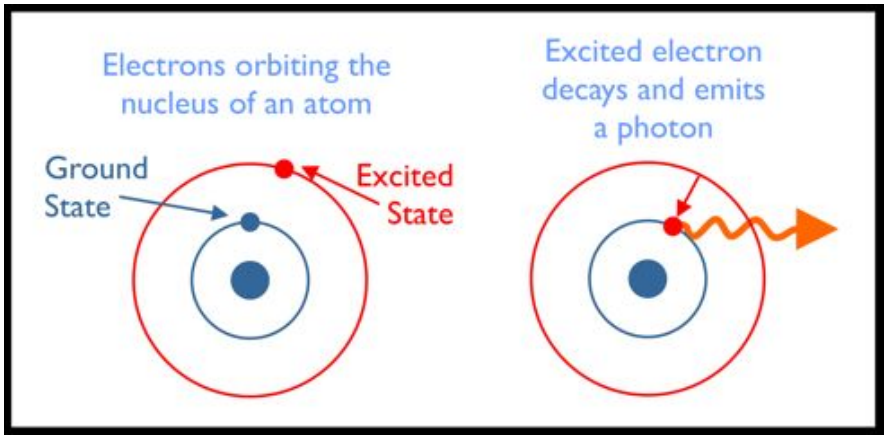
Energy From Electrons

Jumping Electrons

- Electrons have a defined distance from the nucleus in a specific energy level.
- Electrons get excited and jump to different levels = more energy!



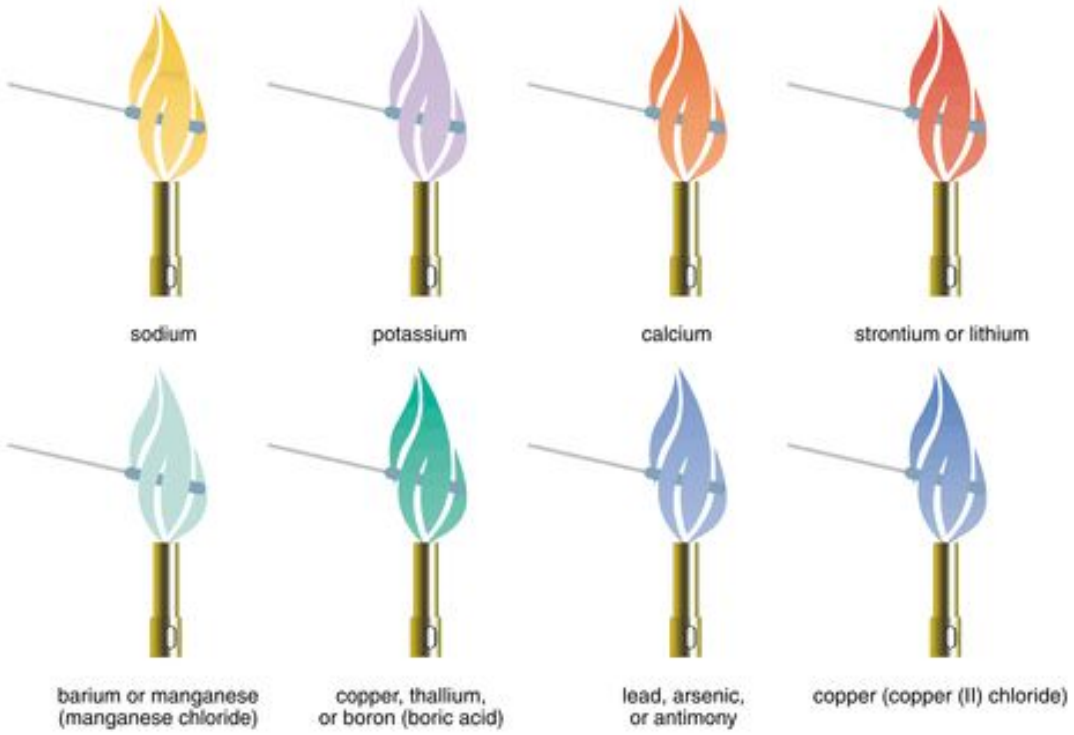
Fireworks!

- Needs to return to original “ground” state.
- Releases release extra energy that we see as different colors!



Flame Test Color

A flame test is an analytic procedure used to detect the presence of certain elements, primarily metal ions, based on each element's characteristics flame color.

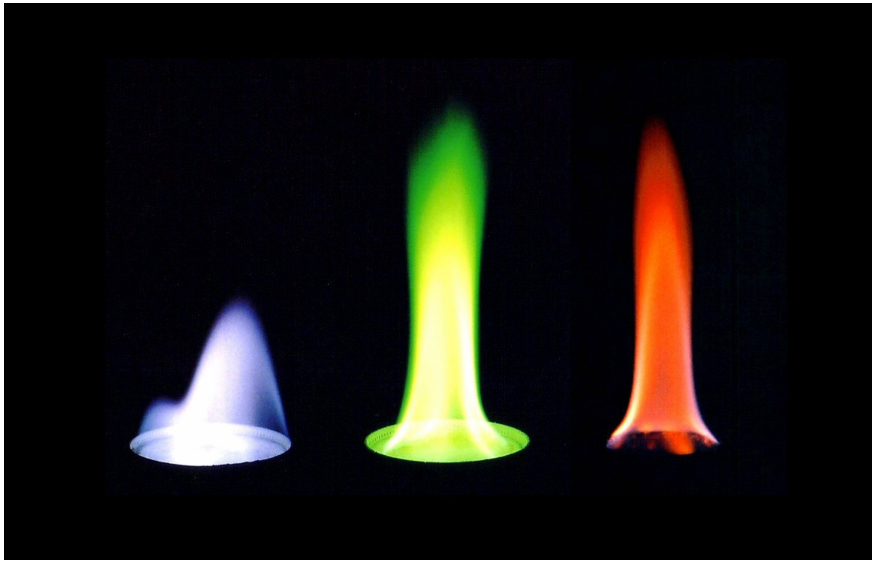


Demo Observations

- Write down your observations from the demo

Demo Flame Test

- Classic demo with bunsen burner
- Using watch glass/beaker
- Flame test WITHOUT bunsen burner



Flame Test (without Bunsen Burner)

Intro

Flame tests are used in chemistry to **identify metal** ions. A small amount is held in the flame and the color given off is observed. When heated, the **electrons gain energy** and **jumps** energy level shells. They quickly fall back down to their original level, releasing **energy as light** as they do. Different elements have different arrangement of electrons in shell which then gives off characteristic flame colors.

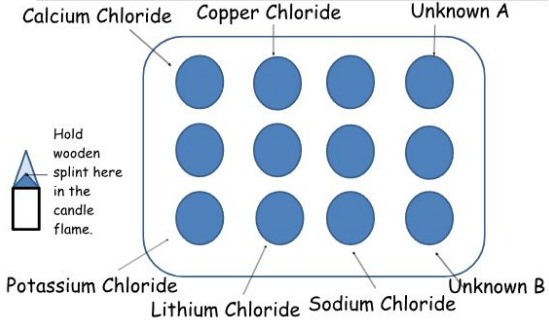
Method

1. Dip your wooden splint in water.
2. Dip it in one of the salt.
3. Put it in the flame. Note the color change. ***If the splint catches on fire, place it in the beaker with water!***
4. Repeat with the other chemicals, using a new wooden splint each time.
5. Use your observations to work out the metals in the Unknown samples.

Safety

- Hazardous Chemicals
- Lit candle
  - Hair tied up
  - Aprons and Goggles
  - Long sleeves pulled up

Flame tests for metals.



Name: _____

Date: _____ Period: ____

Prediction

Is it possible to tell which metals are in your unknown samples just by looking at them? Have a try and see if you can guess correctly. Make sure you say why you have made that choice.

I think unknown A is _____

because _____

_____

_____

I think unknown B is _____

because _____

_____

_____

Results

Tube # (color)	Chemical	Color Flame
1 (brown)	Calcium Chloride	
2 (clear)	Copper Chloride	
3 (pink)	Potassium Chloride	
4 (blue)	Lithium Chloride	
5 (purple)	Strontium Chloride	
6 (green)	Barium Chloride	
A (yellow)	Unknown A	
B (orange)	Unknown B	

Post-Lab Questions

How could this test be useful in the real world?



Demo Magnesium Ribbon

