

**Mathematics Governor's Institute 2003
Problem-in-a-Bag Template**

Title of Project: Time Trials

Team Members: Patricia Carpenter, Pat Damaska, Cathy Rush, Cathy Tombasco

Grade Level and/or Course: Third Grade Heterogeneous

**Concept(s) used: Telling time to the nearest 15 minutes
Determining and comparing elapsed time**

**PA Standard(s) Addressed: 2.3 C. Determine and compare elapsed time
2.3 D. Tell time (analog and digital) to the minute**

**NCTM Standard(s) Addressed: Measurement – Apply appropriate techniques,
tools, and formulas to determine measurement**

**Introduction / applications: Review ability to tell time to the nearest 15 minutes,
review how to determine and compute elapsed time.**

Question: Mary and Tommy left school together at 3:30 p.m. and worked on their homework for 30 minutes. Mary went to dance class for 45 minutes while Tommy played baseball for 1 hour 30 minutes. Each child must be home by 6:00 pm.

- 1. How much free time will Mary have?**
- 2. How much free time will Tommy have?**
- 3. Which child would have more free time?**
- 4. How much time elapsed from 3:30 to 6:00?**

Show all of your work and explain your thinking.

Model: Pictorial representation, manipulatives, (clocks), time line

**Resources and Materials (estimated cost): 1 large clock, 2 Judy clocks, worksheet, answer sheet, timeline, time blocks for timeline.
Estimated cost: \$50.00**

Procedures & Activities:

Objective: The student will measure, compute, and compare elapsed time to the nearest 15 minutes.

Assessment: A student will demonstrate proficiency by attaining a minimum score of 10 points on the attached rubric.

Introduction: (Assessing prior knowledge)

- A. Review telling time to the nearest 15 minutes
- B. Review how to compute elapsed time using a Judy Clock or a timeline.

Procedure: A. Read and discuss the problem.
B. Give the class time to complete the problem including an explanation.

Closure: Students share their solutions in small groups.

Answers / Rubric: Problem Part

- | | |
|------------------------|--|
| 1A. 1 hour 15 minutes | 1B. Any reasonable explanation accepted. |
| 2A. 30 minutes | 2B. Any reasonable explanation accepted. |
| 3A. Mary | 3B. Any reasonable explanation accepted. |
| 4A. 2 hours 30 minutes | 4B. Any reasonable explanation accepted. |

Rubric: For each problem part:

- Score 1 point for a correct answer
- Score 2 points for a correct explanation
- Add the total points for the problem
- 10 points is considered proficient

Accommodations/Adaptations

ESL: Use a visual representation such as a picture of Mary and Tommy doing the activities in the problem.

Special Ed: 1. Use manipulative such as a Judy Clock or a timeline
2. Students will tell time to the nearest 30 minutes.

Enrichment: 1. Increase the difficulty of the problem by making the activities end at odd times rather than increments of 15 minutes. Students will tell time to the nearest minute.
2. Students will construct similar problems based upon their own real life experiences.