

The logo is a red, shield-shaped emblem with a white dashed border and a dark blue shadow. At the top, three yellow stars are arranged in a slight arc. Below the stars, the text "The State Fair of" is written in a white, cursive font. The word "TEXAS" is prominently displayed in large, bold, white, sans-serif capital letters. Below "TEXAS", the word "Curriculum" is written in a white, cursive font. At the bottom of the emblem, there are three horizontal white lines of varying lengths, resembling a stylized signature or underline.

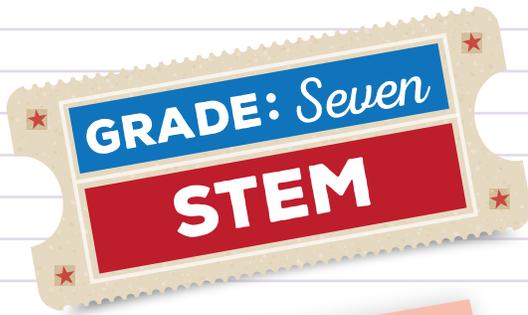
The State Fair of
TEXAS
Curriculum

LIVESTOCK & AGRICULTURE
GRADE 7 STEM

SPENDING THEIR INHERITANCE

HOW INHERITED TRAITS CAN EARN AGRICULTURALISTS BIG BUCKS!





Spending Their Inheritance How Inherited Traits Can Earn Agriculturalists Big Bucks!



Livestock, just like people, inherit various traits from their parents. These include things such as height, fur color, eye color, etc. Some traits can be much more desirable than others, as we will see in this project.

In this lesson students will:

- ★ Define “heredity” and identify specific inherited traits in plants, animals, and classmates.
- ★ Write a farming plan in which they choose plants that will seed and reproduce, or two animals that will breed and begin their own herd/flock.
- ★ Use their knowledge of numbers and operations to develop financial goals for breeding livestock.
- ★ Use their knowledge of the traits of various animals that they study while at the Livestock Barn, to create their own Woofus.

Standards

- ★ Math TEKS: 7.1(A), 7.1(B), 7.1(C), 7.3(B), 7.13(C)
- ★ Science TEKS: 7.14(A), 7.14(B), 7.14(C)
- ★ Art TEKS: 7.1(A), 7.2(A), 7.3(A)

Before You Go

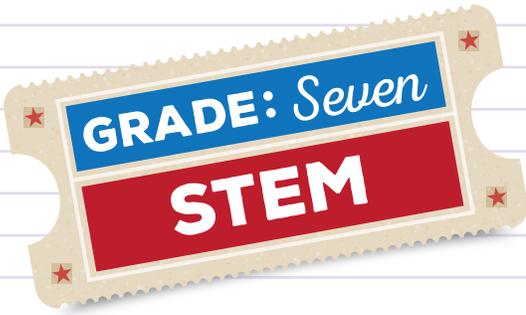
Inherited Traits:

- ★ Take a look at specific traits among your classmates, or even among your grade level.
- ★ Record numbers based on traits.
 - * Some traits to notice are eye color, hair color, height, and attached or unattached earlobes.
- ★ Class discussion: These are all inherited traits, or traits passed down from your parents and ancestors.
- ★ Animals and plants also have traits that they inherit from their parents, such as:
 - * Height (plants and animals).
 - * Being horned or polled (animals).
 - * Amount of fruit/milk they produce.



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Mr. Robertson's Big Investment

You should work in a group (3-4 people) to complete this activity.



Hello ranchers! Mr. Robertson is a multi-million dollar investor who wants to build a business partnership with you and your team, for breeding native Texas livestock. Let's take a look at his price list on the right:

- ★ What additional questions do you need to ask Mr. Robertson about this investment offer?
- ★ Have you identified your expenses?
- ★ What is your team's profit goal - do you know how much money you need to make from this partnership in order for your ranching business to survive?

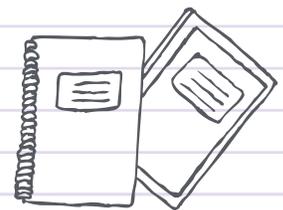


Plan Your Route.

- ★ From the Texas Star, head to the Greenhouse on the Midway.
- ★ You'll check out the plants in the Greenhouse, then...
- ★ Make a right onto MLK Blvd and go to the Livestock Barns to examine the animals.

Optional Materials to Bring

- ★ Pen or Pencil
- ★ Science Notebook or Paper
- ★ Smart Phone, Tablet/ Camera
- ★ Sketchbook for Arts Connection



★ **GRADE: Seven** ★

★ **STEM** ★

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While You're There

The goal of your visit is to gather information about the traits of plants and animals at the Fair. With this information, you can complete your projects, back at school.



IN THE GREENHOUSE

- Observe the plants. What traits do you observe?
- How are the leaves shaped?
- How long is the stem?
- Why might these traits be beneficial to the plants?
- Write these observations in your science notebook or take pictures with your device.

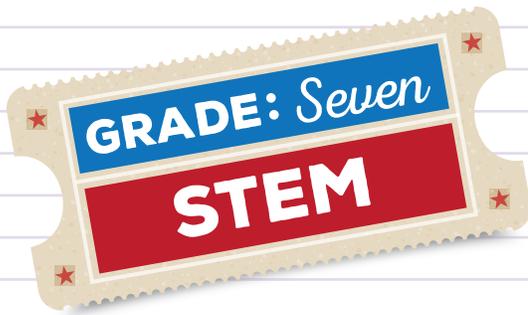
AT THE LIVESTOCK BARN

- Observe the animals in the Livestock Barn. What traits are observable among the animals there?
 - ★ How tall are they?
 - ★ Do they have horns or not?
 - ★ What colors do you observe?
 - ★ How many of each color?
 - ★ Are there any mother/baby pairs?
 - ★ How might these traits benefit the animal?
 - ★ How might certain traits benefit a farmer?
 - ★ Do you see any of the traits that you saw on the image of the Woofus in class? Sketch these for your Art Connection lesson.
- Draw or take pictures of as many animals as possible!
- Be sure to ask an agriculturalist from the Fair for help and advice if needed.
- Record the physical characteristics and breeds of the animals you see in the livestock pens in your science notebook, and take pictures if you can.

Plan Your Route

- ★ Your **THIRD** stop will be to find the **WACKY WOOFUS**.
- ★ When you are finished looking at all of the animals, make your way outside of the Swine building, where you will find the statue of the Wacky Woofus. Pay close attention to the unique details of the sculpture.
 - * How does seeing it in person compare with seeing it in picture?
 - * Are there things you notice about it now that you did not see in the classroom?
 - * What are your favorite features of the sculpture?
 - * Is there anything you would do differently?





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After the Fair

When you return to class following your State Fair visit, you may:

1. Analyze the data you have collected from the fair, for your investor, Mr. Robertson.

★ Research - why might Mr. Robertson want more money for some animals' traits than others?

★ Of the animals you observed at the State Fair of Texas, list the ones you would like to breed for Mr. Robertson, and your reasons for choosing them.

★ Create a financial spreadsheet documenting the animals (including the breeds) you would like to purchase.

★ Extension Activity - Create a financial assets and liabilities record to document your budget.

2. Write a farming plan in which you choose plants that will seed and reproduce, or two animals to breed and begin your herd/flock.

★ Make a list of the traits you would want in either your plants or your livestock if you were a farmer.

★ Write a quick note about why these traits are desirable, and why you would want them to be passed down to future generations.

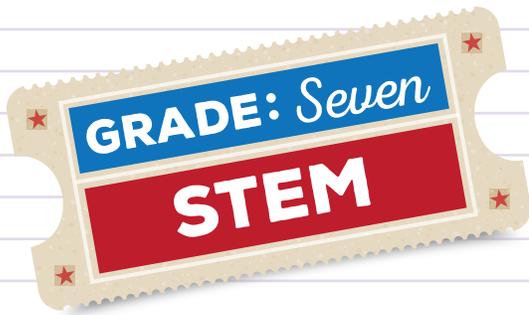
3. Design your own Woofus!

★ a. See the Arts Connection Lesson on the next page.



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Arts Connection: That Wacky Woofus!

As you learned in the STEM lesson, livestock, just like people, inherit various traits from their parents. These include things such as height, fur color, eye color, etc. What would happen, however, if you mixed up different traits from different animals? What kinds of crazy combinations could you come up with? Well, there is a great example of this at the Fair, and it is known as the Woofus.

Your challenge is to create your own version of this unique creature!



In this lesson, students will:

- ★ Discover the history of the Woofus and how it came to be at Fair Park.
- ★ Use their knowledge of traits of various animals they study at the Livestock Barn to create their own Woofus.



Before You Go

Prior to visiting the Texas State Fair, show the students an image of the Woofus and have them take guesses as to what they think it might be.

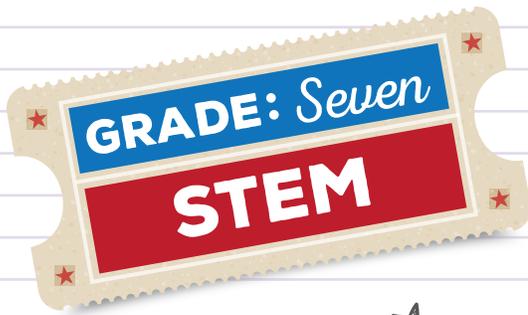
- ★ An image can be found at this link: <http://fineartamerica.com/products/2-the-woofus-of-state-fair-park-dallas-mountain-dreams-art-print.html>

After they have had a chance to discuss their ideas on what it is, show the students the short video below that discusses the Woofus.

- ★ <https://goo.gl/tLhqiP>
- ★ As the video explains, the Woofus is:
 - * A mixture of many animals, including a goat, sheep, turkey, horse, longhorn, and pig.
 - * A fountain that shoots water from its mouth.
 - * It was originally installed at Fair Park for the 1936 Texas Centennial Exposition.

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- * It disappeared shortly after, but in the 1990's, Craig Holcombe who was, at the time, the Executive Director of the Friends of Fair Park, found old photographs of it. Through expensive dinners known as The Woofus Dinners, Holcombe was able to raise the money needed to recreate and reinstall the Woofus.

Ask the students to discuss the following questions:

- ★ What, in your opinion, are the strongest aspects of the design of the Woofus?
- ★ What would you do differently? Why?



Follow the Route

through the Fair from the Main Lesson Plan above.

While You're There

- ★ Take note of the Wacky Woofus section in the Main Lesson above.

After the Fair

When you return to the classroom, you will design your own Woofus!

- ★ Using your notes as a reference, pick out the traits of each animal that you found to be the most pleasing.
- ★ Arrange those traits in a sketch so that they make up one animal.
- ★ Be creative with this!
- ★ Remember, there is no "right" way to do this - you are designing your own Woofus - like the mythical creature based on the animals at the State Fair.
- ★ Think about things such as balance, unity, and color. The Woofus is not colored - will yours be?
- ★ This project can be done in a variety of media, from 2D to 3D. It's up to you to decide what would work best for you and your Woofus-inspired creation.

