Reason quantitatively and use units to solve problems. Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions (Standards N.Q.1–3)

**Standard N.Q.1:** Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

<table>
<thead>
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<th>Related Standards: Future Courses</th>
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</table>

**Support for Teachers**

**Critical Background Knowledge (Access Background Knowledge)**

- Graph points in all four quadrants of the coordinate plane (6.NS.8)
- Choose appropriate graph/plot for data (6.SP.4)
- Compute unit rates involving ratios of lengths, areas, and other quantities (7.RP.1)
- Approximately locate irrational numbers on a number line diagram (8.NS.2)
- Analyze features of a graph and sketch graphs that have been described verbally (8.F.5)
- Construct and interpret scatter plots (8.SP.1)

**Academic Vocabulary**

- Scale, units of measurement

**Resources:**

*Curriculum Resources:* http://www.uen.org/core/core.do?courseNum=5600#70106
Reason quantitatively and use units to solve problems. Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions (Standards N.Q.1–3)

**Standard N.Q.2:** Define appropriate quantities for the purpose of descriptive modeling.

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<td>• Choose appropriate measures and units when creating a model for data (descriptive modeling).</td>
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**Support for Teachers**

**Critical Background Knowledge (Access Background Knowledge)**

- Choose appropriate graph/plot for data (**6.SP.4**)
- Construct and interpret scatter plots (**8.SP.1**)

**Academic Vocabulary**

- Descriptive modeling

**Resources:**

- Curriculum Resources: [http://www.uen.org/core/core.do?courseNum=5600#70106](http://www.uen.org/core/core.do?courseNum=5600#70106)
Reason quantitatively and use units to solve problems. Working with quantities and the relationships between them provides grounding for work with expressions, equations, and functions (Standards N.Q.1–3)

**Standard N.Q.3:** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

**Concepts and Skills to Master**

- Determine whether whole numbers, fractions, or decimals are most appropriate.
- Determine the appropriate power of ten to reasonably measure a quantity.
- Determine the resulting accuracy in calculations.
- Determine what level of rounding should be used in a problem situation.

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**Support for Teachers**

**Critical Background Knowledge (Access Background Knowledge)**

- Know relative sizes of measurement units (4.MD.1)
- Approximately locate irrational numbers on a number line diagram (8.NS.2)
- Use powers of ten to estimate very large or very small quantities (8.EE.3)
- Attend to precision (I.SI.MP.6)

**Academic Vocabulary**

- Precision
- Accuracy

**Resources:**

- Curriculum Resources: http://www.uen.org/core/core.do?courseNum=5600#70106