

Comparing the Properties of a Compound with it's Parent Elements

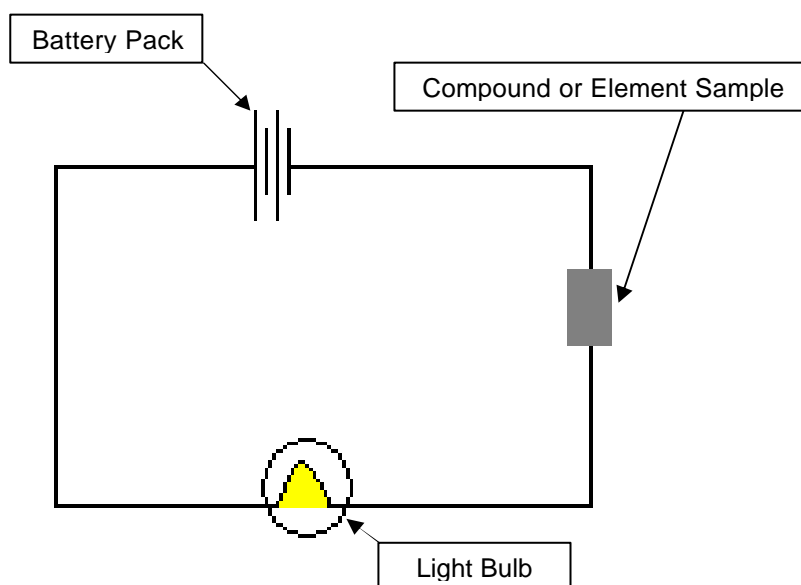
Aim: To investigate and compare the properties of a compound and it's parent elements.

Equipment:

- Light bulb
- Sandpaper
- Wires
- Alligator clips
- Magnesium
- Oxygen
- Universal Indicator
- Tongs
- Battery Pack
- Universal Indicator Card
- Water
- Test tube
- Stopper
- Beaker

Method:

1. Obtained a strip of magnesium ribbon and recorded it's state and colour.
2. Set up circuit and tested electrical conductivity of magnesium and recorded result.
3. Filled a test tube with 10ml of water and added a few drops of Universal Indicator. Added 1cm strip of Magnesium and recorded the resultant colour and pH.
4. Repeated step 2 for Oxygen.
5. Filled another test tube with 10ml of water and added a few drops of Universal Indicator. Placed stopper on test tube and shook test tube vigorously to aerate water with oxygen. Recorded resultant colour and pH.
6. Using tongs and Bunsen burner, ignited strip of Magnesium ribbon and then moved burning strip over beaker filled with 250ml of water. Transferred magnesium oxide ash into the beaker.
7. Recorded state & colour of magnesium oxide.
8. Repeated steps 2 & 3 for Magnesium Oxide.



Results:

Property	Mg	O ₂	MgO
State	Solid	Gas	Solid
Colour	Silver	Transparent	White
Electrical Conductivity	Yes	No	No
UI colour in solution	Green	Green	Blue
pH	7	7	9
Melting Point (Degrees Celsius)	650	-218.79	2800
Density (g/cm ³)	1.74	0.001429	3.58

Calculations: $2\text{Mg} + \text{O}_2 = 2\text{MgO}$

Conclusion: While some properties the compound magnesium oxide were consistent with it's parent elements, the majority of the properties did differ from the original parents.

Evaluation: Overall, a successful practical that clearly showed how properties change when chemical reactions occur.