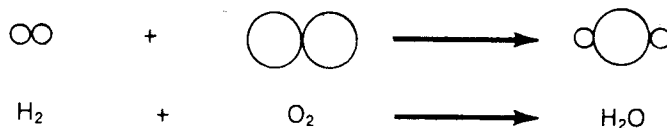
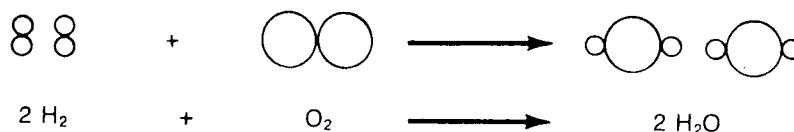


DRAWING BALANCED EQUATIONS

Balanced chemical equations show equal numbers of atoms on both sides of the arrow. Drawing pictures of the molecules may help you understand the symbols. For example, the unbalanced equation for the formation of water is

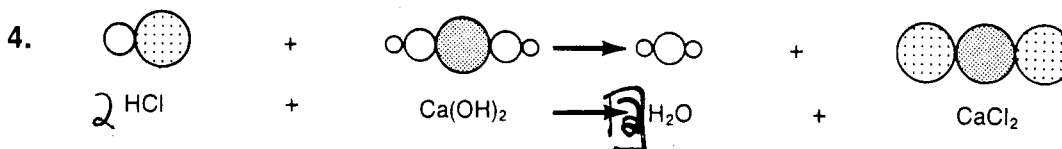
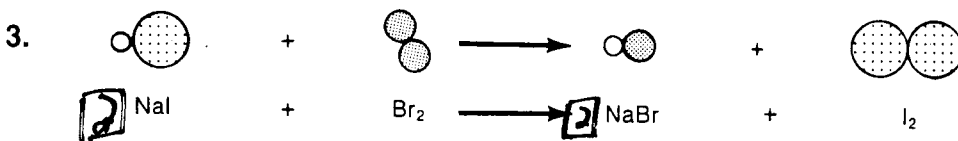
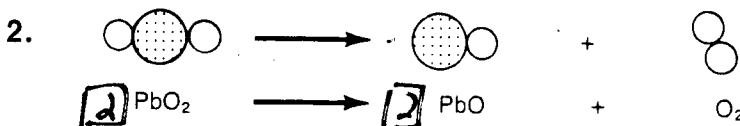
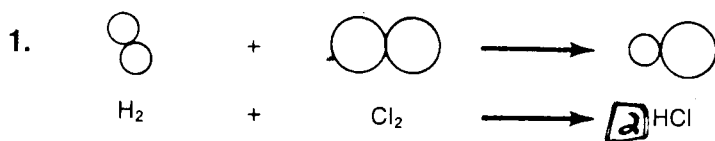


To balance the equation, we must add another molecule of water to the right side to obtain equal numbers of oxygen atoms on both sides. Then we must also add another molecule of hydrogen to the left side to obtain equal numbers of hydrogen atoms on both sides. In pictures, this would look like



Note how the number in front of each formula stands for the number of molecules (no number is understood to mean 1 molecule or atom).

Now look carefully at the drawings and equations below. In the spaces at the right, label each equation as one of the four general kinds of reactions. Then on the back, draw pictures as described above to help you balance the equation. And then give the balanced equation for each.



KIND OF REACTION

1. Synthesis
2. Decomposition
3. S. Replacement
4. D. Replacement