



Mesozoic Measurements

6th Grade

Duration

Museum Visit: 40 minutes

Post Visit: 10-20 minutes

Location

Dinosaur Hall

Supplies

- Worksheet
- Pencil
- Ruler
- Clipboard (optional)
- Calculators (optional)

Standards

[NGSS](#)

(MS-LS2-1), MS-ETS1-3

[CCSS Math](#)

6.RP.A

[CA State](#)

Math Grade 6

Algebra and Functions 2.1

Vocabulary

Measurement

Estimation

Conversion

Proportion

Calculate

Bar Graph

Concepts

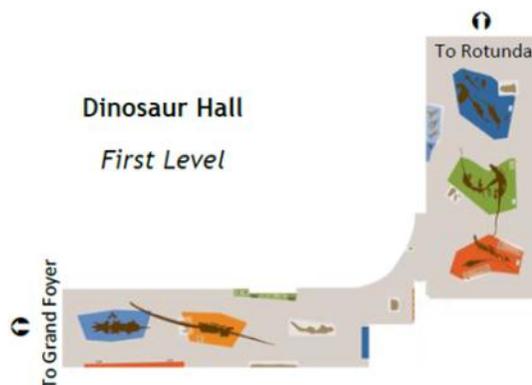
- Measurements can be converted from one unit to another.
- Graphs help us analyze and interpret data.

Objectives

- Students will estimate measurements of specimens in the Dinosaur Hall using their feet or hands as a measuring tool.
- Students will convert these measurements to inches and centimeters.
- Students will create a bar graph to compare the specimens and analyze the results.

Outline

1. This lesson assumes estimation, U.S. vs. metric units, conversion of units and graphing have been introduced to students, or will be incorporated as part of this lesson plan.
2. At the Museum students will explore the Dinosaur Hall and estimate the size of the dinosaurs and their skulls and feet using the students' feet and hands.
3. Back in the classroom or as homework, students will convert their measurements into real units and create a bar graph. As a class, results of the bar graph will be shared and analyzed.

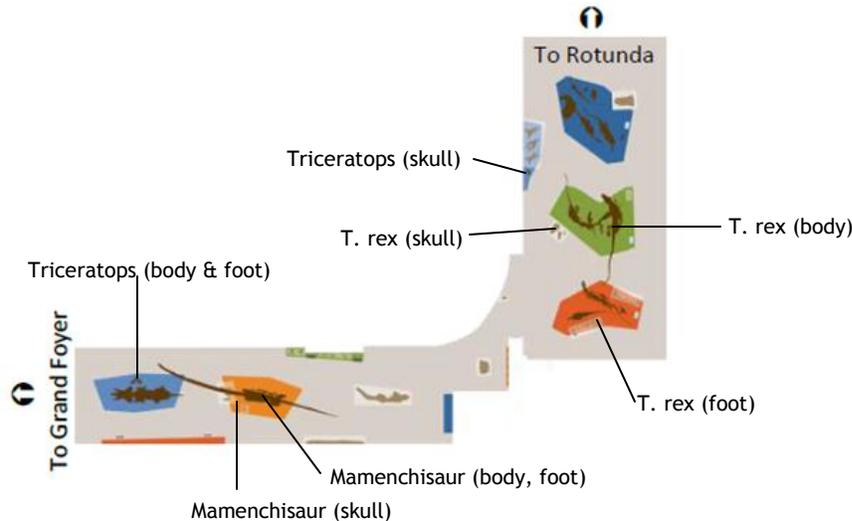


Museum Visit

At the Museum, explain the overall assignment to the students and distribute the worksheet. For the Museum portion of the assignment students will only need to complete the measuring part of the worksheet (first column).

Explain that since specimens cannot be touched, they are going to take estimated measurements using either their feet or hands as units. For feet they should carefully walk heel-to-toe along side/under a specimen, for hands use heel-to-middle-fingertip.

The specimens used are all located on the ground floor of the Dinosaur Hall (outlined below). Tell students they can look for educators in the hall to help direct them to the correct locations if they need help finding a specimen.



Break students into pairs (it is also possible to do this assignment independently) and ask chaperones to assist students as they explore the Hall. You may choose to have students complete the rest of the worksheet at the Museum, as homework or back in class.

Post-Visit

Once you're back in the classroom, have students share their information from their trip to the Museum—while not everyone will have the exact same numbers or have outlined their graph in the same way, the overall results should be similar.

Together look at the graph and see what kind of information can be pulled out, perhaps compare ratios (for example body:head or body:foot). Are there any similarities between the dinosaurs? Differences? What might be the reason for those? What other kind of information might be helpful to have collected?

Variations & Extensions

- Compile classroom data and together compute the mean, mode and median of each data set, then graph those results as a classroom graph for analysis.

Measure the three specimens below

Using your feet or hands to estimate the length of their body, head and a foot. Record that measurement in the first column. Next, in the second column convert measurements into inches, then finally into centimeters in the last column. For each calculations, be sure to show your work!

Conversion Units

My Hand = _____ inches

My Foot = _____ inches

1 in = 2.54 cm

Specimen	Length <i>Feet or Hands</i>	Length in Inches	Length in Centimeters
Triceratops			
Full Body <i>Use the skeleton located in the hall nearest the Grand Foyer</i>			
Skull <i>Use the skull in the case located in the hall nearest the Rotunda</i>			
Foot <i>Use a foot on the skeleton located in the hall nearest the Grand Foyer</i>			
Mamenchisaur			
Full Body <i>Use the skeleton located in the hall nearest the Grand Foyer</i>			
Skull <i>Use the skull in the case located under the body (it's the 'new' one!)</i>			
Foot <i>Use a foot on the skeleton located in the hall nearest the Grand Foyer</i>			

Mesozoic Measurements

Specimen	Length <i>Feet or Hands</i>	Length in Inches	Length in Centimeters
Tyrannosaurus rex			
Full Body <i>Use the largest skeleton located in the hall nearest the Rotunda</i>			
Skull <i>Use the skull in the case located in the hall next to the Rotunda</i>			
Foot <i>Use the foot in the case located in the hall nearest the Grand Foyer</i>			

Graph Your Results

Using centimeters, make a bar graph that visually presents your data. Be sure to label the Y axis so your results can be interpreted accurately. Results will be discussed in class.

