

# Math Connections at the Bullock

## Introduction

Students in math class often ask the questions: “So What?” And “Why do we need to know this?” We can answer this question and possibly motivate students to understand more if we can connect mathematical concepts with human endeavors, past and present .

## Why Texas History?

Texas History at the Bullock includes an extensive collection of artifacts and information about the founding of Texas and it also houses the ship La Belle, a remarkable relic from the Age of Exploration. Both of these offer intriguing examples of the influence of math on our history, and also ways that historical events motivated development of math.

La Belle’s artifacts include numerous tools of navigation, which in that era and before, were made by mathematicians. The founding of Texas is about land grants, which depended on survey measurement systems from Spain/Mexico and also England/US. The use of the two systems in Texas plays an interesting part in our unique history.

## Sources of Understanding

- Visit to the museum to view artifacts exhibits.
- Secondary sources and scholarly works exist for both these topics.
- Primary texts written by mathematicians and surveyors, the creators of these tools are available through google books from various archives around the world.
- First hand accounts by voyagers on La Belle, and by surveyor founders of Texas provide insights into practical application and use.
- Students can make models of these devices, try to figure out how they work, determine what math concepts are key to their function, and with resources can even make our own versions.
- Contemporary books contain math problems specifically pertinent to surveying and navigation can provide an authentic experience with the math.

## **What to look for in the Bullock Texas State History Museum:**

La Belle herself. Also navigation tools, dividers, broken glass from timers, ropes and rigging and artillery. Replicas of tools of navigation are also in the film at various junctures.

Elsewhere in the museum, the story of Texas founders including Stephen F. Austin and Sam Houston, land grant documents, maps with the Vara Standard, and other maps showing acres.

## **Extensions**

The layout of almost all US Cities follows the standard 640 Acres, as set in the Public Land Survey System. Old navigation techniques are being revisited as they are independent of GPS.