

Lesson Plan Title

MILES TO KILOMETERS AND KILOMETERS TO MILES

Developed by: Terrie Hanke 2006 TOTT™

Discipline: Mathematics

Topic: Converting miles to kilometers and kilometers to miles

Grade Level: Grade 5 and above

Resources / References / Materials Teacher Needs: Miles to Kilometers and Kilometers to Miles worksheet; Iditarod's Guide to the Last Great Race, Iditarod Trail Committee; Iditarod trail map

Lesson Summary: Distance and speed teams travel along the Iditarod trail is expressed in miles, the standard distance measure of the United States. Europeans and Canadians express distance and speed in kilometers. Students will use examples from the race to practice converting miles to kilometers and kilometers to miles.

Standard's Addressed: McREL – Mid-continent Research for Education and Learning
Mathematics

Std 1. Uses a variety of strategies in the problem-solving process

Std 2. Understands and applies basic and advanced properties of the concepts of computation

Std 3. Uses basic and advanced procedure while performing the processes of computations

Std 4. Understand and applies basic and advanced properties of the concepts of measurement

Learning objectives:

1. Know that different countries have different measuring systems.
2. Be able to convert miles to kilometers and kilometers to miles.
3. Be able to convert miles per hour to kilometers per hour and kilometers per hour to miles per hour.
4. Understand the advantages and disadvantages of the United States being a “non-metric” country.

Assessment:

1. List of mushers who live where the metric system is used.
2. Complete problems on worksheet and daily conversion for their metric musher.
3. Complete mph and k/h problems on worksheet and daily conversion.
4. Discuss or list

Procedural Activities: Students will visit the Iditarod website and create a list of the mushers who are from countries that use the metric system to express distance and speed traveled. Teachers will provide students with the formula to convert miles to kilometers and kilometers to miles. Students will complete the worksheet provided to practice and become proficient at this useful conversion. During the race, students can select one of these mushers to follow and do daily conversions using the distances and times posted for this musher. Finally, students can speculate on activities in their life both present and future that would require the use of this conversion. Students can also share past experiences that exposed them to the use of the metric system for measuring distance and speed.

Materials Students Need: Miles to Kilometers and Kilometers to Miles worksheet; computer with Internet access; calculator - optional

Technology Utilized to Enhance Learning: Iditarod website search for mushers from countries that use the metric system for measurement.

Other Information: This activity can be used while teaching the metric system for measurements. Discussion can follow as to why the general population of United States doesn't use the metric system. Students can also learn about professions within the United States that use the metric system.

Modifications for special learners/ Enrichment Opportunities: 1) Create a spreadsheet to convert miles to kilometers and miles per hour to kilometers per hour. 2) Write to a musher who lives in a “metric” country and ask what, if any challenges, the musher faces during the race because of the difference in measuring systems. 3) Pretend to be a musher from the US who has entered a race in Norway, Canada or Italy. Speculate on the challenges you would face due to distance and speed being reported in metric.

Notes: