

## CHEMBALANCER

### DIRECTIONS

1. Go to <http://www.dun.org/sulan/chembalancer>. Click *Directions*. Read and understand the directions, then click *OK*. (If you forget the directions, click on *How to Play the Game*. Reread them, then click *OK*.)
2. Click on *Start Game*. When it opens, try entering some numbers in the text boxes in front of each molecule. What happens?
3. When you think you have typed the right numbers in all the boxes, click the *Balanced* button.
4. If you didn't get it right, try again.
5. If you did get it right, then fill in the correct answers on this worksheet for #1.
6. Repeat steps 3 through 5 for each answer below.

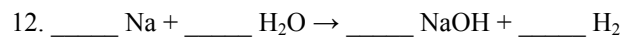
### QUESTIONS

*Fill in the blanks below as you go through the game.*

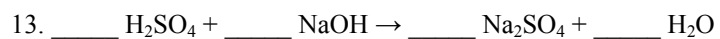
1. \_\_\_\_\_ Fe + \_\_\_\_\_ S → \_\_\_\_\_ FeS
2. \_\_\_\_\_ H<sub>2</sub> + \_\_\_\_\_ Cl<sub>2</sub> → \_\_\_\_\_ HCl
3. \_\_\_\_\_ Mg + \_\_\_\_\_ O<sub>2</sub> → \_\_\_\_\_ MgO
4. \_\_\_\_\_ O<sub>2</sub> + \_\_\_\_\_ H<sub>2</sub> → \_\_\_\_\_ H<sub>2</sub>O
5. \_\_\_\_\_ HgO + \_\_\_\_\_ Hg → \_\_\_\_\_ O<sub>2</sub>
6. \_\_\_\_\_ Ca + \_\_\_\_\_ H<sub>2</sub>O → \_\_\_\_\_ Ca(OH)<sub>2</sub> + \_\_\_\_\_ H<sub>2</sub>
7. \_\_\_\_\_ CH<sub>4</sub> + \_\_\_\_\_ O<sub>2</sub> → \_\_\_\_\_ CO<sub>2</sub> + \_\_\_\_\_ H<sub>2</sub>O
8. \_\_\_\_\_ Na<sub>2</sub>O<sub>2</sub> + \_\_\_\_\_ H<sub>2</sub>SO<sub>4</sub> → \_\_\_\_\_ Na<sub>2</sub>SO<sub>4</sub> + \_\_\_\_\_ H<sub>2</sub>O<sub>2</sub>
9. \_\_\_\_\_ N<sub>2</sub> + \_\_\_\_\_ H<sub>2</sub> → \_\_\_\_\_ NH<sub>3</sub>
10. \_\_\_\_\_ Al + \_\_\_\_\_ O<sub>2</sub> → \_\_\_\_\_ Al<sub>2</sub>O<sub>3</sub>
11. \_\_\_\_\_ KMnO<sub>4</sub> → \_\_\_\_\_ K<sub>2</sub>O + \_\_\_\_\_ MnO + \_\_\_\_\_ O<sub>2</sub>

## PROBLEMS

Draw the molecules just like the program did to figure out the answers to 12 and 13.



Fact for 12: Sodium metal, Na, is stored in kerosene so it won't react with water vapor. When added to water it reacts quickly to make hydrogen gas.



Fact for 13: This is an example of an acid base reaction. Acid + base → Salt + Water

From: <http://www.dun.org/sulan/chembalancer/worksheet.htm>. Designed by Sulan Dun. For more information, or to contact Sulan Dun: [sulan@dun.org](mailto:sulan@dun.org)

