ID	#Total	#Active	#Q	T=Thinking Critically	
173	135	119	1343	121 based on questions	

ID	20	18	182	**CHAPTER 1:**	
C1A	1	1	10	T: Distinguish observable from unobservable	
C1B	1	1	**10**	T: Distinguish types of inference	Add
C1C	1	1	10	T: Distinguish deterministic, probabilistic causation	
C1D	1	1	10	C: Determine if event is repeatable or condition is switchable	
C1E	1	1	10	C: Determine if study is repeatable	
C1F	1	1	10	T: Distinguish Association-Causation in cross-sectional studies	
C1G	1	1	**10**	T: Distinguish Association-Causation in time-based studies	
C1H	1	1	**10**	T: Distinguish Association-causation in studies (cohort vs. non)	
C1I	1		10	T: Distinguish causal phrases	
C1J				**A: Which situation/association is stronger?**	
C1K	1	1	10	C: Distinguish common cause, confounder and mechanism	
C1L	1	1	10	C: Determine effect of confounder on a statistic	
C1M	1	1	**10**	T: Distinguish different sense of "Can"	
C1N	1	1	**7**	A: Red books activity	
C1O	1	1	10	A: Identify which definition gives a higher count or total	
C1P	1	1	5	A: Calculate effect of grouping on counts	
C1Q	1	1	10	A: Impact of word change on number	
C1R	1	1	10	A: Redefine groups to increase/decrease count	
C1S	1		10	R: Law of Very Large Numbers	
C1U	1	1	5	E: Distinguish major types of error or bias	
C1V				Identify key claim words	
C1W				Write to make claim asserted more/less causation	
C1X	1	1	5	X: Distinguish Confounding, Assembly, Randomness and Error	

ID	27	23	220	**CHAPTER 2:**
C2A	1	1	10	Identify appropriate form given compare type, test and base
C2B	1	1	10	Identify type comparison based on grammar
C2C	1	1	10	Calculate size of comparison given test, base and compare grammar
C2D	1	1	10	Identify comparison grammar given test, base and size of comparison
C2E	1	1	10	Calculate compare given two percentages
C2F	1	1	10	Identify biggest comparison of two numbers
C2G	1	1	10	Calculate test or base given opposite and compare.
C2H	1	1	10	Compare test and base after scaling
C2I	1	1	10	Calculate effect of definitions on averages
C2J	1	1	10	Distinguish Longitudinal vs. cross-sectional
C2K	1	1	10	Distinguish Xsectional from Longitudinal (cohort from non-cohort)
C2L	1	1	10	Distinguish Experiment vs. observational
C2M	1	1	10	Distinguish Controlled vs. uncontrolled
C2N	1	1	10	Xsec vs Long (Uncontrolled vs. Controlled)
C2M				Estimate the implications of statistics if true
C2N				Estimate effect of randomness given sample size
C2O	1	1	10	Statistical Significance vs. Importance
C2P	1	1	5	Use ME to determine statistical significance
C2Q	1	1	10	Random assign vs. random select
C2R	1	1	10	Distinguish types of bias
C2S	1	1	5	Write: def to increase/decrease count

ID	#Total	#Active	#Q	T=Thinking Critically
C21	1	1	10	Study #1:Boys more likely to use heroin than girls.
C22	1	1	10	Study #2: Substance abusing teens randomly assigned…
C23	1	1	10	Study #3: Percentage of seniors who got their diploma
C24	1	1	10	Study #4: Percentage of sixth-graders who had asthma
C2E1	1			calculation Pctg Pt given rate and %chg
C2E2	1			Calculate %chg given rate and PctgPtDiff
C2E3	1			Calc rate given %chg and PctgPtDiff
P21	1			Write out different types of comparisons

ID	26	16	145	**CHAPTER 3: MEASUREMENTS**
C3A	1	1	5	Calculate & compare ranks from scores
C3B				Calculate percentiles from scores
C3C	1	1	8	Identify which percentile, score or rank is higher
C3D	1	1	10	Identify which mean is higher in closely related groups
C3E	1	1	13	Compare averages from extremes of a distribution
C3F	1	1	5	Calculate weighted average given subgroup averages
C3G	1	1	10	Calculate mean, median & mode given data values
C3H	1	1	5	**Write comparisons of ranks, percentiles, modes, medians and means.**
C3I	1	1	5	Calculate/compare weighted average before/after standardization
C3J	1	1	10	Results of Standardizing
C3K1	1	1	8	Standardize measures for binary confounder
C3K2	1	1	8	Standardize measures for binary confounder
C3K3	1	1	8	Standardize measures for binary confounder
C3L	1	1	10	Calculate & compare Z-scores
C3M	1	1	10	Calculate & compare Normalized scores
C3N	*1*			Calculate Prediction Intervals
C3O	*1*			Calculate & compare Coefficients of Variation
C3P	1	1	10	Calculate & compare Effect Sizes
C3Q	1	1	10	Predict outcome given regression & predictor
C3R	*1*			Calculate correlation from slope and std deviation
C3S	*1*			Compare correlations.
C3T	*1*			Calculate "percentage explained" from correlations
C3U	*1*			Predict outcome given correlation, SD & predictor
C3V	*1*			Calculate Prediction Interval from correlation, SD & predictor
C3W				Excel: Identify effect of outlier on slope and correlation
C31	*1*		10	MacLeans Ranking of Canadian Colleges
C3R2				
C3W1	*1*			Write out comparisons of numbers
C3W2	*1*			Write out comparisons of statistics that have units

ID	25	25	397	**CHAPTER 4: DESCRIBING RATIOS**
C4A1	1	1	5	Identify part in percent grammar statements (toy problems)
C4A2	1	1	10	Identify part in percent grammar statements (real ones)
C4B1	1	1	10	Identify part in What Percentage questions (toy problems)
C4B2	1	1	10	Identify part in "what percentage" questions (real) ones
C4C	1	1	10	Calculate percentages from simple count tables
C4D	1	1	20	Calculate percentage in complex count table (Religious affiliation: Teen vs adult)
C4E	1	1	31	Hunting-Wildlife-Fishing Brochure (1 attempt)

ID	#Total	#Active	#Q	T=Thinking Critically
C4F	1	1	5	Identify the complement of a percent grammar description
C4G				**Read complex percent tables**
C41RW				Use Reading (G1) and Writing (G2) program
C4H	1	1	10	Identify part in percentage grammar statements
C4I	1	1	5	Identify part in questions using "What is the percentage…"
C4J1	1	1	10	Identify proper percentage to percent conversion
C4J2	1	1	10	Identify proper percent to percentage conversion
C4K1	1	1	10	Identify part in statements: percent or percentage grammar
C4K2	1	1	10	Identify part in questions: percent or percentage grammar
C4L	1	1	6	Identify part/whole or correct description in percentage tables (Disabilities)
C4M	1	1	5	Identify part/whole or description in percentage graphs
C4N				**Write descriptions of percentages based on charts and tables**
C42RW				Use Reading (N1) and Writing (N2) program
C4O				Don't use. Hard to distinguish O from zero (0)
C4P	1	1	10	Calculate rate per K given# of numerator and # of denominator
C4Q	1	1	10	Identify part in phrase-based rate statement
C4R	1	1	10	Identify equivalent phrase-based rate statement given "Per" ratio
C4S	1	1	10	Identify part in clause-based rate statement
C4T	1	1	5	Translate between phrase-based & clause-based rate grammar
C4U	1	1	10	Identify part/whole (variable/given) in chance grammar statements
C4V	1	1	5	Calculate 1 chance in N given numerator and denominator
				Which choice of whole gives bigger/smaller ratio?
				Convert rates to different basis
				Identify influence of assembly on percentages and rates.
C43R	1	1	60	Record READING percentage-grammar problems
C43W	1	1	110	Record WRITING percentage-grammar problems
ID	16	16	198	**CHAPTER 5: COMPARING RATIOS**
C5A	1	1	10	Calculate percentage attributable from percentage/rate data.
C5B	1	1	5	Calculate cases attributable given rates and # of cases/exposure
C5C				**Determine if compare is common or distinct part: table or graph**
C5D	1	1	10	Percentage-grammar compare: identify common-part and base whole
C5E	1	1	5	Percentage-grammar compare: identify if common or distinct part
C5F	1	1	10	Compare two percents: Select correct perccentage-who grammar.
C5G	1	1	10	Rate-phrase compare statement: identify common part, base whole
C5H	1	1	5	Rate-phrase compare statement: Determine if common or distinct part
C5I				**Rate-phrase grammar: Correct compare given statements/table/graph**
C5J	1	1	10	Rate-clause compare statement: identify common part, base whole
C5K	1	1	5	Rate-clause compare statement: Determine if common or distinct part
C5L				**Rate-clause grammar: Correct compare given statements/tables/graphs**
C5M				Chance grammar: Identify common part and base whole
C5N				Chance grammar: Determine if common or distinct part compare
C5O				Chance grammar: Identify correct compare given statements/tables/graphs
C5P	1	1	10	Likely grammar common-part compare: identify common part and base whole
C5Q	1	1	5	Likely grammar: Determine if common or distinct part
C5R	1	1	5	Likely grammar: Identify correct compare given percentage statements
C5S	1	1	10	Likely grammar: Identify correct compare given percentage tables/graphs
C5T	1	1	5	Likely grammar: Identify correct compare given rate statements
C5U				Likely grammar: Identify correct compare given rate tables/graphs

ID	#Total	#Active	#Q	T=Thinking Critically
C5V				Likely grammar: Identify correct compare given chance statements
				Identify direction given involvement, Bayes compare or data
C5X	1	1	33	Record COMPARE problems worked using web READING program
C5Y	1	1	60	Record COMPARE problems worked using web WRITING program
C59				Evaluate Ch 4 and Ch 5 materials

ID	#Total	#Active	#Q	**CHAPTER 6: INTERPRETING RATIOS**
ID	13	13	124	**CHAPTER 6: INTERPRETING RATIOS**
C6A	1	1	10	Copmare 2 or 3 factor percentages and rates: different factors
C6B	1	1	10	Compare two-factor inverse percentages: same factors
C6C	1	1	10	Compare three-factor percentages: same factors
C6D	1	1	10	Compare rates different wholes (factual knowledge rqrd)
C6E				Evaluate likely comparisons.
C6F2	1	1	10	Identify which percentage predicts or explains
C6F	1	1	14	Calculate prediction and explanation in 2x2 tables
C6H	1	1	14	Med Tests: Calculate prediction given quality and prevalence
				Calculate weighted ave % given subgroup averages
C6I	1	1	5	Calculate percentage explained given rates
C6J1	1	1	8	Standardize percentages for effect of binary confounder
C6J2	1	1	8	Standardize percentages for effect of binary confounder
C6J3	1	1	8	Standardize percentages for effect of binary confounder
C6K				Standardize rates for effect of binary confounder
C6L	1	1	7	Calculate Percentage & Cases Attributable given standardized rates.
C6M				Calculate Percentage & Cases Attributable given raw rates.
C6N	1	1	10	Predicting type of change after standardization
C6O				Identify change conditions in standardized associations
C6P				
C6Q				

ID	#Total	#Active	#Q	**CHAPTER 7: RANDOMNESS AND CHANCE**
ID	8	8	77	**CHAPTER 7: RANDOMNESS AND CHANCE**
C7A				Calculate Expected Value
C7B	1	1	10	Distinguish different types of chance
C7C	1	1	10	Identify "uncertain" element for statements of chance
C7D	1	1	4	Calculate Number using Capture-Recapture
C7E				Calculate Response to Sensitive Issues
C7F				Calculate Regression to the Mean
C7G	1	1	10	Calculate ME, CI & Sample size for Percentages
C7H				Calculate ME, CI and Sample Size for Small Rates
C7I	1	1	10	Calculate ME, CI & Sample Size for Averages
C7J	1	1	10	Generate CI & Stat. Significance for two proportions
C7K				Generate CI & Stat. Significance for two small rates
C7L	1	1	10	Generate CI & Stat. Significance for two averages
C7M				Is difference stat significant difference given ME
C7N				Calculate sample size to make difference stat significant (%)
C7O				Calculate sample size to make difference stat significant (rates)
C7P				Calculate sample size to make difference stat significant (averages)
C7Q	1	1	13	Generate confounder effect on Stat. Significance for percentages
C7R				Generate confounder effect on Stat. Significance for small rates
C7S				Generate confounder effect on Stat. Significance for averages