Designer Name(s): Deb Gorman Date:

Subject Area: math Grade Level(s): 7

Unit Title/Focus: comparing two populations/data and statistics

Estimated Amount of Instructional Time: ~ 1st quarter

Stage 1 – (Desired Results)

State Content and Skill Standards: Statistics and Probabilities

7.SP.A, 7.SP.B., 7.SP.C, 7.SP.D, 7.SP.1,7.SP.2, 7.SP.3, 7.SP.4, 7SP.5, 7.SP.6.7.SP.8

Enduring Understandings: (what are the big ideas, what are the specific understandings desired)	*Essential Questions: (what questions will foster inquiry, understanding, and transfer of learning)*
Students will understand that… The students will understand how to analyze data and use data in decision making	What can I learn about a population from a random sample? How can I use data to compare the characteristics of two populations? How can I find the probability of events involving equally likely outcomes? How can I use data to make informed decisions?

Big Idea(s)

Data is used in making decisions

What Students will know: (what knowledge will they acquire)	*What Students will be able to do: (what will they eventually be able to do as a result of their skills learned/knowledge)*
Students will use random samples to draw inferences about a population Students will draw informal comparative inferences about two populations The students will know simple probability, odds, and compound events	Students will be able to determine whether or not a sample is random. The students will draw inferences about a population using data from a random sample The student makes comparisons between two numerical data distributions. The student uses measures of center and measures of variability to make statements that form the basis for informal comparative inferences. The students will use a probability model to find probability of events involving equally likely outcomes.

Stage 2 - Assessment Evidence (acceptable assessment evidence that students understand)

Performance Tasks: (what authentic performance task (s) will students demonstrate understanding; by what criteria will it be judged?	*Other Evidence: (quizzes, tasks, academic prompts, homework, observations)*
The student will determine whether a sample is random when given situations about ice cream surveys The student will decide where to build a business based on comparisons of two populations The students will find means based on the samples The students will find mean absolute deviation The students will find probability of events based on random samples	Performance test, prompts, quizzes

Stage 3 - Learning Plan (sequence of teaching and learning activities that will produce desired understandings, engagement and development) Use WHERETO elements to help you:

Learning Activities:

* Hook students into understanding that business decisions are based on statistics.
* Equip students to understand how to take a random survey and understand whether a survey is random.
* Equip students to make comparisons between two populations using mean, MAD and box plots
* Equip students to use pro
* Provide students the opportunity to rethink and revise their business decision based on comparison of two populations and measures of centers

The students will decide where to locate an ice cream store in the town A or town B on the Oregon coast. They will analyze the data from a survey of the number of ice cream cones sold in five different stores located in each of the two towns. The students will decide which ice flavors that will be sold in their store based on the survey and using probability.

Resources: Saxon Math: lessons; 14,28,36,38,77,79,94; SFA 1,2,3,5,14,15,16, and investigation 4, 5,investigation 8
WP = written practice, SFA = Standards Focus Activity

W=help the students know WHERE the unit is going and WHAT is expected/Help teacher to know where the students are coming from (prior knowledge, interests)
H=HOOK all students and hold their interest
E=EQUIP students, help them EXPERIENCE the key ideas and EXPLORE the issue
R=Provide opportunities to RETHINK and REVISE their understanding/work
E (2)=Allow students to EVALUATE their work
T=Be TAILORED (personalized) to different needs, interests, and abilities of learners
O=Be ORGANIZED to maximize initial and sustained engagement as well as effective learning

Assessment Tasks that Provide Evidence for Claims including DOK	**X Claim #1/DOK 1, 2, 3, 4 (circle one):** **X Claim #2/DOK 1, 2, 3, 4 (circle one):** **X Claim #3/DOK 1, 2, 3, 4 (circle one):** **X Claim #4/DOK 1, 2, 3, 4 (circle one):**
Achievement Level Descriptors	**ALD #1: ALD #2: ALD #3: ALD #4: (circle one):**
Materials/Resources	**Saxon Math, Saxon Standards Success**