Blackboard Sample Course

Course Name: Level E Mathematics

Module: Unit 6: Measurement and Data (CCRS Level B (2-3.9).; NRS Level 2 (ABE II) TABE Emphasis: Medium, 28%)

Lesson Module 1

- *Estimate and Compare Length*

  Standard(s):

  2.MD.2 *Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.*

  2.MD.3 *Estimate lengths using units of inches, feet, centimeters, and meters.*

  2.MD.4 *Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.*

  Learning Target(s):

  ✓ Measure objects in two units of length within the same system (U.S. customary or metric). Describe the relative sizes of the units.
  ✓ Estimate the lengths of real-world objects as a unit of inches, feet, centimeters, and meters.
  ✓ Determine how much longer one object is than another in terms of a standard unit of length

  Lesson Subunit(s):

  - Measure the lengths of objects using different units of measure
  - Describe relative sizes of units of length
  - Estimate Lengths using inches, feet, centimeters, and meters
  - Determine how much longer one object is than another

- *Represent Length on a Number Line*

  Standard(s):

  2.MD.6 *Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.*

  Learning Target(s):

  ✓ Use a number line to represent and identify sums and differences of lengths

  Lesson Subunit(s):

  - Use a number line to solve measurement problems

- *Represent Data on a Line Plot*

  Standard(s):

3.MD.4 *Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.*

Learning Target(s):

- ✓ Use measurement data to make line plots based on length in whole numbers, halves, or quarters of an inch

Lesson Subunit(s):

  - Use a line plot

Lesson Module 2

- *Measure and Estimate Mass and Liquid Volume*

  Standard(s):

  3.MD.2 *Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.*

  Learning Target(s):

  - ✓ Select or estimate masses of objects using standard units of grams and kilograms. Solve one-step word problems. Select or estimate liquid volume using standard units of liters. Solve one-step word problems.

  Lesson Subunit(s):

  - Measure mass and volume
  - Estimate mass and volume

Lesson Module 3

- *Interpret Area as Square Units*

  Standard(s):

  3.MD.5.a *A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.*
  3.MD.5.b *A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.*

  Learning Target(s):

  - ✓ Use square units to identify areas of rectangles as n square units.

  Lesson Subunit(s):

  - Use square units to identify areas of rectangle and n square units
  - Apply your understanding of area to real-world situations

- *Find Area of Rectangles*

  Standard(s):

3.MD.7.a *Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying side lengths.*
3.MD.7.*b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.*

Learning Target(s):

✓ Find area of rectangles using multiplication

Lesson Subunit(s):

- Find the area of rectangles using multiplication

- *Solve Problems Using Area*

Standard:

3.MD.7.*c Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning.*
3.MD.7.d *Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problem*

Learning Target(s):

✓ Find area of rectangles and combined rectangles using multiplication or addition, including word problems.

Lesson Subunit(s):

- Find the area of a rectangle by tiling and using the formula A=l x w
- Find the area of an irregular figure by breaking it into smaller rectangles

Lesson Module 4

- *Solve Problems Using Perimeter*

Standard(s):

3.MD.8 *Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.*

Learning Target(s):

✓ Solve problems involving perimeters of polygons, finding unknown side lengths, and comparing perimeter and area of rectangles.

Lesson Subunit(s):

- Solve problems involving perimeters of polygons
- Find unknown side lengths
- Compare the perimeter and area of rectangles

Lesson Module 5

- *Interpret Data Sets*

Standard:

2.MD.10 *Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.*

3.MD.3 *Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step how many more and how many less problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

Learning Target(s):

- ✓ Identify single-scale data given in picture graphs and bar graphs.
- ✓ Use the graphs to add, subtract, and compare the data.

Lesson Subunit(s):

- Identify data in picture graphs and bar graphs
- Use picture graphs and bar graphs to interpret data

Blackboard Lesson Plan Flow

Introduction

Applicable Fluency exercise

Lesson Instruction

Lesson Practice

Lesson Independent Practice

Supplemental Resources

Lesson Wrap Up

Lesson Assessment