Snowman Challenge

Name(s) _____

Game Rules:
(1) If you pick it, you solve it! Teams are not allowed to put a card back if they don't like the problem on that card. Teams are also not allowed to peek at the problem before choosing to take a card!
(2) Your team can only work on one card at a time! Teams must finish a card and get the answer approved by the teacher before getting for another card.
(3) Teams must stay together and solve the problems together! All team members must be together when checking answers.

Directions:
Pick a card and balance the equation! Write the <u>number, equation, and answer</u> in a box below and have your teacher check it. If the answer is correct, put the card back and pick another card. If you do not get the correct answer, keep trying until you get it right!

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Snowman Challenge Problems & Answer Key

1. $Cl_2 + 2\ NaBr \rightarrow 2\ NaCl + Br_2$
2. $4\ Na + O_2 \rightarrow 2\ Na_2O$
3. $2\ H_2 + O_2 \rightarrow 2\ H_2O$
4. $2\ Al_2O_3 \rightarrow 4\ Al + 3\ O_2$
5. $P_4 + 5\ O_2 \rightarrow P_4O_{10}$
6. $SiCl_4 \rightarrow Si + 2\ Cl_2$
7. $C + 2\ H_2 \rightarrow CH_4$
8. $3\ H_2 + N_2 \rightarrow 2\ NH_3$
9. $2\ HgO \rightarrow 2\ Hg + O_2$
10. $4\ Fe + 3\ O_2 \rightarrow 2\ Fe_2O_3$
11. $Mg + 2\ HCl \rightarrow H_2 + MgCl_2$
12. $2\ KClO_3 \rightarrow 2\ KCl + 3\ O_2$
13. $2\ Na + Br_2 \rightarrow 2\ NaBr$
14. $2\ Na + Cl_2 \rightarrow 2\ NaCl$
15. $2\ H_2O_2 \rightarrow 2\ H_2O + O_2$
16. $4\ P + 5\ O_2 \rightarrow P_4O_{10}$
17. $2\ Mg + O_2 \rightarrow 2\ MgO$
18. $2\ NaCl + F_2 \rightarrow 2\ NaF + Cl_2$
19. $CH_4 + 2\ O_2 \rightarrow CO_2 + 2\ H_20$
20. $4\ P + 5\ O_2 \rightarrow 2\ P_2O_5$
21. $2\ Na + 2\ H_2O \rightarrow 2\ NaOH + H_2$
22. $2\ Ag_2O \rightarrow 4\ Ag + O_2$
23. $2\ HgO + Cl_2 \rightarrow 2\ HgCl + O_2$
24. $S_8 + 12\ O_2 \rightarrow 8\ SO_3$
25. $2\ H_2O + O_2 \rightarrow 2\ H_2O_2$
26. $3\ Fe + 4\ H_2O \rightarrow Fe_3O_4 + 4\ H_2$
27. $2\ Al + Fe_3N_2 \rightarrow 2\ AlN + 3\ Fe$
28. $8\ Ag_2S \rightarrow 16\ Ag + S_8$
29. $2\ NaClO_3 \rightarrow 2\ NaCl + 3\ O_2$
30. $2\ HCl + CaCO_3 \rightarrow CaCl_2 + H_2O + CO_2$
31. $CuCl_2 + H_2S \rightarrow CuS + 2\ HCl$
32. $C_3H_8 + 5\ O_2 \rightarrow 3\ CO_2 + 4\ H_20$
33. $2\ NaOH + H_2SO_4 \rightarrow Na_2SO_4 + 2\ H_2O$
34. $2\ NH_3 + H_2SO_4 \rightarrow (NH_4)_2 + SO_4$
35. $3\ ZnS + 2\ AlP \rightarrow Zn_3P_2 + Al_2S_3$
36. $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + 2\ HCl$

Teacher Notes:

• Prepare a set of 36 snowman cards by printing the snowman masters on one side of the page and the equations on the other side. Cut apart. To help the cards last longer, print on heavy cover stock and/or laminate. You will also need to make copies of the student worksheet. I suggest making a few extra copies just in case you have a few teams who fill one page and still have time left!

• Set aside an area of your classroom for the snowmen cards. I use tape to hang the cards on cabinets at the back of my classroom. You could also place the cards on a table or use sticky clips to hang them on a wall or chalkboard. After students have gotten the correct answer , they return the card to the area and choose different card.

• During the game, I sit at a counter in the front of my classroom and have the teams come to me to have answers checked. I'm able to see everyone working and I don't have to try to run all over checking answers.

• I reward the top teams with candy or other prizes. This helps to prevent the sharing of answers or tips on the "easy" problems. I also give the teams extra credit points based on the total number of equations they completed correctly.

• I limit the teams to a total of 2 people. If I have an odd number of students, I ask for a volunteer to work alone.