Chemical Change

Fifth Grade
Activity: 3
Time: 1 Class Period

General Description
Elements and compounds undergo physical and chemical changes; these are based on physical and chemical properties. This series of activities is designed to provide opportunities for students to make predictions, observations, plan investigations, and evaluate their results.

Objectives
Students will observe and investigate chemical changes.

Arizona State Standards
SC05 S5C1 PO3 Describe changes of matter:
- physical – cutting wood, ripping paper, freezing water
- chemical – burning of wood, rusting of iron, milk turning sour

SC05 S1C2 PO1 Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.

SC05 S1C1 PO1 Formulate a relevant question through observations that can be tested by an investigation.

SC05 S1C1 PO2 Formulate predictions in the realm of science based on observed cause and effect relationships.

Teacher Information
Allowing students the opportunity to explore chemical changes improves their understanding and retention of the concept.

Materials
Set #1
Steel wool
Ziploc bags
Water

Set #2
Copper pennies
Plastic or glass shallow container
Vinegar

Set #3
Baking powder
Water
Small plastic water

Procedures/Exploration

Set #1

1. Ask students to predict what will happen when they combine water and steel wool. Have them record their predictions in their science journal
2. Give them the materials from set #1 and ask them to plan how they will test what happens when water and steel wool are put together.
3. Students must have their plan checked by you before they can start. Students should plan to put one piece of steel wool into each bag and add water to only one bag.
4. Record what happens in their journal, compare the results to their predictions.

Set #2

1. Ask students to predict what will happen when they combine copper and vinegar. Have them record their predictions in their science journal
2. Give them the materials from set #2 and ask them to plan how they will test what happens when vinegar and copper are put together.
3. Students must have their plan checked by you before they can start. Students should plan to put one piece of copper into each container and add vinegar to only one container.
4. Record what happens in their journal, compare the results to their predictions.

Set #3

1. Ask students to predict what will happen when they combine water and baking powder. Have them record their predictions in their science journal
2. Give them the materials from set #3 and ask them to plan how they will test what happens when water and baking powder are put together.
3. Students must have their plan checked by you before they can start. Students should plan to put baking powder into a container and add water to it.
4. Record what happens in their journal, compare the results to their predictions.