Grade Level	Content Area	Course Title *(9-12 Samples Only)*	Unit Title
11th Grade	Mathematics	Math 3	Interdisciplinary with Reading and Writing Units: Youth on the Border

Length of Unit	Time of Year Taught	Expected Prior Knowledge
Five 1.5 hour class sessions	4th Quarter, after 11th Grade Reading unit on *The Devil's Highway*	HSR-S2C1-PO2. Students will have explored challenges & opportunities faced by young people living along the U.S./Mexico Border from reading the novel *The Devil's Highway* by Luis A.Urrea. Students will have previous instruction and experience with visual representation of information, graphing, and presentation of scientific research.

Unit Description

Students are completing these Math activities in conjunction with Reading and Writing units on the challenges and opportunities of living on the U.S./Mexico Border. They will use data collection and data analysis to create a non-biased online survey that identifies the facts and feelings associated with experiencing border life as a youth. Students' survey will be assessed through multiple informal protocols and a formal grading rubric. Students will receive feedback throughout the survey creation process through teacher critique and group dialogue and critique, and formative assessments that provide creative guidance but no formal score. Students, as well as the teacher, will assess each other's final product by using a summary presentation rubric and scoring guide.

Strand(s), Concept(s), and PO(s)	CWR-S2C1-PO4. Explain how sampling methods, bias, and the phrasing of questions asked during data collections impact the conclusions that can be drawn.
Summative Assessment	Students will demonstrate synthesis of non-biased survey findings and survey process by presenting an oral summary.
Assessment Scoring	Summary presentation rubric and scoring guide.
Materials/Resources Needed	Action Research Assignment handout, Key Vocabulary, *Survey Monkey* Instructions, Summary Presentation Rubric and Scoring Guide, computer & projector/SMARTboard, student computers, Internet access, butcher paper, markers.

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
PO Focus	CWR-S2C1-PO4	CWR-S2C1-PO4	CWR-S2C1-PO4	CWR-S2C1-PO4	CWR-S2C1-PO4
Lesson/ Instruction	**Objective:** Compare background knowledge to personal experience and unbiased data collection. **Linking:** Refer back to the reading of *The Devil's Highway.* Guide class discussion emphasizing facts and feelings associated with challenges and opportunities presented in the text. **Independent Practice:** Have the students free write about what they perceive to be the	**Objective:** Understand and use key vocabulary to begin research planning and instrument development. **Independent Practice:** Pass out and review vocabulary handout with students. **Small Groups:** Have groups refer to vocabulary handout and have them write and present a definition for "data collection" and "research bias" **Modeling:** Introduce the concept of surveying by creating an account using the online assessment tool, *Survey*	**Objective:** Create, refine, and administer challenges & opportunities survey. **Guided Practice:** Administer sample survey that contains three multiple choice and two open ended questions to whole class covering previous day's learning. **Discussion:** Analyze data and discuss how survey could be improved and if the results would have been different if reworded or given to another set of students. Discuss benefits and pitfalls of multiple choice	**Objective:** Create, refine, and administer challenges & opportunities survey **Small Groups:** Brainstorm and input three open-ended questions into existing survey related to perceived challenges and opportunities that youth face. (Refer back to free write activity.) **Small Groups:** Administer survey to another in class group, analyze data, and discuss	**Objective:** Demonstrate mastery of concepts. **Small Groups:** Have student groups spend half of the class preparing a detailed summary presentation of their process in creating a non-biased survey, as well as a

	challenges and opportunities they face because they live along the U.S./Mexico border **Whole Class:** Randomly select several students to share out their writing to the whole class. **Preparation:** Pass out and explain the Action Research assignment handout. Discuss the challenge of formulating unbiased research questions.	*Monkey*. **Small Groups:** Pass out account creation instructions and have student groups create an account. **Whole Class:** Discuss anonymity and need for participant agreement to terms. Create a simple agreement statement with the class. Brain-storm with entire class and agree upon six multiple choice questions related to perceived challenges and opportunities youth face in the border region (refer back to free write activity).	vs. open-ended questions. **Whole Class:** Refine and finalize proposed multiple choice questions. **Small Groups:** Pass out *Survey Monkey* survey creation instructions and have students create survey. **Guided Practice:** Administer student generated survey to entire class. **Discussion:** Analyze data and discuss how survey could be improved to address survey bias.	how the survey could be improved **Small Groups:** Refine and finalize proposed open-ended questions and modify survey in a way that addresses survey bias. **Discussion:** Revisit the Action Research Assignment handout and pass out and explain the Summary Presentation Rubric.	summary of their findings. **Assessment:** Have groups present their summary presentation and grade using Summary Presentation and Scoring Guide.

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5
Student Activities	**Linking:** Students participate in active discussion, recalling and linking the information from their reading of *The Devil's Highway*. **Independent Practice:** Using the information generated in the brainstorming discussion, students are to participate in a free write activity to begin focusing their ideas. **Whole Class:** Students share out their findings **Preparation:** Students read the Action Research Assignment; teacher answers questions.	**Independent Practice:** Students read the vocabulary handout and ask for clarity **Small Groups:** Students break up into four to six groups to collaboratively develop a definition for "data collection" that incorporates the lesson's vocabulary terms. **Modeling:** Teacher guides a "tour" of the online assessment tool *Survey Monkey* website. **Small Groups:** Students read the *Survey Monkey* account creation instructions and have a group representative create a group account on a shared computer. (If students encounter difficulties, they can watch the online tutorial.) **Whole Class:** Students participate in brainstorming discussion to develop preliminary multiple choice survey questions.	**Guided Practice:** Students log in to their student computer and take the teacher generated survey. **Discussion:** Students participate in data analysis discussion and critique the survey questions with an emphasis on identifying bias and making improvements. **Whole Class:** Students work as a whole class to refine and finalize the proposed multiple choice survey questions. **Small Groups:** Students return to their original groups and read survey creation instructions for *Survey Monkey* and create their own multiple-choice survey. **Guided Practice:** Students log on to their student computers and take the student generated survey. **Discussion:** Students analyze survey data and make collective improvements to multiple-choice questions to address survey bias.	**Small Groups:** Students participate in small group brainstorming discussion to develop preliminary open-ended survey questions. **Small Groups:** Students administer their survey to another in class group, analyze data, and discuss how survey could be improved. **Small Groups:** Students work as a group to refine and finalize the open-ended questions and to modify their online survey in a way that addresses survey bias. **Discussion:** Students reread the Action Research Assignment handout and read along as the teacher reads and explain the Summary Presentation Rubric. **Homework:** Students work independently at home to generate ideas for their group presentation.	**Small Groups:** Students work in their groups to collectively finalize their summary presentation of the process they undertook in creating a non-biased survey, as well as a summary of their findings. **Assessment:** Students grade each group presentation using the Summary Presentation Rubric and Scoring Guide.

Action Research Assignment:
Survey Monkey Project

DESCRIPTION

The Youth on the Border *SURVEY MONKEY* assignment is an intense group project. You will be utilizing the knowledge gained from reading the novel *The Devil's Highway* by Luis Alberto Urrea and creating a non-biased survey that will collect data on you and your peers' perceptions about challenges and opportunities faced by young people living in the U.S./Mexico border region.

LEARNING OBJECTIVES

This week-long learning experience will guide you through the process of creating, critiquing, and analyzing survey questions and data. The process of learning is as follows:

1. Access your background knowledge to analyze your perceived challenges and opportunities
2. Understand vocabulary related to research planning and instrument development
3. Work in a group to create a *Survey Monkey* account
4. Assist in the development of multiple choice survey questions about youth challenges and opportunities
5. Analyze data to identify research bias and refine survey questioning
6. Assist in the development of open-ended survey questions about youth challenges and opportunities
7. Analyze data to identify research bias and refine survey questioning
8. Assist in the development of a group presentation that details the process of creating a non-biased survey and summarizes your findings.

SUMMATIVE ASSESSMENT

Working in a group, collectively create a presentation that will both outline the process the group undertook to create your non-biased survey, as well as summarize the findings of the survey. In addition to critical thinking, you will use your visual representation, graphing and presentation skills to create an excellent presentation.

Please use your in class time wisely. It is essential to stay on track and make continual progress throughout the lesson. You will be using in class time to organize your findings, analyze your information, brainstorm your recommendations, and get clarity on questions that may come up. All of your work will be assessed by your peers and your teacher using a Summary Presentation Rubric and Scoring Guide.

Key Vocabulary: Research Planning/Instrument Development

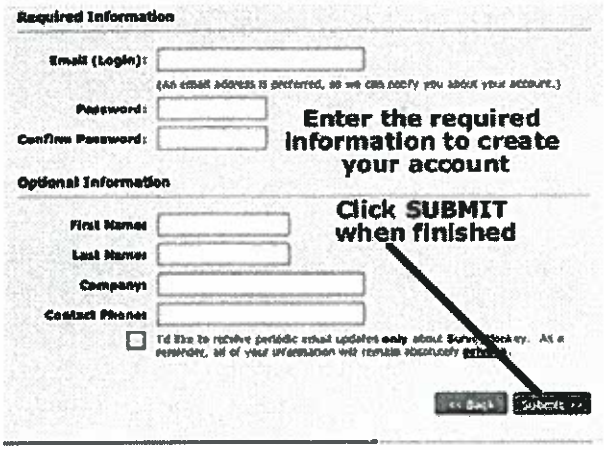
The following definitions reflect the use of key terms for student research.

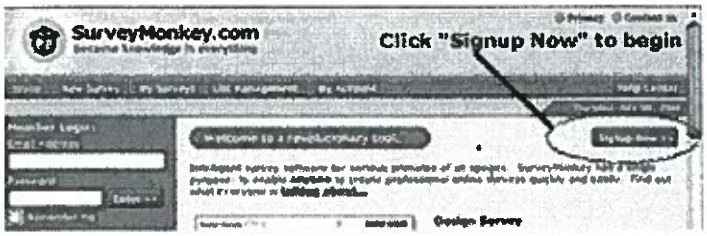
Critical assessment: To look critically at a situation and make some judgments about it.
Audience: The people who will look at, read, or use your final research findings and recommendations.
Research Bias: The unknown or unacknowledged error created during the design, measurement, sampling, procedure, or choice of problem studied.
Confidentiality: Respecting research participants' right to privacy by not talking about them or the information they shared with you outside of the evaluation team.
Context: The setting or environment of your research.
Criteria: The specific qualities that researchers use to help understand more about the phenomena (activities, events, human practice/behavior, location, etc.)
Ethics: Principles for doing your research in a responsible way.
Research Goals: What you want to accomplish in your research. The accomplishments can be thought of as "learning goals" and "influence goals"-- what you hope to learn, and what you hope to affect.
Final product: The culminating product of your research that will communicate your findings and recommendations to other people. For example, your final product might be a report, a presentation, a video, or an exhibit
Indicator: Indicators are those aspects of the phenomena (activities, events, human practice /behavior, location, etc.) you are studying that can help provide a sense of the quality or specific characteristics of the phenomena according to the research criteria. For example, Chicano/Latino community involvement in developing curriculum might be an indicator of community knowledge used and studied in classes, a potential criterion of strong multicultural practice at a school.
Instrument: The tools that researchers use to collect information about the organization they are studying. Researcher instruments include surveys and question guides for in-person interviews.
Interview guide: The written set of questions that an interviewer uses in an interview. A guide helps interviewers remember their questions, and ask the same questions to all interviewees.
Interviews: Usually one-on-one conversations between the researchers and interviewees that focus on a specific set of questions. Interviews are useful when researchers want to get detailed information about the experience of individuals.
Prioritize: To rank by importance. If you prioritize your goals, you decide what is most important, what is second most important, etc.
Stakeholders: People who have an interest in your organization. This can include staff, people who are served by the organization, community members, board members, and funders, for example.
Strategy: A plan for how you will do something.
Survey: A survey is a set of questions designed to get uniform information on a specific topic from a large number of people. A survey can be given in writing or orally (such as over the phone).
Task Chart: A chart in which an evaluation team records the talks they need to accomplish, with the person responsible for doing each task, and the deadline by which they need to be done.

Questions
Opening/closing questions
Opening questions are introductory questions that help develop a relationship with the interviewee and get background information. Opening questions are followed by more complex questions that come in the middle of the interview. Closing questions help to wrap up the interview.
Open -ended questions
Questions that must be answered with more that a yes-no answer. In a survey open-ended questions involve survey-takers writing out an answer instead of selecting from set options (such as check boxes).
Follow-up questions
Questions which build on the answer of another question, often asking for more detail.

Survey Monkey Account Creation and Survey Creation Instructions

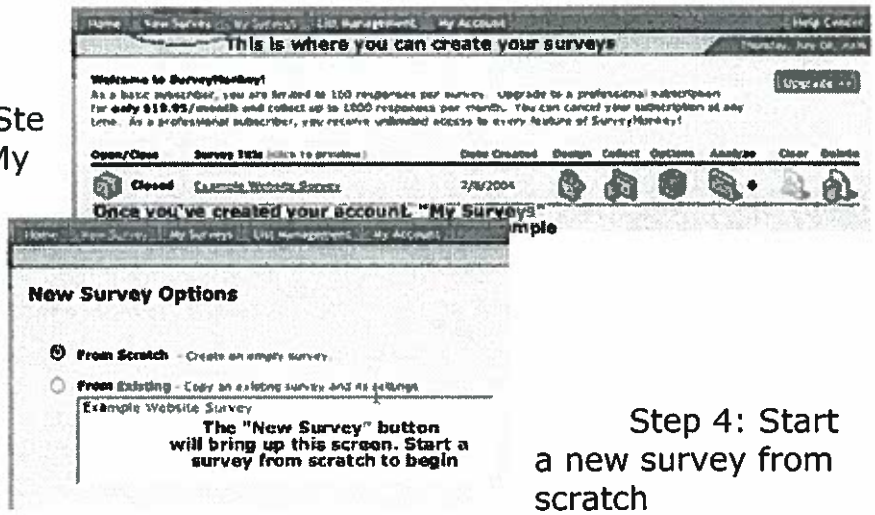
Step 1: Signup for your account





Step 2: Enter your information, including a password

Step 3: Create a new survey from the "My Surveys" area



Step 4: Start a new survey from scratch

To learn how to create new surveys, please type in the URL exactly as it appears below into the menu bar. The movie clips you will see will guide you through the process. Open a new window for each movie.

1. Setting up a new survey (:50) 440kb
   http://joelsolomon.com/ILT/CPS%20Questions/Screenshots/SMovie_1.mov
2. Adding the first question to your survey(:56) 484kb
   http://joelsolomon.com/ILT/CPS%20Questions/Screenshots/SMovie_2.mov
3. Adding multiple choice questions to your survey (1:26) 756kb
   http://joelsolomon.com/ILT/CPS%20Questions/Screenshots/SMovie_3.mov
4. Adding essay questions to your survey(:56) 556kb
   http://joelsolomon.com/ILT/CPS%20Questions/Screenshots/SMovie_4.mov
5. Publishing your survey for the entire world to see! (1:03) 1.2 MB
   http://joelsolomon.com/ILT/CPS%20Questions/Screenshots/SMovie_5.mov
6. View and analyze response results (:51) 432kb
   http://joelsolomon.com/ILT/CPS%20Questions/Screenshots/SMovie_6.mov

Name_____

SUMMARY PRESENTATION - RUBRIC and SCORING GUIDE

OUTCOME: Students will demonstrate synthesis of non-biased survey findings and survey process by presenting an oral summary.

Criteria/Expectation Level	F 1-2.	A 3	M 4	E 5-6
IDEAS and CONTENT				
1. The main **purpose of the survey** is stated in the presentation.				
2. The **survey process is clearly explained** in the presentation.				
3. The **analysis of survey findings is summarized** in the presentation.				
4. **Sampling methods, bias, and the phrasing of questions** is explained in the presentation.				
5. Conclusion clearly explains **how sampling methods, bias, and the phrasing of the questions impact conclusions that are drawn.**				
ORGANIZATION				
6. **Survey findings are organized in a summary that presents a clear and logical progression of information; visual representations are appropriately used to organize survey results.**				
7. Explanation of information flows together easily.				
8. Transition is evident in the presentation and is used effectively and smoothly.				
9. Closing statements ends the presentation effectively.				
VOICE				
10. Tone fits purpose and audience.				
11. Student uses own words via paraphrasing				
WORD CHOICE				
12. Clear, concise and interesting words used in presentation.				
13. Student does not include his own opinion in summary presentation.				
14. Common and uncommon words used accurately.				
SENTENCE FLUENCY				
15. Statements pertain to the topic of the presentation.				
16. Clear, concise and complete statements.				
17. Varied statement beginnings and lengths.				
CONVENTIONS (presentation and delivery)				
18. Presentation is characterized by correct subject/verb agreement.				
19. Pauses used appropriately.				
20. Enthusiasm/interest in topic is apparent.				

Score: /6

Questions 1-9 are weighted 90% of presentation grade. Scores are awarded percentages:
6 = 100%
5 = 90%
4 = 80%
3 = 70%
2 = 60%
1 = 50%