

“Math: Converting from one unit to another” | OSEU 7: Way of Life & Development

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| Compelling Question | How can one type of unit of measure be converted to another unit of measure? | |
| Standards and Practices | <p>South Dakota Common Core State Standards for Mathematics.</p> <p>Practice 1: Make sense of problems and persevere in solving them.</p> <p>Practice 2: Reason abstractly and quantitatively.</p> <p>Practice 4: Model with mathematics.</p> <p>Practice 6: Attend to precision.</p> <p>Practice 7: Look for and make use of structure.</p> <p>Practice 8: Look for and express regularity in repeated reasoning.</p> | |
| Staging the Question | How can we convert a length of time like a “Moon” in Native American terminology to another unit of time like days? | |
| Supporting Question 1 | Supporting Question 2 | Supporting Question 3 |
| How can we compare an amount of one unit to an equal amount of another? | How do we change from one type of unit to another type of unit without destroying the initial value? | Can we use a model to convert any unit value to any other unit value? |
| Formative Performance Task | Formative Performance Task | Formative Performance Task |
| <p>Steps for solving a conversion problem:</p> <ol style="list-style-type: none"> Determine the given units and the units we want to find. Will it take one step or many? State the equivalent units such as “one Native American ‘moon’ equals 28 days. 1 moon = 28 days Divide the equivalent values by each other to get a quotient of 1. $1 \text{ moon} / 28 \text{ days} = 1$ or $28 \text{ days} = 1 \text{ moon}$ Multiply the given unit value by the division problem so that the given units cancel out and the wanted units remain. Ex. Convert 168 days to moons $168 \text{ days} \times 28 \text{ days} / 1 \text{ moon} = 6 \text{ moons}$ | <p>Convert 10 cups drinking water to gallons.</p> <p>Step 1: Given units (10 cups). Wanted units (gallons).</p> <p>Step 2: 1 gallon = 16 cups</p> <p>Step 3: 1 gal/16 cups or 16 cups/1 gal</p> <p>Step 4: $10 \text{ cups} \times 1 \text{ gal} / 16 \text{ cups} = .625 \text{ Gallons}$</p> | <p>Write the 4 steps to solving unit conversion problems.</p> <p>Step 1: Given units and wanted unit</p> <p>Step 2: State equivalent units</p> <p>Step 3: Divide equivalent values by each other to get a quotient of 1.</p> <p>Step 4: Multiply the given units by the division problem that will cancel given units and leave the wanted units.</p> |
| Featured Sources | Featured Sources | Featured Sources |
| <i>GO MATH</i> Grade 6 (2015) , pg 315-332 by Houghton Mifflin Harcourt | Prentice Hall “ <i>Physical Science Concepts in Action With Earth and</i> | |

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| Publishing Company. Authors: Juli K. Dixon, Matthew R. Larson, Edward B. Burger, Martha E. Sandoval-Martinez, Steven J. Leinwand (ISBN 987-0-544-43281-9). | | <i>Space Science</i> ” Wysesession, Frank, Yancopoulos. <i>pg 18, 196-198.</i> ISBN 0-13-166308-9 | |
| Summative Performance Task | Argument | State the steps to calculating a conversion problem. | |
| | Extension | Calculate a conversion from 3520 yards to miles using the 4 conversion steps discussed in this lesson. (1760 yards = 1 mile) | |
| Taking Informed Action | Create and solve a conversion problem. | | |