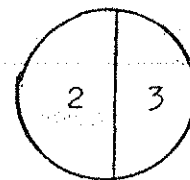


Before AIW

Five
Hazard



Title: The Making of an Alloy

Purpose: To show, in a dynamic way, what an alloy is.

Materials: (This is a list of materials for a two student set-up)

- 3 pennies (dated prior to 1983)
- 1 evaporating dish
- 25 g zinc dust or zinc granuals
- 100 ml of a 3 molar sodium hydroxide solution (12 grams of sodium hydroxide and enough water to make 100 ml of solution)
- 1 hot plate
- 1 bunsen burner or alcohol lamp
- 1 pair of metal tongs
- 1 500 ml beaker filled with cold water
- cover goggles

Methods: Place the zinc in the evaporating dish and pour the sodium hydroxide over the top. (Pour as much as you can in the dish but don't run it over.) Now place the evaporating dish on the hot plate and heat to almost boiling. Place two of the pennies in the dish being careful not to splash any of the hot solution on your hand. With the tongs, turn the pennies frequently until they are evenly coated with zinc. This happens rather quickly. With the tongs, remove the pennies, wash with cold water, and dry. The pennies should have an even coat of zinc over the copper. Touching only the edge of the penny, pick up one of the zinc coated pennies. (The tongs should not be touching the head or the tail of the coin). Hold the penny in the hottest part of the flame of the bunsen burner or alcohol lamp until the penny turns a golden color. DO NOT OVERHEAT. QUICKLY thrust the hot golden penny into the cold water. You should now have a brass penny. (remember that a combination of copper and zinc make the alloy brass).

Safety: There should be no safety hazards affiliated with this activity when performed by the teacher as a demonstration. Cover goggles should be worn. Students should maintain measureable distance from the activity when doing this demonstration. Know the location and proper use of fire extinguisher, fire blanket, eye wash, and drench hose.

Results: Write short paragraph describing what happened in each step and compare the color of the pennies before you placed them in the solution of sodium hydroxide and zinc, before you placed the penny in the flame and the penny at the end of the experiment.

Conclusion: Predict how deep into the penny that the brass color goes and test your prediction.

Name: _____

Element Name Challenge

Use the symbols for the elements to spell the names of your classmates. Spell a minimum of 7. Candy given for names beyond 7. The first or last name may be spelled but no abbreviations or nicknames may be used. You must write out the element names and symbols for your answers as part of this assignment. (Don't just circle the name)

Ex. Calvin

C Carbon
Al Aluminum
V Vanadium
In Indium or I Iodine
and N Nitrogen

Student

- | | |
|---------------------------|------------------------|
| 1. Bolkema, Colin | 1. Alvarado, Miguel |
| 2. Brands, Austin | 2. Arteaga, Fatima |
| 3. Draffen, Marcus | 3. Fick, Dana |
| 4. Ewoldt, Nicole | 4. Hamling, Allyson |
| 5. Fick, Brooke | 5. Klarenbeek, Maxwell |
| 6. Kleinwolterink, Alicia | 6. Lin, Vincent |
| 7. Koerselman, James | 7. Ramos, Viviana |
| 8. Liu, Gini | 8. Reinke, Danielle |
| 9. Marra, Evan | 9. Van Roekel, Brandt |
| 10. Moser, Brittney | 1. Alexander, Nathan |
| 11. Savage, Alidea | 2. Fintelman, Jason |
| 12. Schenk, Kelsey | 3. Klarenbeek, Arthur |
| 13. Sietstra, Alex | 4. Kreun, Abigail |
| 14. Sietstra, Chris | 5. Lund, Brandon |
| 15. Sipma, Kylie | 6. Moss, Bryce |
| 16. Te Slaa, Allison | 7. Rygaard, Sarah |
| 17. Van Dyk, Kyland | 8. Warntjes, Nathan |
| 18. Wielenga, Kelsey | 9. Willer, Dane |