

Single Replacement Reactions (Pg. 160-161)

What is a single replacement reaction?

How many general forms does a single replacement reaction have and what are they?

In a single replacement reaction, what takes the place of another element in a compound?

What is the equation for the single replacement reaction involving copper and silver nitrate?

What new compound forms in the reaction involving copper and silver nitrate?

How does hydrogen behave in a single replacement reaction?

What happens in the reaction between chlorine gas and a solution of sodium bromide?

Experiment 4: Copper (II) Sulfate and Iron

Procedure:

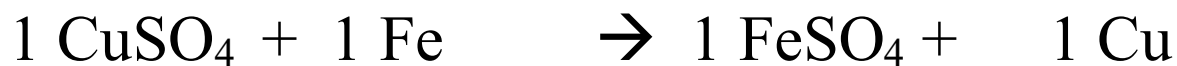
1. Pour copper sulfate solution into a test tube to a depth of about 2 cm.
2. Add a piece of steel wool (about the size of a dime) to the test tube.
3. Wait for three minutes. Look closely at the color of the steel wool. Record your observations.

Observations? What happened?

Which ion trades partners during this reaction?

Balance this Chemical Equation:

The reaction of: _____ + _____



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

During this reaction, the sulfate ion trades partners, becoming bonded with iron.

Experiment 5: Copper (II) Sulfate and Tin

Procedure:

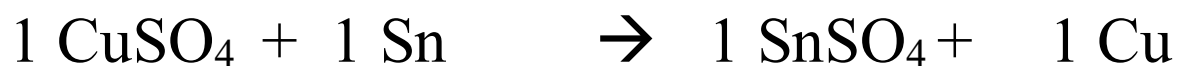
1. Pour copper (II) sulfate (CuSO_4) solution into a test tube to a depth of about 2 cm.
2. Place a small piece of tin metal in the solution.
3. Be patient — remember not all reactions happen quickly! Record your observations.

Observations? What happened?

How do the charges of each ion help you figure out the formula of the new compound that has formed?

Balance this Chemical Equation:

The reaction of: _____ + _____



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

During this reaction, the sulfate ion trades partners, becoming bonded with tin.

Experiment 6: Hydrochloric Acid and Magnesium

Procedure:

1. Pour hydrochloric acid into a test tube to a depth of about 4 cm.
2. Add a 2 cm piece of magnesium ribbon to the test tube.
3. Allow the test tube to sit for 3 minutes.

Observations? What happened?

Why is there no color change during this reaction?

Balance this Chemical Equation:

The reaction of: _____ + _____



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

During this reaction, the chloride ion trades partners, becoming bonded with magnesium.

Draw these Single Replacement Reactions.

The reaction of: _____ + _____



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

The reaction of: _____ + _____



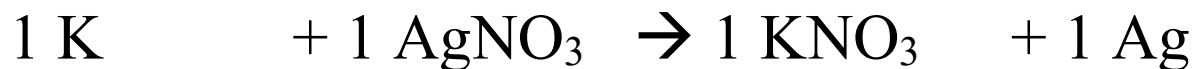
Bohr Diagrams

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Bohr Diagrams

The reaction of: _____ + _____



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Draw these Single Replacement Reactions.

The reaction of: _____ + _____



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Bohr Diagrams



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

The reaction of: _____ + _____



Bohr Diagrams

Bohr Diagrams

Bohr Diagrams

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