

Climate Change

Lost Land

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PROBLEMS

- How does heavy rain erode farmlands?
- What can be done to reduce the damage caused by erosion?

MATERIALS

- toothpicks
- Cup
- 2 Graduated Cups
- Paper Towels
- Gravel
- Coffee stir straws
- 1 plastic cube
- Ruler
- Sand
- Spoon
- Scissors
- Model Slope and Catch Basin
- Rain Maker
- 2 chenille sticks
- Plastic mesh

PROCEDURE

1. Assemble the Model Slope and Catch Basin just as your teacher has demonstrated.
2. Use a graduated cup or measuring spoon to measure 60 mL (4 tablespoons) of sand.
3. Carefully pour that sand onto the sloped portion of the model.
4. Shape the sand into a square farm field.
5. Place a barn (plastic cube) on your field.
6. Make corn plants by cutting a chenille stick into 2-cm long segments.
7. Place 10 corn plants standing upright in your field.
8. Make a careful drawing of your farm field as viewed from above in the data table labelled **Drawing of Field (Before)**.
9. Use a clean graduated cup to measure 100 mL of water. Pour the water into the empty cup.
10. Slowly pour the water into the Rain Maker.
11. Record your observations in the data table **What We Saw Happening**.
12. Make a careful drawing of your farm field as viewed from above in the data table labelled **Drawing of Field (After)**.
13. Clean your Model Slope and Catch Basin over the trash can.

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14. Examine the additional materials you have (straws, toothpicks, gravel, plastic mesh) and discuss how some of these materials might be added to your field to reduce the damage caused by erosion. Sketch or explain your ideas below:

15. Create a new farm field, as you did in steps 2 through 10, but also add your design as shown above.
16. Make a careful drawing of your farm field as viewed from above in the data table labelled **Drawing of Modified Field (Before)**.
17. Test your field and record all your observations as you did before.

DRAWING of the FIELD	
Before	After

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DRAWING of the MODIFIED FIELD	
Before	After

What We Saw Happening – The First Field
On the field:
In the Catch Basin:

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What We Saw Happening – The Modified Field
On the field:
In the Catch Basin:

How effective were the modifications to your field?