

CONCEPT AND SKILLS MASTERY CHART

Concept or Skill	What students should know	What students should do	Example of mastery of understanding for this course
	Reasons why scientist conduct investigation	Understand Explain	A student will be able to give a reason: Ex. Describe one use of emission spec. Case study
	Experiment	Investigate / Conduct **	
		Discover	
		Explain *	
		Predict	
		Observe	
	Scientific knowledge changes in small steps based on prior knowledge	Describe	How did Rutherford's Gold foil experiment build on JJ Thomson's model of the atom?
	Testable Hypothesis	Formulate	If _____, then _____ statement Makes a prediction
	Experiment	Design	Write a procedure Choose materials Safety Ind. Dep. controlled variables
	Data	Collect Analyze *	Organized data table Units included Qualitative data Quantitative Data
	Know what the result mean	Conclude Evaluate	Write a conclusion that uses their data to answer the question and/or, supports or refutes their hypothesis.
		Evaluate	
		Identify	
	Different ways to	Communicate **	Students can defend their conclusions

