

Lake Washington School District
Teaching and Learning Framework

Seventh Grade Mathematics

Power Standards | August 2007

Seventh Grade | Mathematics

Number Sense

Power Standards	Evidence of Learning
1. Understand the concept and symbolic representation of fractions, decimals, and percents (1.1.1):	Demonstrate fluency at converting between equivalent forms. Order and explain why one number is greater than, less than, or equal to another number.
2. Understand the concept and relative value of integers (1.1.2):	Explain and/or illustrate the meaning of integers and integer values. Explain why one integer is greater than, less than, or equal to another one.
3. Understand and apply the concepts of ratio, percent and direct proportion (1.1.4):	Determine an unknown value for a dimension or a number of events or object using ratio, proportion and/or percents. Select and use the most advantageous representation for a given situation. Determine a ratio or percent for a given situation.
4. Understand the meaning of addition, subtraction, multiplication, and division of integers and apply strategies to complete tasks involving the addition, subtraction, multiplication, and division of integers (1.1.5):	Explain or show the meaning of addition, subtraction, multiplication, and division of integers using words, pictures or real-world models. Select and use an appropriate operation to show understanding of addition, subtraction, multiplication, and division of integers.

Measurement

Power Standards	Evidence of Learning
1. Understand and apply derived units of measurement (1.2.2):	Explain the concept of a rate. Explain how division of measurements produces a derived unit of measurement (e.g. miles traveled divided by hours traveled yields the derived unit [miles per hour]). Find a rate of change in a situation (e.g. increase per year in stamp cost) and label the results. Use unit analysis to find equivalent rates (e.g. miles per hour to feet per second). Use rate to determine a measured outcome.

Geometric Sense

Power Standards

1. Understand and apply the concept of similarity (1.3.1):

Evidence of Learning

Identify corresponding sides and angles of two similar figures.

Determine and justify if two figures are similar.

Find the length of a missing side or the measure of a missing angle of one figure when given two similar figures.

Create a scale drawing and label the scale and dimensions.

Probability and Statistics

Power Standards

1. Understand and apply the concepts of complementary, independent, and mutually exclusive events (1.4.1):

Evidence of Learning

Identify when events are complementary, mutually exclusive, or neither (e.g. spinning a 4 or a 5, but with the possibility of spinning a 1, 2, 3, or 6) and explain.

Calculate the probability of two independent events occurring simultaneously using various methods (e.g. organized list, tree diagram, counting procedures, area model).

Explain the relationship between theoretical and empirical probability of compound events.

Revise an unfair game to make it a fair game.

Predict the probability of outcomes and test the predictions.

Algebraic Sense

Power Standards

Although there are no Power Standards that students are expected to master, students will be introduced to:

1. Linear patterns and their representation in tables, graphs, and equations (1.5.1)

2. Solving two-step equations with one variable (1.5.2)

Evidence of Learning