



The Astronomer: Language Arts-based Classroom Lesson

While Padre Kino was in Spain preparing for his journey to the Americas, he witnessed and documented a dramatic astronomical event - the Kirch Comet. Kino and other astronomers watched this event, measured its movement across the sky, and explored its meaning. The report Kino wrote on the subject was read and debated by fellow astronomers across the globe.

Read Old Spanish



In order to understand Kino's report, you'll need to first transcribe the original print.

Try the first line here:

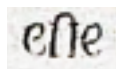
Stump Padre Kino

Writing styles change. Would Padre Kino know how to read "C U L8R"? The style of writing during Kino's time had some different conventions than today. Here are a few hints:

1) Round out the base of the letter V and you have a U. That turns the mysterious




2) Some S's were written like F's which turns



3) There was no backspace or delete key. Scribes and printers were very careful. If they missed a letter, they added it above in small type. This printer missed the R in the word "GRANDIOSO," so it became what's called a "superscript" meaning "writing above." See the tiny R between the G and the A?



= G^RANDIOSO = grandioso = great

Write your favorite 21st century text abbreviation (e.g. LOL, BRB) or emoji (e.g. ) and how you would translate it for Padre Kino.

means _____



Translate the Words

Use a knowledgeable Spanish speaker, a Spanish-English dictionary, or online tool like Google translate to translate the actual text of Kino's title.

DELINEACION Y DIBUJO DE LAS CONSTELACIONES Y PARTES DEL CIELO POR DONDE DISCURRIO EL GRANDIOSO COMETA que el Año de 1680 por los Meses de Noviembre y Diciembre y el de 1681 por las Meses de Henero y Febre^{ro} se ha visto en todo el Mundo Con la DESCRIPCION del Curso y Movimiento Proprio que este COMETA tuvo cada uno de las días que duro

When did Kino observe the comet? Circle the months on the proper years.

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 1680
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 1681

Interpret the Image

Examine the graphic Kino created (on page 3) that describes the course of the comet.

- 1) Find and highlight the path of the comet in **YELLOW**.
- 2) Find and color these constellations (*hint: remember about V's and U's*):

Zignus the Swan	PINK
Scorpius the Scorpion	RED
Capricornius the Goat	ORANGE
Pisces the Fish	GREEN
Aquarius the Water Carrier	BLUE
Aries the Ram	PURPLE
Cetus the Sea Monster	GRAY

- 3) Find the numbers along the edges of the graph. What is the largest number you can find? _____

Using the diagrams at the bottom of the page as clues, what do you think this number might reference?

DELINEACION Y DIBVJO DE LAS CONSTELACIONES
Y PARTES DEL CIELO POR DONDE DISCURRIO EL GANDISO COMETA
 que el Año de 1680. por los Meses de Noviembre y de Diciembre y de Enero y Febrero
 se ha visto entodo el Mundo Con la DESCRIPCION del Curso y Movimiento Proprio que este COMETA
 tubo cada uno de los dias que duró

