**Secondary 2 Training, Alpine School District**
June, 2013

**Unit 4 Probability and Statistics**

**Lesson 1 - Sample Space**

Learning Targets

1. Participants will be able to identify sample space in a data set by using a variety of representations (list, table, Venn diagram, tree)
2. Participants will understand and use set notation to represent sample spaces (union, intersection, complement, null, etc.)

Preassessment

Have participants write their own definitions from memory for the unit 4 terms (compound events, mutually exclusive events, independent events, conditional probability). Share these together. Participants make adjustments as needed to their definitions.

Have participants use “Words to Know” sections of unit 4 to compare their definitions to resource. Participants make adjustments as needed to their definitions.

Task

Guided Practice, 4.1.1, Example 2 (Students’ Pets)

Be sure to use the unscaffolded version of the example from the text. Remember to follow LED (Launch, Explore, and Discuss).

 Launch: could be as simple as asking for a raise of hands of participants and their pets.

 Explore: participants complete task on their own first, then share with a partner.

 Discuss: have selected participants share their work with document camera. Be sure to clearly define set notation and sample space. These ideas will be used throughout unit 4. The sample space is this example comes from a table or list.

Guided Practice

4.1.1, Example 3 (contact list in cell phone)

Be sure to use the unscaffolded version of the example from the text. Remember to follow LED (Launch, Explore, and Discuss). Goal here is to represent and find sample space using Venn diagram.

4.1.1, Example 4 (toss a coin)

Be sure to use the unscaffolded version of the example from the text. Remember to follow LED (Launch, Explore, and Discuss). Goal here is to represent and find sample space using tree diagram.

Student Practice

Have students examine student practice from 4.1.1 to determine what they would assign students. How might you use this practice to differentiate instruction for your students?

**Lesson 2 – Independent Events**

Learning Targets

1. Participants will understand that two events *A* and *B* are independent if the probability of *A*  and *B* occurring together is the same as the product of their probabilities.
2. Participants will be able to determine if two events are independent.

Preassessment

Guided Practice Participants choose to complete either Example 1 or 2 below working with a partner.

 4.1.3, Example 1 (marbles in bag)

 4.1.3, Example 2 (coin toss)

Task

 4.1.3, Guided Practice 3 (sandwiches)

Student Practice

Have students complete #1 independently in 4.1.3 Practice, then #7 working with a partner.

**Lesson 3 – Conditional Probability**

Preassessment

Have participants write answers to questions 1-3 in “Essential Questions”, p. U4-47 in Unit 4, lesson 2.

Learning Targets

Have participants state in their own words learning targets from the CCSS on p. p. U4-47 in Unit 4, lesson 2.

1.
2.
3.
4.

Task

 Problem Based Task 4.2.1 (Does She Have a Brother or Sister?)

 Remember LED

Student Practice

 TB or Not TB, Part 1 and 2. See pdf handouts including KEYS.

 Complete Part 1, discuss, then have participants complete Part 2.