representation:

12. _____ $AgNO_3(aq)$ + _____ $Cu(s)$ → _____ $Cu(NO_3)_2(aq)$ + _____ $Ag(s)$

Reaction type:

Molecular representation:

13. _____ $C_3H_8(g)$ + _____ $O_2(g)$ → _____ $CO_2(g)$ + _____ $H_2O(g)$

Reaction type:

Molecular representation:

14. _____ $CaCO_3(s)$ → _____ $CaO(s)$ + _____ $CO_2(g)$

Reaction type:

Molecular representation:

15. _____ $NaOH(aq)$ + _____ $HCl(aq)$ → _____ $NaCl(aq)$ + _____ $H_2O(aq)$

Reaction type:

Molecular representation:

© 2019 Flinn Scientific, Inc. All Rights Reserved.

16. _____ $HgO(s) \rightarrow$ _____ $Hg(l)$ + _____ $O_2(g)$

Reaction type:

Molecular representation:

17. _____ $H_2O(l)$ + _____ $Fe(s) \rightarrow$ _____ $Fe_2O_3(s)$ + _____ $H_2(g)$

Reaction type:

Molecular representation:

18. _____ $Al(s)$ + _____ $HCl(aq) \rightarrow$ _____ $AlCl_3(aq)$ + _____ $H_2(g)$

Reaction type:

Molecular representation:

19. _____ $K(s)$ + _____ $H_2O(l) \rightarrow$ _____ $KOH(aq)$ + _____ $H_2(g)$

Reaction type:

Molecular representation:

20. _____ $NH_3(g)$ + _____ $O_2(g) \rightarrow$ _____ $NO(g)$ + _____ $H_2O(g)$

Reaction type:

Molecular representation:

© 2019 Flinn Scientific, Inc. All Rights Reserved.