

Planning a Trip Task

Summary

This task is for students to solve addition and subtraction of time intervals problems.

Main Core Tie

Mathematics Grade 3

[Strand: MEASUREMENT AND DATA \(3.MD\) Standard 3.MD.1](#)

Time Frame

1 class periods of 60 minutes each

Group Size

Pairs

Life Skills

Thinking & Reasoning

Materials

- Number line
- Judy Clock
- Paper and pencil
- Math Journals

Background for Teachers

Time should be represented in various ways: clock - digital/analog, paper clock number line, T-chart. Students have had time in 2nd grade to the 5 minutes and quarter past and til.

Student Prior Knowledge

Students will be most successful when they know the following:

- How many minutes in 5 minutes?
- How many minutes in quarter hour?
- How many minutes in a half hour?
- How many minutes in an hour?

Using geometry and fractions to divide a circle into fourths can be good for visual learners. Color each quarter a different color. Represent the time of 15 minutes at each section.

Intended Learning Outcomes

Students should be able to represent elapsed time using different models.
Mathematical Practice #1 - Make sense of problems and persevere in solving them.
Mathematical Practice #7 - Look for and make sense of structure.

Instructional Procedures

Present the task to the students:

You just received a post card from a relative or friend. They are coming to visit! You must determine which method of travel will take the least amount of time.

An airplane leaves her hometown at 2:45 p.m. and arrives in your town at 4:45 p.m.

By train, they can leave at 3:20 p.m. and arrive at 7:50 p.m.

By car it takes the same amount of time as by plane and train combined.

How long does the car take to get to her house?

Ask if there are any questions. Let students know they can use whatever tools they need to accomplish the task.

Questions that may be asked so as to not give the answer to their problem:

Is there another way to do that?

How do you know?

What have you discovered?

Where can you find that answer?

What other choices do you have?

What do you find difficult or challenging?

Describe.... Explain.... Tell.... List.....

Can you draw a picture? or a number line?

Select models for students to share from simple - concrete to the more abstract. Make connections to what students know.

Is there a way to represent the time problem using an equation or expression?

Ways for students to share their ideas:

Gallery walk with post it notes.

Group shares

Combine group ideas and share

Discuss differing or unlike ideas

Defend procedures

Find patterns

Journal findings and share with the class

Strategies for Diverse Learners

For the struggling learner:

Remind them not to over think, but just to follow the given instructions. What materials could be used to get started? What are possible options? Is there more than one way to solve the problem?

Early finishers - for the challenging students:

Explain... is there another way? If a bus takes 1-1/2 times as long as the car, but makes 7 10 minute stops. How long does the bus take? How long would it take with out stops?

Bibliography

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Adapted from: Smith, Margaret Schwan, Victoria Bill, and Elizabeth K. Hughes. "Thinking Through a Lesson Protocol: Successfully Implementing High-Level Tasks." Mathematics Teaching in the Middle School 14 (October 2008): 132-138.

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