



BUILDING A LEVEE

Learn about how levees and related structures fail and how to make them stronger.

Materials

- Large plastic box or pan
- Sand
- Pebbles
- Popsicle sticks
- Cotton balls
- Duct tape
- Water

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www.elpc.org



Procedure

- Build a levee across your box using only sand. One side will be your town, the other will be your lake. The goal is to keep the lake from spilling onto your town.
- Pour water into the lake side of the box. Time how long it takes for the water to break through the sand levee. Observe what parts of the levee broke and why.
- Empty the water out of the box and rebuild your levee, this time using the rest of your materials inside and around the sand.
- Pour the water into the lake side again. Did your new levee hold? How long did it take for the water to spill over? How could you further improve your levee?

Results

The levee you engineered with materials held the water back longer than the sand alone.

Why?

When a river overflows, velocity decreases suddenly, causing the river to drop some of the larger grains of sediment that were suspended in the water. This causes a natural shoulder on the river called a levee. Humans have long been living and working on the flood plains of rivers. To protect themselves from flood waters, they have built bigger and sturdier levees along the river banks. These structures have to be carefully built as they can fail in a variety of ways.