



## Delta Discovery

Connecting Classrooms to Nature at the  
**Nueces Delta Preserve**

### Upcoming Dates

May 6: National Teachers Day

May 8: Mother's Day

May 14: **Delta Discovery  
Family Picnic**

May 30: Memorial Day

June 5: World Environment Day

June 8: World Oceans Day

June 19: Father's Day

June 21-23: **Coastal Bend  
Environmental Science  
Workshop (Elementary)**

June 27-30: **Coastal Bend  
Environmental Science  
Workshop (Alumni)**

June 29: International Mud Day

July 22: Hammock Day

August 30: National  
Marshmallow Toasting Day

# Teacher Discovery News

### Did You Know?

**International Mud day** is celebrated on June 29th. In 2009 at the World Forum for Early Childhood Care and Education in Belfast, the idea of International Mud Day had its beginnings. Two members of the Nature Action Collaborative for Children, Gillian McAuliffe from Western Australia and Bishnu Bhatta from Nepal discussed the challenges children faced when playing in mud in each other's context. Gillian reflected on her culture's reluctance to 'get dirty' and her city's lack of mud. Bishnu on the other hand had lots of mud but many children did not have enough clothes to be able to get them dirty or soap to wash them. Gillian told this story to a group of seven and eight year olds who then raised \$1000 to help buy the children in Nepal extra clothes so they could play in the mud. Bishnu arranged to have the clothes given to an orphanage and the two groups of children planned to play in the mud together, although in different countries, on June 29th. Mud Day is not only about playing in mud but a celebration of the joy of childhood, nature, and the connections that we have throughout the earth.



Have you ever used a photo as a writing prompt? Every photo is a story after all, and despite a photo's often literal representation of the world, it invites different interpretations.

The advent of digital photography has made it easier to share and distribute photos online. For teachers and students, it's also a terrific tool to spur different kinds of writing. You can vary prompts with the photo to include key words, questions to consider, ideas for writing, possible opening lines, suggestions for research, and more. This is a great way to create different dialogues, narratives, and commentaries.

Journaling Topics



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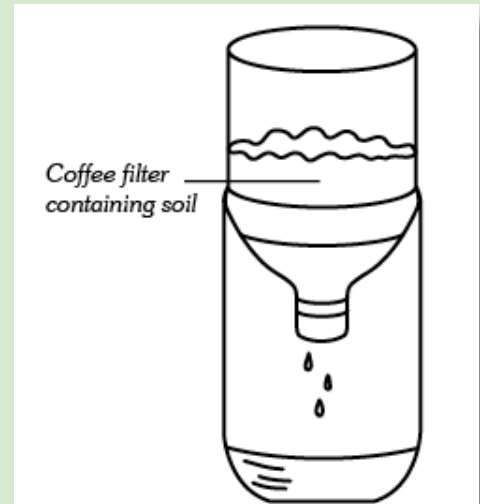
# Soil Percolation Activity

Soils are composed of three types of particles: sand, silt, and clay. The size of the particles varies, with clay having the smallest size and sand the largest. Smaller sized particles pack more closely together and slow the flow of water through the soil. The composition of a soil can affect the permeability of water to flow through the soil. In this experiment, the student will test the permeability of soils to water.

This information can be useful in determining how the soils can affect surface water runoff and erosion.

## Materials:

- Sand and clay soil samples (500 ml each)
- 2-L bottle (2)
- Food Coloring
- Coffee Filters
- Towels
- Eye dropper
- Water



1. Before beginning the tests, ask students: Do you think water will percolate faster through sandy or clay soil? Do you think it will percolate faster through wet or dry soil? Have students complete the Hypothesis and Rationale
2. Set up soil percolation apparatus using the 2-L bottle and coffee filter. See figure above, repeat with second 2-L bottle.
3. Place 500 ml of sandy soil into coffee filter, repeat with second apparatus using 500 ml of clayey soil.
4. Measure 500 ml of water (add two drops of food coloring for pollution test.)
5. Pour the tinted water into the soil. Time this step via a stopwatch until liquid has passed through the soil sample. Record the elapsed time.
6. Measure the amount of water that flowed through the apparatus, and the volume absorbed by the soil.
7. Calculate the percolation rate in ml/second. Percolation rate = 0.5 liters/percolation time.
8. Repeat the test to obtain the wet percolation rate. Use the same (now wet) soil sample.
9. Remove the soil and observe the color of the filter.

### Student Hypothesis and Rationale

If the food coloring represents pollution dissolved in the water, then it will be (choose one: filtered out, not filtered out, partially filtered out) as it passes through the sand, because . . .

Observation	Soil 1 (500 ml)	Soil 2 (500ml)
Location where soil sample was taken (optional)		
Soil Texture		
Soil Moisture		
Dry Percolation Time		
Volume of water poured		
Volume of water collected		
Volume absorbed by soil		
Calculate Rate (for Dry)		
Did filter capture color?		
Wet Percolation Time		
Volume of water poured		
Volume of water collected		
Volume absorbed by soil		
Calculate Rate (for Wet)		
Did filter capture color?		

1. Why was there a difference between the dry percolation measurement and the wet percolation measurement?
2. Did the food coloring pass through the soil and filter paper? If not explain what this might mean for pollutants that are dissolved in groundwater?
3. Under what conditions would the dry and wet percolation tests be very similar? Very different?

# Mud Bricks Activity

Young kids love the tactility of mud, and chances are your preschooler has already had his fair share of mud adventures. For this activity, learning measurements is the focus. Making mini mud bricks will also introduce your child to fractions. Encourage your kid to imagine what it was like building with bricks in ancient Egypt or Rome, and maybe even build a pyramid! This activity is especially useful for kinesthetic learners who benefit from hands-on projects.

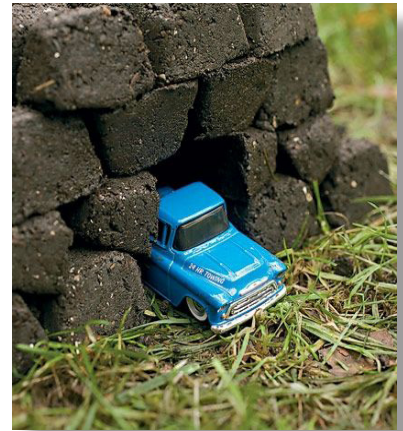
## Materials:

- 1 ice cube tray
- 1 cup dirt or sand
- 2/3 cup water
- Measuring cups
- Bowl
- Food coloring (optional)

## Procedure:

1. Let your child measure the correct amount of dirt into a measuring cup.
2. Help him carefully pour it into the bowl.
3. Next, let him measure out the correct amount of water into a measuring cup.
4. Help him carefully pour the water into the bowl with the dirt.
5. If he wants to add in food coloring, help him do so now.
6. Let him mix the dirt and water together using his fingers.
7. Once the water and dirt are completely incorporated, help him evenly divide the mud between each compartment in the ice cube tray. Next, have him pack each mini mud brick down with his thumb.
8. Encourage him to carefully remove the mud bricks from the ice cube tray by overturning it.  
Or, he can allow the mud to dry a bit and then empty out the tray.

Now your child has his very own brick building that's perfect for pretend play! If you have bricks to spare, why not make more buildings? Build a house, a tower, or even a miniature city.





## Delta News

We are excited to announce that we will be hosting FREE nature story time for families (geared for ages 2-5) at the Delta this summer! Our story time will introduce children to nature and the joys of reading through stories, songs, crafts, and outdoor play.

Join us at the Nueces Delta Preserve for summer Preschool Story Time, every other Thursday beginning on June 9th from 9:00 - 10:30 am. Each story time session will focus on a theme and will allow children, with parent or caregiver, to enjoy days at the Delta with nature-themed stories and other activities including nature walks, crafts, and/or live animals. Dress for outdoor activity. Except in extreme weather conditions, a portion of each class is spent outdoors.

Please bring your own snacks and bottled water.

For more information, please call (361) 673-6829, or email [education@cbbep.org](mailto:education@cbbep.org)



## Learning On the Edge News

We have had a great year utilizing our new Texas Parks and Wildlife COOP Grant! Through the grant we have been able to acquire new technology for high school students to use while attending two different field trips, one with us here at the Nueces Delta Preserve, and one at an area state park. The hope is that students will be able to compare and contrast habitat between the Delta and the state park and use the technology to record data that can be used back in the classroom.



Click on the link to catch a glimpse into one of those field trips. This video features CCISD's Miller High School Students. We are excited to partner with CCISD to foster learning outside of the classroom. The video was produced by the MANERR at Mustang Island State Park. We look forward to many more trips with high school students this upcoming year!

[https://www.youtube.com/watch?v=U7esZ\\_aOh8Y](https://www.youtube.com/watch?v=U7esZ_aOh8Y)



## Upcoming Events

### Delta Discovery Days

Please join us for our remaining Delta Discovery Family Picnic! The Delta will be open to the public (free of charge!) the following date:

**May 14** – Join us for a day of discovery and nature. The event will run from 11:00 am to 2:00 pm. We will be having a Dutch Oven Cooking demonstration and a craft for the younger kids.

Please feel free to bring a Dutch oven to throw on the fire or bring a picnic, picnic blanket and plenty of water for everyone (we recommend at least two bottles per person). Bug spray and sunscreen is also highly encouraged! There will be staff scattered around the area to answer questions and give background information on plants, animals and history. We look forward to seeing you out there!

\*For more information and to pre-register please visit our website: [www.nuecesdeltapreserve.org](http://www.nuecesdeltapreserve.org)

### Upcoming Summer Workshops:

June 21-23 Coastal Bend Environmental Science – Elementary Workshop

June 27-30 Coastal Bend Environmental Science – Alumni Workshop

The Coastal Bend Environmental Science workshop provides all the tools necessary for teachers to engage in successful science instruction in their classrooms: the experiences, the curriculum, the pedagogy for teaching field-based science, and the equipment necessary for student field experiences.

Educators participating in the Summer Academy exit the program obtaining added insight into the issues affecting the bays and estuaries, a sound knowledge base of the local ecology, and curriculum that translates into successful science experiences for their students.

Class size is limited. For more information and/or to register please visit our website: [www.nuecesdeltapreserve.org](http://www.nuecesdeltapreserve.org)

