



NCEA Math Lesson Plan

Grade: 5

Subject: Mathematics

Domain: Measurement and Data
Standard Number(s) and Description: 5.MD.1 : Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step, real world problems. 5.MD.2 : Make a line plot to display a data set of measurements in fractions of a unit. Use operations on fractions for this grade to solve problems involving information presented in line plots.
Vocabulary to be Highlighted: Measurement, line plot, median, cubit, span, standard/customary units
Mathematical Practices (#): 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. Essential Questions: Can you make a drawing? What is the real world meaning of each number? Why is this an appropriate tool for the situation? What does this statement (symbol, term) mean?
Materials/Tools (include technology): Bible Yard stick Ruler Student made cubit/span Graph paper Chalk Cardboard String Access to large open space (playground, parking lot)
Connections to Other Math Domains: Number and Operations in Base Ten Operations and Algebraic Thinking Numbers and Operations-Fractions
Connections to Other Subject Areas: Social Studies Religion

Science
Catholic Identity Component: Scripture: David and Goliath Noah's Ark God's Creation
Resources (attachments): Bible David and Goliath (1 Samuel 17:4) Noah's Ark (Genesis 6:14-16)
Activities/Timeline: Lesson 1 1. Read the story of David and Goliath from the Bible as a class. 2. Define cubit and span. 3. Students measure height of Goliath using own arms (Make own cubit tool using string.). 4. Discuss reasons to standardize measurement after comparing cubit lengths. 5. Create a line plot using each student's cubit length in inches. Lesson 2 1. Calculate class average cubit using line plot from previous day. (individual) 2. Use the average to make a class Goliath. (whole group) Extension: Students can convert cubit and inches to feet and yards. Lesson 3 1. Using class cubit from the previous lesson, make a ten cubit length of string in small groups. 2. As a class, read the story of Noah's Ark. 3. Using class cubit, outline Noah's Ark on the playground with chalk. (small group) Note: Teacher should take time to look at available space to determine how much of the ark can actually be modeled. The Ark is 450 feet long and 75 feet wide. It might be necessary to model just $\frac{1}{2}$ of the Ark based on space.
Formative Assessment (what to look for, how/when to look): Teacher observation - precise use of measuring tools Observe individual line plots Group participation, discussion Extension - collect student conversions of cubits to inches, feet, and yards
Summative Assessment: Assign a Biblical giant for each student to research height in cubits and create a representation.