Boulder County Latino History Project
Lesson Plans

Title: Mosaic Math: Integrating math and history

Overview

Lesson Overview	Students will count and categorize shapes of their self portrait mural. Then students will compare the number of shapes used on other self portraits and themselves. This is an extension of a previous lesson ("Mosaic Self Portrait") as they investigate their own identity.
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Grade Level/ Course	Elementary (K-2)
Standards	**Math Standard: 3. Data Analysis, Statistics, and Probability** a. Represent and interpret data. (CCSS:1.MD) i. Organize, represent, and interpret data with up to three categories. (CCSS: 1.MD.4) ii. Ask and answer questions about the total number of data points how many in each category, and how many more or less are in one category than in another. (CCSS:1.MD.4) **Math Standard: 4. Data Analysis, Statistics, and Probability** 1, Shapes can be described by their attributes and used to represent part/whole relationships. Students can: a. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. (CCSS: 2.G.1) b. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. (CCSS: 2.G.1)
Time Required	Multi-class
Topic	Culture/identity issues
Time Period	1980s-90s; 2000-2013
Tags (key words)	Category, data, graph (picture and bar), tally marks, compare, count, shapes, more than, less than, equal, culture, identity,primary resources

Preparation *(Links to worksheets, primary sources and other materials):*

Materials	● **Self portraits from previous lesson** http://teachbocolatinohistory.colorado.edu/wp-content/uploads/2017/12/Mosaic-Self-Portrait_-Who-Are-We_.docx ● **Counting Shape Organizer** ● **Graph paper** ● **Color pencils** ● **Pencils**
Resources/Links	The power of Unity http://teachbocolatinohistory.colorado.edu/wp-content/uploads/2017/12/The-Power-of-Unity-talk-1.pdf

Lesson Procedure *(Step by Step Instructions):*

- In preparation for this lesson teacher will have the completed self portrait from each student from the self portraits lesson. Students have already studied names of shapes.
- Write the objective for the lesson and go over it with the students.
- Model with your own self portrait what is expected that students do by counting and categorizing shapes using a tally mark table. https://docs.google.com/document/d/17ZBHD1ZKj-aDlDH3d7R4qobgkKSM_4bzFIARO4EL1Z4/edit
- Have students count and categorize the shapes used in their self portraits using the table to organize their data.
- Gather students to the front and continue to model how to graph the data from the table by asking students their data
https://docs.google.com/document/d/1iM2Azet7zJJ-FWY8yhsVLN2GsHFoBqbi9ybfMIqjQLs/edit
- When finished each student will create a picture or bar graph using their own data results.
- Model how to compare each other's graphs by using the following sentence stems.
- Use the following sentence stems:
  - _Name_ used less _name of shape_ than _Name_
  - _Name_ used more _name of shape_ than _Name_
  - _Name_ used equal _name of shape_ as _Name_

- Students should be paired with their learning buddies and share their graphs so that they can learn from each other data in order to be able to compare their results.
- After they have finished learning about each other's graph, students will orally practice comparing their results using the sentence stems.
- When finished, students will share their observations with the whole class.
- We will display the self portrait, and the graphs in the classroom's wall.

Evaluation/Assessment: *(Methods for collecting evidence of student learning)*

Students will be assessed when counting and graphing the results of their own self-portrait.
Students will also be orally assessed when sharing the results after they compare themselves with others.
Extensions: This lesson could be extended by having students analyze who used more triangles, squares, rectangles, etc. in each of their self portraits.