



NCEA Math Lesson Plan

Grade: 8

Subject: Mathematics

Domain: Linear Functions
Standard Number(s) and Description: 8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
Vocabulary to be Highlighted:
Mathematical Practices (#): <ol style="list-style-type: none">1. Make sense of problems and persevere in solving them.2. Reason abstractly and quantitatively.3. Construct viable arguments and critique the reasoning of others.4. Model with mathematics. Essential Questions: How can you relate the journey of Mary and Joseph to a linear function? How do you calculate the rate of change? Assuming Mary and Joseph traveled in a linear/constant rate, how does the table of data, graph, and equation of their trip relate to a function? What does the slope/rate of change represent in your equation? How do you create a graph from a table of values? How do you graph a function on a coordinate plane? What does the y-intercept mean? What procedures would you follow to calculate the rate of change?
Materials/Tools (include technology): Bible Pencils Rulers Grid paper Graphing calculators Access to internet (iPads, laptops, whatever matches the classroom situation)
Connections to Other Math Domains:
Connections to Other Subject Areas: Religion
Catholic Identity Component: Students will look up Luke 2:1, discuss reason for the census, and represent the journey of the

Holy Family in a linear graphical representation.

Resources (attachments):

Activities/Timeline:

1. Students will read Luke 2:1 and the whole class will discuss the purpose of the census.
2. Students will research the trip distance from Jerusalem to Bethlehem. Next, students will complete a function table, graph, and equation for the trip.
3. Finally, students will present their findings as part of a class discussion.

Formative Assessment (what to look for, how/when to look):

The student will produce and present a function table, graph, representative equation, and narrative for their solution. Students will compare and contrast their findings in a whole class discussion.

Summative Assessment: