360Storylines: Ocean Acidification

Lab 1: The pH of Seawater

IP: How does carbon dioxide change ocean pH? Write a possible explanation of this phenomenon.	**AP:** What effect does a decreasing ocean pH have on the plants and animals that live there? 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: Carbon Dioxide Levels in Water

IP[1]**:** How does climate change affect the concentration of greenhouse gases? 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 ocean acidification?
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 the effect of ocean acidification on the marine environment.

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Lab 3: Ocean Currents

IP: What[2] effect do melting glaciers have on ocean currents? Write a possible explanation of this phenomenon.	**AP:** Does fresh water have a different pH than salt water? 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 ocean acidification?
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 the effects of ocean acidification on the marine environment.

Lab 4: The Fate of Carbonate in Acidifying Oceans

IP: How is the carbonate equilibrium affected by pH? Write a possible explanation of this phenomenon.	**AP:** What are the long-term effects of calcium carbonate depletion? 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 ocean acidification?
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.	**Working Model:** Apply what you have learned in labs 1–4 to formulate an explanation of the effects of ocean acidification on the marine environment.

Lab 5: Calcium Carbonate and Shell Production

IP: How does ocean pH affect calcifying organisms? Write a possible explanation of this phenomenon.	**AP:** Can the effects of ocean acidification on coral reefs be reversed? 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 ocean acidification?
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 the effects of ocean acidification on the marine environment.