



TEACHING APPRENTICESHIP PROGRAM

CONTEXT

Provide context for the lesson. How, if at all, does it fit within a unit? Who are the learners? How long will the lesson last?

Lesson on determining if there is or is not a proportional relationship when there is an added component to the equation. Practice using tables. 75 minutes.

COMMON CORE STANDARDS

If applicable, provide specific standards that the lesson will target. Indicate if the standard is being introduced (I), practiced (P), or assessed (A) in this lesson.

CCSS.MATH.CONTENT.7.RP.A.2.A

Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

GOALS

What are your goals for the lesson? Specifically, by the end of the lesson, 1) what do you want students to *know*? 2) what do you want students to be able to *do*? and 3) what you want them to *understand*? Not all lessons will have all goal-types.

Students will write an equation that is not in the form of $y=kx$
SWBAT use a table to decide if a relationship is or is not proportional.

ANTICIPATORY PLANNING

Put yourself in the shoes of your students. Where in the lesson do you anticipate that they will struggle, and why? What questions, about procedures and/or about the content, do you anticipate that they might pose? How will you respond? (Math teachers can also use this [more comprehensive anticipatory planning resource](#).)

[Click here to see a more comprehensive anticipatory planning resource](#)

PROCEDURE

Please provide specific descriptions of all activities, including estimated times and who/what/where, scripts of key points you plan to emphasize and questions that you plan to ask, and examples of what students might think or do.

Framing or Launching the lesson (connections, context, norms, or objective):

Warm Up:

Invent four new versions of this lemonade recipe:

- Ask the class if they agree or disagree for each version of the recipe.

- Ask how the recipe was adjusted?
- Are we noticing any patterns?
- Make sure to mention ratios-- how did the ratios change in each recipe?

During the lesson:

Instructions:

- You are going to work on a problem about the cost of entrance to a State Park. Can someone read how we can figure out the total cost of entrance to the park? Underline this on worksheet.

- \$6 + \$2 per person.

- For the first question, you are filling out a table, and for the second question you are going to use the same table and add more information to the added column. You can use the same values from the first table in the second table-- don't worry about calculating them over again.

-Let's look at question 4. (Have someone read it) How can we tell if something has a proportional relationship?

-Student read question 5. What is question 5 asking for?

-Questions

-Look for students writing equations

-Look for students to realise that they are finding the proportional relationship on #2

-Look for students misconceiving the added cost of the car

Closing the lesson (synthesizing, checking for understanding, or connecting to the future):

- #1 and 2 Use sticks to get values for tables
- Ask other students how they got the values
- #3 Which is cheaper? What does this tell us about entrance to the park?
 - Even though there's the same amount of people, it's less expensive to take fewer cars
- Is there a proportional relationship?
 - Guiding questions: Can we find the constant of proportionality? Is it the same for each row of the table (no matter how many people are in the car)?
- #5 notice what's different about the equation. Label.