

Proportional Math Tableaus

Sixth Grade + Math and Drama

Adapted by L. Lang

CORE SUBJECT AREA

Math

ART FORM + ELEMENTS

Drama

Tableau

MSCCR STANDARDS

7.SP.A.2 - Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

7.SP.A.3 - Recognize that a measure of center for a numerical data set summarized all of its values with a single number, while a measure of variation describes how its values vary with a single number.

7.SP.B.4 - Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

7.SP.B.5 - Summarize numerical data sets in relation to their context, such as by:

B.5.A - Reporting the number of observations

B.5.B - Describing the nature of the attribute under investigation, including how it was measured and its unit of measurement

RECOMMENDED RESOURCES

Projector

LESSON SEQUENCE

Before students arrive, arrange desks or tables into groups and have the student's names on the tables so they know where to sit. The teacher will begin the lesson by showing students an image of a well-known landmark like the Eiffel Tower or Taj Mahal. The picture can either be projected on the front board, or the teacher can have a printed version given to each student.

The teacher can provide basic info about the landmark of her choosing while passing out rulers or measuring tape and paper to each group. She should be sure to tell the students the actual measurements of the structure (height and width).

If the image is projected onto the front board, have two members from each group come to the board and measure the picture's height and width. Have both students measure, then they can compare to make sure they got the same measurements. They will then go back to their groups and write down the information they got. One group at a time, each group will then begin a tableau of the picture presented. They may organize

MSCCR CREATIVE ARTS STANDARDS

TH:Pr6.1.4-Share small group drama/theatre work, with peers as audience.

DURATION

1 class period

OBJECTIVES

The students should learn that heights in pictures is proportional to their height in real life; it is a scaled image. They will use this information to find the center and spread of overall shape.

The students will learn to display their information in number lines and dot plots and be able to summarize the information.

MATERIALS NEEDED

Images of famous landmarks, Rulers or measuring tape, Paper, Pencils, Chalk or whiteboard markers or mark heights on board, duct tape

VOCABULARY

Data, Distribution, Center, Spread, Mean, Median, Nice, Range, Variation, Vary, numerical, Number line, Dot plot, Observation

themselves into whatever shape or formation they feel best represents the picture. The other groups will measure the “people structures” and write each measurement on the board. The students will then return back to their desks where they will find the mean, median, and mode of the heights their group collected and then again of the widths. The teacher will discuss how the answer is an “average” of the information and summarizes the numerical data.

The groups may then share their information with each other by writing their two averages (height and width) on the board and can explain why their group’s averages varied because the heights of the members of each group varied. In other words, no two groups should (most likely) have the same answer. Each individual student can then organize the data into the graph of their choice (number line, dot plot, box plot, etc.) and present to a partner in their group by describing why they chose this display.

EXTENDED LEARNING ACTIVITIES

The students may come up with their own statistical questions using the image given.

SOURCES

Modified from a lesson on educationcloset.com