

Waste Not, Want Not

Animal Waste at the Fair



QUEST 10 BIOLOGY

STATE FAIR OF TEXAS CURRICULUM



During this Live @ the Fair Quest, you will:

- ★ Investigate how the Fair manages animal waste.
- ★ Hypothesize what would happen to the ecosystem and to humans if the waste were improperly managed.
- ★ Design an art piece that reflects the ways that waste has been repurposed for good.
- ★ Imagine an alternate reality in which animal waste was not controlled, and compose a short story about it.



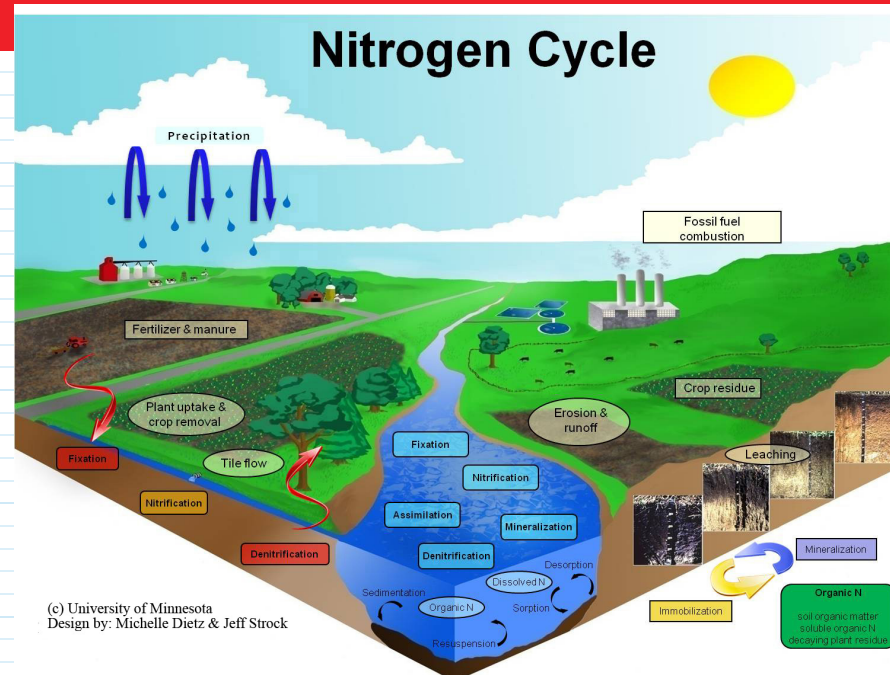
Standards

- ★ Biology TEKS: 11B, 11C, 12E, 12F
- ★ Art TEKS: Art I: 1A, 1D, 2D, 2F, 4A; Art II: 1A, 2D, 4A
- ★ ELAR TEKS: E1(14)(A)
- ★ Career Development TEKS: 1A, 2B, 2F, 5E

Many animals are brought through the barns during the days the State Fair runs. A natural byproduct of these animals is, of course, feces. Investigate how the State Fair manages the waste products, and hypothesize what might happen to the balance of the surrounding ecosystem if they weren't doing their "doody" properly.

Before You Go

- ★ Review the nitrogen cycle.



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STATE FAIR MAP



- o Use an interactive such as the Virginia Tech interactive to discuss how nitrogen can be good and bad:

- o https://www.sites.ext.vt.edu/virtualfarm/flash_mov/nitrogencycleintro.swf

- ★ Discuss microbes and bacteria that cause stool-to-mouth/fecal-oral infections. Special focus should be on *Campylobacter*, *E. coli*, *Listeria*, *Salmonella*, and *Trichinosis*.



Invitation

- ★ Invite students to bring the listed materials and follow the route, and perform the tasks below at the State Fair of Texas:



Plan Your Route

- ★ Use Google to find the Woofus at the State Fair of Texas.
- ★ Make your way to the Woofus, and gaze upon the glorious beast.
- ★ Ponder what type of waste the Woofus might produce.
- ★ You are now near the Livestock Barns. Go in and follow the instructions for this Quest!



Optional Materials to Bring

- ★ Writing utensil and something to write on
- OR
- ★ A way to digitally take notes



While You're There

The objective of your visit is to investigate animal waste management methods at the Fair.

- ★ **DO YOUR DOODY!:** Investigate how waste management methods at the Fair help keep animals (and fairgoers) happy and healthy.

- o In the animal barns, note which animals are currently on display.
 - ☐ Count the number of animals present in the barn.
 - ☐ Note how the animal barns are designed.
 - ☐ What bedding is used for the animals?
 - ☐ How are the floors designed to contain (or not contain) waste?
 - ☐ Where is water located?
- o Look for ways that the Fair has managed waste.
 - ☐ If you can't find receptacles or information, then find someone you can interview about what is done and who is responsible for animal waste.

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After the Fair

When you return to class following your State Fair visit, you will create a model (digitally, on paper, or another method) of what would happen to the area around the animal barns if the waste were improperly managed.

- ★ Research the weight of waste produced per day based on how many animals were in the barn at the time of your visit, and include that in your model.
- ★ Research other methods of waste management, such as methane composters, and create a waste management proposal for the Fair that would benefit them.
- ★ Lab: analyzing fecal samples for infectious agents.



ART PORTION

After adding up all of the waste that is accumulated at the State Fair, I'm sure you're left wondering, what do they do with all of that?? Well, actually, feces is used for many different purposes around the world - you'd probably never guess some of them!

- ★ Check out the link below to see some of the very creative ways that poop has been utilized! <http://inhabitat.com/top-6-eco-friendly-uses-for-poop/>
- ★ Now, do some of your own research regarding the many ways that various cultures and countries utilize feces in a positive way.
- ★ When you are done digging for information, create an art piece that reflects your favorite way that poop has been repurposed for good.
- ★ If you don't see anything that truly inspires you, design your own way to use it!
- ★ This can be a representational or an abstract work, but keep in mind: you will need to explain your reasoning for your choices when presenting your piece!



ENGLISH PORTION

It is time to get your imagination moving! What if we lived in a world in which the end of the world was imminent due to a surplus of animal waste? Who or what would step up and save us all?

Your story should be two pages long and focus on:

1. How the animal waste built up on the planet
2. The earth's last ditch effort to rid itself of the animal waste
3. The end of the world caused by the animal waste

Be creative, but make sure to use proper spelling, punctuation, and grammar.