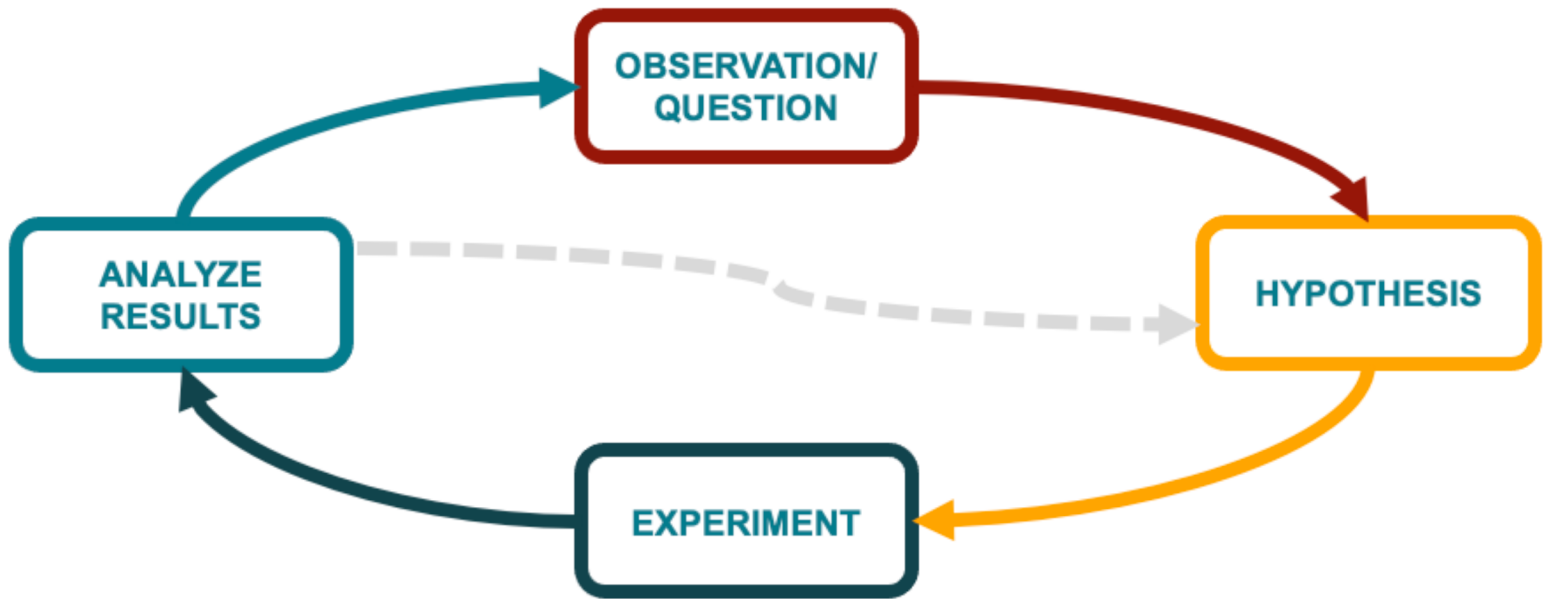




Week 2: Introduction to the Scientific Method

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Part 1: Review the Definitions



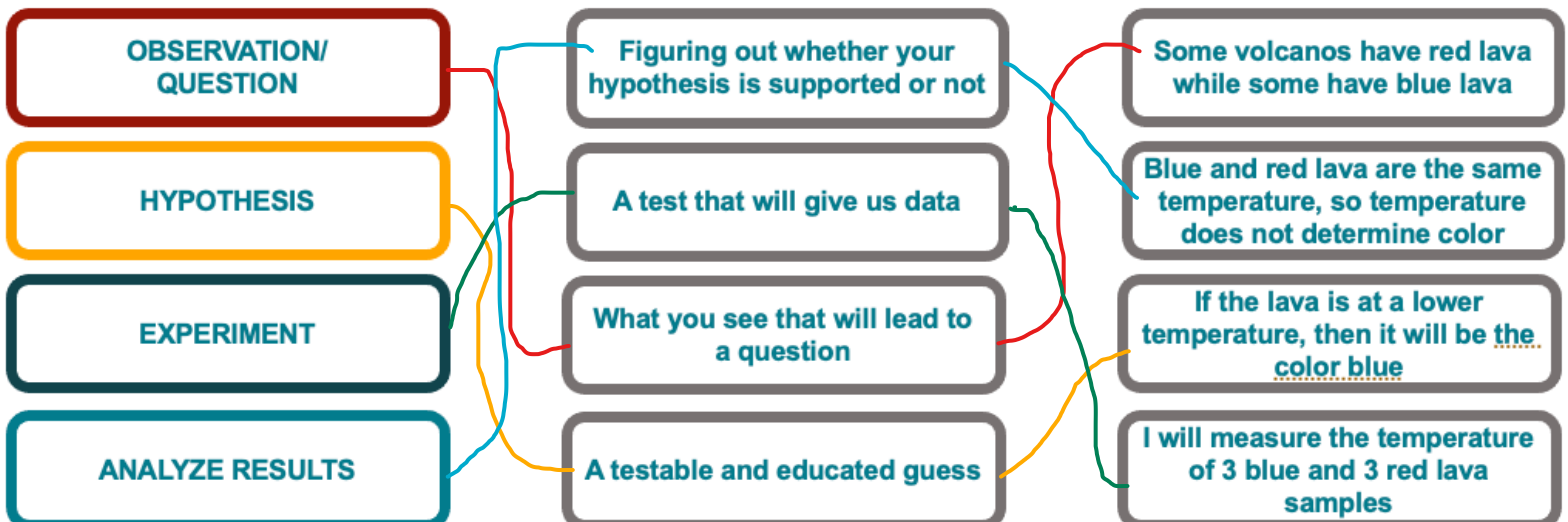
Draw arrows to what definition and example matches which scientific method step



Step

Definition

Example





Week 2: Introduction to the Scientific Method

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Part 2: Apply the Definitions

1. What is our hypothesis? (Use an if...then... format)

Pause at Time Stamp: 2:16

Student answers may include:

"If the salts have the same cations, then they will have the same color flame." - desired answer based on video discussion

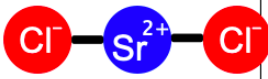
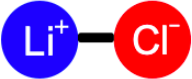
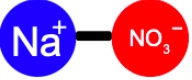
"If the salts have different anions, then they will have different color flames."

2. How should we design the experiment? (Hint: LiCl and KCl gave different colors, what is different about them?)

Pause at Time Stamp: 3:03

Student answers may vary. We want to talk about how to determine our hypothesized change, and using our example students should identify that the anions are the same but the cations are different, so the change in cations results in the changing colors. Student suggestions should include methods of testing those differences while holding other factors constant. Make suggestions to guide them to these goals.

3. What are our results? (Fill in the table as we do the experiment)

Compound	Cation	Anion	Flame Color
None	N/A	N/A	Blue
	Strontium	Chloride	Red
	Lithium	Chloride	Hot Pink
	Sodium	Chloride	Orange
	Potassium	Chloride	Light Pink
	Sodium	Nitrate	Orange

Completed table visible at Time Stamp: 5:55

4. What is our conclusion? (One sentence, is the anion or cation responsible for color)

The cation is responsible for the change in color.