



## Directions for Using an MLODS Model

### Materials

- MLODS Model Kit (See “Directions for Building an MLODS model”)
- Graph paper (blank paper is fine)
- Pencil or pen

### Procedure

1. Using your pencil and graph paper, design the protections you want to use to defend your model coastal community from an incoming hurricane. Be sure to label your protections and use the parts of your MLODS Model Kit as inspiration.
2. After completing your design, place the model pieces representing your chosen protections on the board.
3. Make predictions about how you think your model will perform. Will the model community be protected? Where might water get through?
4. Roll your foam die to determine the category of the incoming hurricane. The higher the number, the stronger your hurricane will be. Make sure the marbles come from the elevated water end of the board.
  - a. If you roll a category 1 hurricane, only a small number of marbles should be tossed onto the board.
  - b. If you roll a category 5, all or nearly all of the marbles should be tossed, with a moderate amount of force.
  - c. See our MLODS interactive video for more examples.
5. Make observations about how your model performed. Compare your predictions to your results. Overall, reflect on how your design held up against the storm surge. Consider which protections were most effective and which were least effective in blocking or slowing storm surge.
6. Reflect on what changes you might make if you were to make a new design. Consider which protections were most effective, but consider other factors as well:
  - a. While both natural and human-made defenses are useful in protecting from storm surge, natural defenses are more likely to provide habitats for local wildlife and prevent coastal erosion over time.
  - b. Many defenses are expensive to implement, and are not accessible to all communities and community members.

Multiple Lines of Defense Strategy - Interactive Video  
Accompanying Material



### Challenge yourself with design restrictions:

- A specific budget with costs associated with different materials
- Limits on the amount of certain materials used (eg. clay)
- Limits on the length/size of certain protections
- Any others you wish to implement

Email us at [education@scienceforourcoast.org](mailto:education@scienceforourcoast.org) to share your designs and models!