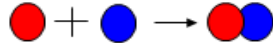

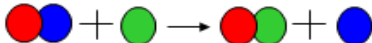
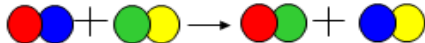


Chemical Reactions

ANSWER KEY

1. Watch the video and then complete the chart.

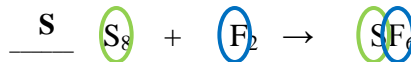
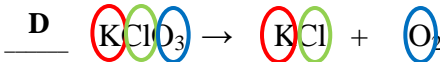
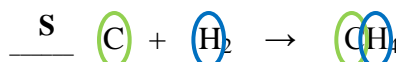
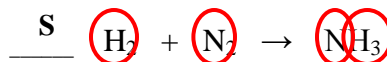
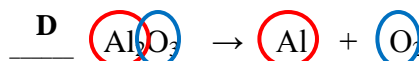
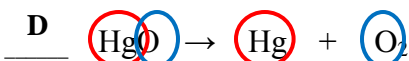
Teacher notes on next page!

Type of Reaction	Definition	★ Equation
Synthesis	Two or more elements or compounds combine to make a more complex substance	$A + B \rightarrow AB$ 
Decomposition	Compounds break down into simpler substances	$AB \rightarrow A + B$ 
Single Replacement	Occurs when one element replaces another one in a compound	$AB + C \rightarrow AC + B$ 
Double Replacement	Occurs when different atoms in two different compounds trade places	$AB + CD \rightarrow AC + BD$ 

Colors: A = Red, B = Blue, C = Green, D = Yellow

2. Use colored pencils to circle the common atoms or compounds on each side of the equations to help you determine the type of reaction it illustrates. Use the code below to classify each reaction.

S = Synthesis D = Decomposition SR = Single Replacement DR = Double Replacement



Note: SO₄ is a polyatomic ion.

Teacher Notes:

My students have difficulty identify the different types of chemical reactions. I use this worksheet after we have already discussed balancing equations to explore the differences between synthesis, decomposition, single replacement, and double replacement reactions. A PowerPoint presentation is also available for use on a SmartBoard or other interactive whiteboard device. If you do not have access to this technology, you might consider printing the individual slides on transparencies and project them using a standard overhead projector.

To start the lesson, the students watch a movie about chemical reactions. The "Physical Science Series: Chemical Reactions" movie is available on United Streaming if you have a subscription.

A PowerPoint for this lesson is available at <http://sciencespot.net/Media/ChemReactions.ppt>.

After the movie, I discuss each type of chemical reaction and have the students complete the chart. We also add letters and colors in the third column to help them focus on what happens in each equation by comparing the reactants and products.

For #2, the students use colored pencils to circle the atoms on each side of the reaction. They use the same color for each atom to help them see what happens and then classify each using the code listed.

NOTE: If they have not already completed the Balancing Equations worksheet on my website, you can have them balance each equation after they are done.