360Storylines: Fireworks

Lab 1: Elements, Compounds, and Mixtures

IP: Can we break down matter? Write a possible explanation of this phenomenon.	**AP:** Can matter form new substances when combined? Based on what you learned in this experiment, try to formulate an explanation to answer this question. What evidence did this experiment supply to aid in your understanding?
Revised Explanation: After performing the experiment, what revisions need to be made to your explanation of the ***IP***? What observations did you make that led to these revisions? Write your new explanation.	

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Lab 2: Bean Bag Isotopes

IP: Are all atoms of an element the same? What particles make up the atom? Write a possible explanation of this phenomenon.	**AP:** In what way(s) do you think this lab experiment relates back to the anchoring phenomenon? How does the evidence collected in this experiment add to your understanding of colors in fireworks?
Revised Explanation: After performing the lab experiment, what revisions need to be made to your explanation of the ***IP***? What observations did you make that led to these revisions? Write your new explanation below.	**Working Model:** Apply what you have learned in labs 1–2 to formulate an explanation of colors in fireworks.

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Lab 3: Evaluate Atomic Spectra

IP: Do all atoms in a gas filled spectrum tube display the same emission spectrum when viewed through a spectroscope? Write a possible explanation of this phenomenon.	**AP:** What happens to the particles in an atom to produce unique colors in the visible region of the electromagnetic spectrum? In what way(s) do you think this lab experiment relates back to the anchoring phenomenon? How does the evidence collected in this experiment add to your understanding of fireworks?
Revised Explanation: After performing the lab experiment, what revisions need to be made to your explanation of the ***IP***? What observations did you make that led to these revisions? Write your new explanation below.	**Working Model:** Apply what you have learned in labs 1–3 to formulate an explanation of fireworks.

Lab 4: Evaluate the Bohr Model of the Atom

IP: Can we know the precise location of an electron around the nucleus of an atom? Write a possible explanation of this phenomenon.	**AP:** What is the probability of finding an electron as its distance from the nucleus increases? In what way(s) do you think this lab experiment relates back to the anchoring phenomenon? How does the evidence collected in this experiment add to your understanding of fireworks?
Revised Explanation: After performing the lab experiment, what revisions or additions need to be made to your explanation of the ***IP***? What observations did you make that led to these revisions? Write your new explanation below.	**Final Model:** Apply what you have learned in labs 1–4 to formulate an explanation of fireworks.

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Lab 5: Model Electron Configuration

IP: Do all atoms have the same number of electrons in all of the atomic orbitals? Write a possible explanation of this phenomenon.	**AP:** Do all atoms have the exact same electron configuration? In what way(s) do you think this lab experiment relates back to the anchoring phenomenon? How does the evidence collected in this experiment add to your understanding of fireworks?
Revised Explanation: After performing the lab experiment, what revisions or additions need to be made to your explanation of the ***IP***? What observations did you make that led to these revisions? Write your new explanation below.	**Final Model:** Apply what you have learned in labs 1–5 to formulate an explanation of fireworks.

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Lab 6: Evaluate Atomic Structure with Flame Tests

IP: Why do burned metal ion samples display brightly lit colors? Write a possible explanation of this phenomenon.	**AP:** Why do burned metal ion samples display different colors? What happens to the particles in the metal ion samples that cause the different display of colors? In what way(s) do you think this lab experiment relates back to the anchoring phenomenon? How does the evidence collected in this experiment add to your understanding of fireworks?
Revised Explanation: After performing the lab experiment, what revisions or additions need to be made to your explanation of the ***IP***? What observations did you make that led to these revisions? Write your new explanation below.	**Final Model:** Apply what you have learned in labs 1–6 to formulate an explanation of fireworks.