Game of Floods

Adaptations for the Impacts of Climate Change

Asset Inventory

Step 1: Each team will receive role cards, a budget, and a scenario to guide game play.

City Planning Role: _____

Climate Change Scenario: _____

Funding Limit: _____

Step 2. Review your game board and your role. Select the assets (buildings and services) on the board that align with your role. List the assets below and what the effect of climate change will be on this asset.

Asset	Will projected sea level rise affect this asset?	How will increased precipitation and storms affect this asset?

Vulnerability Assessment

Step 3: Now that you have identified the assets that are important to your role, you need to decide what the exposure risk is and the importance of the asset to the island. This will help you determine what you should save and what isn't worth the money.

Exposure Criteria	Importance Criteria
High (3): Will definitely feel the impacts of the climate scenario	High (3): This asset is very important for island function and will be very damaged by climate change
Med (2): Might feel the impacts of the climate scenario	Med (2): This asset is kind of important for island function and might be damaged by climate change
Low (1): Will only slightly be affected by the climate scenario	Low (1): Not very important for island function

Asset (from page 1)	Exposure Score	Importance Score	Total Vulnerability Score V= exposure + importance	Ranking of Asset (the highest score should be the one you need to save the first)

Stop here and have your teacher check your work

Adaptation Planning - Play the Game; Save the Island

Step 4: Now that we have decided what is important for your role you can start playing the game. Refer to the Adaptation Cost Reference Sheet. Keep your budget and role in mind as you play.

Step 5: Play the Game: Start with the student who is sitting to the Left of the Business role. Have students refer to the steps of Game Play on the Island Board.
Students will complete their turn in the following order

1. Choose an asset to adapt or a general adaptation strategy.
    a. Example: We need to move the hospital OR We need to install levees along the beach.
2. Propose that asset to the group. The group can argue for or against with their roles, budget, and scenario in mind.
3. The person who's turn it is gets the final say on what adaptation to use and what asset to save.
4. Mark on the Map what you have decided to do. Reference the Map Markers on the game board.
5. Add the final decision and cost to the worksheet on Adaptation Strategy Record

Students continue to take turns until the budget is spent or all 20 rounds have been completed

The goal of the game is to save all of your assets that are important to your role AND to stay under budget. Think of innovative ways to save the island without using all of your allocated funding!

Want to play for points? Each asset saved (relocated or adapted or otherwise) is one point toward your score. You cannot save assets if you run out of money. The player with the most points at the end wins.

Adaptation Strategy Record

Round	Adaptation Strategy	Asset(s) Saved	Cost Per Quantity	Quantity	subtotal Cost
Ex)	Traditional Levee	Seaway Estates	$2 million	2	$4 million
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
				Halfway point Total Cost	

Round	Adaptation Strategy	Asset(s) Saved	Cost Per Quantity	Quantity	subtotal Cost
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
				Total Cost	

Analysis Questions

Step 6: At the end of game play, the class will do a gallery walk to see how each other team achieved their goals. The class will vote on the best strategy and the most successful adaptation plan.

Step 7: Answer the analysis questions with your group.

1. How is *Adaptation* different from *Mitigation*?

2. Which island had the best overall adaptation plan?

    a. What were 3 things they did that made it the best adaptation strategy?

3. On your island, which adaptation strategy worked the best (saved the most assets)? **Explain Why.**

4. How much **more** money would you need in order to save the entire island?

    a. Where do communities get the money to implement climate adaptations? Feel free to do some research to find out the answer.

5. If there is one more thing you wanted to do to increase the resiliency (how well the town deals with the impacts of climate change) of the town, but you could not afford, what would it be and why?

6. If you had a budget of $5 million how would that impact your adaptation strategy on the island? What is one adaptation strategy you would HAVE to keep on that budget?

7. What will the people of your island have to do if they cannot adapt to the impacts of climate change?

8. Think about outreach and engaging the community, what activities would you need to complete as you implement your Plan? How would you get everyone in the community on board with your plan?

9. How does Sea Level Rise impact Indiana? Watch the video about the Great Lakes.

10. What are some adaptations that Indiana will have to put in place to deal with the impacts of climate change? Fill out the table below.

Climate Change Impact	Adaptation
More frequent and severe storms	

11. Create a Causal Loop Diagram showing the cause and effect of climate change impacts AND adaptations.