

Sea Level Rise Supplies and Activity Preparation

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Purpose:

To investigate how sea level changes when sea ice melts and when land ice melts.

Set-up:

Student teams will create a model ocean with an island in the center. They will monitor sea level as sea ice melts and then see what happens when land-based ice melts and flows into their ocean.

Supplies:

- Water - cool tap water is best
- Ice
- Blue food coloring
- Small plastic containers (2.5 - 3.5 cup capacity Ziploc or Glad containers work well; have to be able to see through the sides)
- Small cups (for transferring water to model ocean and letting land-based ice melt)
- Markers - Sharpies work well; enough for each group of 4 to have one
- Potatoes or Rocks
- Paper bags (large enough to fit over the plastic containers)
- Saran wrap
- Rubber bands

Preparations:

- 1) Mark the side of each container with 1 cm increments (with zero at the bottom of the container and numbers increasing toward the top). This will be how students measure sea level.
- 2) Mix a pitcher of water with blue food coloring - enough so each group has ~ $\frac{1}{2}$ - $\frac{3}{4}$ cup of colored water. This is your "ocean water".
- 3) Pour colored water into small cups - one for each group.

- 4) If using potatoes, cut them in half. Put the potato halves in the container flat side down (so it looks like an island). You may need to cut the sides to make the potato fits in the container with enough space between it and the sides of the container. You will want enough space so that ice can **float** in that space when the students pour water in (you don't want the ice to be propped up by the island and container sides). If using rocks, choose rocks that are small enough to allow free floating ice.
- 5) Add a few pieces of ice to a small cup and leave out at room temperature - one for each group. This is your melting "land-based ice."