

\_\_Iditarod Challenge\_\_\_\_\_  
(Title of Lesson)

**Developed by:**

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**Discipline / Subject:**

Math

**Topic:**

Measurement and Data:

**Grade Level:**

4

**Resources / References / Materials Teacher Needs:**

**Iditarod Records activity sheet**

**Scratch paper**

**Lesson Summary: Students identify equivalent amounts of time and convert units of time. Then the teacher reviews the concept of elapsed time and models how to solve problems. Students complete a Student activity sheet to practice estimating and determining time in context.**

**Standards Addressed: (Local, State, or National)**

1. CCSS 4.MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; L, ml; hr, min., sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a 2-column table.
2. CCSS 4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as a number line diagrams that feature a measurement scale.

**Learning Objectives:**

1. Identify the relative sizes of seconds, minutes, hours and days.
2. Express a measurement in a larger unit in terms of a smaller unit within the same system of measurement using a 2 column table.
3. Solve story problems involving intervals of time using addition and subtraction of whole numbers.
4. Solve Story problems that involve expressing measurements given in a larger unit in terms of a smaller unit within the same system of measurement.
5. Use diagrams to represent measurement quantities.

**Assessment:**

Method of assessment for learning  
Classroom work.

**Procedural Activities**

1. Explore different units of time recording time equivalencies on the board.
2. Display Iditarod records.
3. Use open number lines to record strategies for finding answers to the following: About how much faster is \_\_\_\_\_ than \_\_\_\_\_?  
  
How can we find out exactly how much faster one time is than the other?
4. Hand out activity sheet and circulate while students work. Select individual students to share their work with the class.

**Materials Students Need:**

**Iditarod Records activity sheet**

**Scratch paper and pencil**

**Technology Utilized to Enhance Learning:**

**Other Information:**

**Modifications for Special Learners/ Enrichment Opportunities:**

**Guide struggling students by having the restate the problem and think aloud. Have them describe their steps while you model on paper.**

*Iditarod Records:*

*Susan Butcher.....1986.....11 days, 15 hours, 6 minutes*

*Susan Butcher.....1987.....11 days, 2 hours, 5 minutes and 13 seconds*

*Susan Butcher.....1990.....11days, 1 hours, 53 minutes, and 23 seconds*

1. In 1986, Susan Butcher completed the Iditarod in 11 days, 15 hours and 6 minutes. In 1987, she broke her record by finishing in 11 days, 2 hours, 5 minutes and 13 seconds. How much faster was the race she ran in 1987 than 1986?
2. Susan broke her own record again in 1990 when she completed the race in 11 days, 1 hour, 53 minutes and 23 seconds. How much faster was this time than her first time in 1986?
3. About how many minutes faster was Susan's run in 1990 than 1987?