

Online Resource 7.18 Ninth-Grade Unit Example

Note to Teachers: This guide is meant to be a template for you to fill out for a variety of different units, content areas, and grade levels. The responses (indicated in blue) are meant to be guidelines of content you might fill in here yourself.

Unit Design			
Learning Intention(s)			
<i>I will . . .</i>	<ul style="list-style-type: none"> Make inferences and justify conclusions from sample surveys, experiments, and observational studies. 		
Success Criteria			
	Surface	Deep	Transfer
	<ul style="list-style-type: none"> Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. 	<ul style="list-style-type: none"> Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant. Evaluate reports based on data. 	<ul style="list-style-type: none"> Evaluate the conclusions of arguments using statistical information. Produce and present a solution to a problem using quantitative data.
Student Tasks			
	Surface	Deep	Transfer
	<ul style="list-style-type: none"> Submit responses to a series of questions provided by the teacher. Submit a shared response to select word problems or case studies. 	<ul style="list-style-type: none"> Submit evaluation of two reports. 	<ul style="list-style-type: none"> Produce and present a presentation on the selected case studies in the classroom (minimum 2).
Lessons			
<i>Prior Knowledge</i>	Surface	Deep	Transfer
	<ul style="list-style-type: none"> Exposure to, examples of, and definitions of surveys, experiments, and observational studies. 	<ul style="list-style-type: none"> Potential exposure to using data to estimate a population 	<ul style="list-style-type: none"> Use of argumentative writing

Lessons	• Lesson 2, 3, 4	• Lesson 5, 6, 7, 8	• Lesson 1, 9, 10
Cross Context (Transfer)			
Purposeful and Provocative	Providing students with cases that relate to contemporary political issues (i.e., perception on border wall funding)		
Perplexing Problems	Reviewing problems that may skew data and the interpretation of data to audiences (e.g., voter turnout, gerrymandering)		
Perspective-Laden	Determining the impact of decisions that impact people unable to vote (such as: felons, people under 18, etc.)		

Calendar					
	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	<ul style="list-style-type: none"> Lesson 1: Project Launch Review of Learning Intentions and Success Criteria Review of Success Examples Assignment of Cases Pre-Assessment 	<ul style="list-style-type: none"> Lesson 2: Simple hypothesis testing using simulations (connecting transfer to surface) 	<ul style="list-style-type: none"> Lesson 3: Explaining the purposes of and differences among sample surveys, experiments, and observational studies 	<ul style="list-style-type: none"> Lesson 4: Reviewing randomization and using data to estimate a population mean or proportion Develop a margin of error. 	<ul style="list-style-type: none"> Lesson 5: Use simulations to examine differences between two treatments; determine significance.
Week 2	<ul style="list-style-type: none"> Lesson 7: Evaluate reports based on data. 	<ul style="list-style-type: none"> Lesson 8: Use new simulations to highlight differences between two treatments; determine significance. 	<ul style="list-style-type: none"> Lesson 9: Create report based on data. Post-Assessment 	<ul style="list-style-type: none"> Lesson 10: Receive case study and prepare to produce and present on case. 	<ul style="list-style-type: none"> Share work. Give and receive feedback.
Week 3	<ul style="list-style-type: none"> Lesson 11: Make revisions to case study. 	<ul style="list-style-type: none"> Share work. Give and receive feedback. 	<ul style="list-style-type: none"> Students switch cases. 	<ul style="list-style-type: none"> Share work. Give and receive feedback. 	<ul style="list-style-type: none"> Conclusions