

Under the Weather

Keeping the Midway Cool

GAMERS

QUEST 10
ENVIRONMENTAL
SCIENCE

STATE FAIR OF TEXAS
CURRICULUM

STUDENT EDITION

Recap

You will be going to the State Fair of Texas to assess the relative humidity in various parts of the Midway (and you're going to play, too...;)

STATE FAIR MAP



Recall from your class discussion...

- ★ The terms biotic factor and abiotic factor
- ★ Abiotic factors are things like sunlight, temperature, and humidity.
- ★ Changes in abiotic factors can change an ecosystem. Recall examples of how changes in **ABIOTIC** factors can change the flora and fauna (**BIOTIC** factors) in an ecosystem.
- ★ You should have created a sling psychrometer in class; did you bring yours? You will need it to do this activity!
 - **Here's how to make one:**
 - Attach two cheap plastic student thermometers back to back with tape.
 - Thread a string or some yarn through the now connected holes at the top.
 - Place something that can be moistened over the entire bulb on one thermometer.



Plan Your Route

- ★ Make your way to the center of the Fairgrounds
- ★ Explore the Midway as you follow the "While You're There" instructions below!



Optional Materials to Bring

- ★ Writing utensil and something to write on
- OR
- ★ A way to digitally take notes
- ★ Sling psychrometer made in class

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While You're There

You will use information you gather at the State Fair to help you with THREE project goals:

1. Analyze the relative humidity in multiple locations near/at the Midway
2. Design a map overlay of the State Fair, with suggestions of places to rest and get cool
3. Create an official flyer for State Fair officials, proposing your design changes!

The objective of your visit NOW is to collect abiotic factor and biotic factor data on the Midway and Midway area, so you can use that data on the above projects back at school.

★**SLINGING UP SOME DATA:** Use your sling psychrometer to collect data to use in class.

- Record the time you are collecting data.
- Find an area of the Midway where the abiotic factors have been altered by Fair staff (shade netting, sails, fans, etc.)
 - CAREFULLY use your sling psychrometer for one minute and record your wet side and dry side in Celsius.
 - Record some observations about the people in that area. How many are there? Do they seem lively, tired, hot, etc.?
- Find an area of the Midway with a large tree.
 - CAREFULLY use your sling psychrometer for one minute and record your wet side and dry side in Celsius.
 - Record some observations about the people in that area. How many are there? Do they seem lively, tired, hot, etc.?

- Find an area in the Midway or slightly outside of it in full sun.
 - Record the cloud cover and cloud type (if any)
 - CAREFULLY use your sling psychrometer for one minute and record your wet side and dry side in Celsius.
 - Record some observations about the people in that area. How many are there? Do they seem lively, tired, hot, etc.?

★**A "COOLER" DESIGN (ART PORTION):** As you're observing, consider:

- Does the Fair map have a list of places to rest and get cool?
- In the art portion of your project, you'll get a chance to design something! Think about how you might tackle this...



Back at School

When you return to class following your State Fair visit, you will work on your three projects. See your teachers for more information.