Critical Thinking Grid-Rocks Fossils and Natural Selection
Jim Chandler July 28,2009
Science: Grade 6

Topic/Verb	Assume	Infer	Analyze	Prioritize	Judge
How Scientists Work	Draw a picture of what you think a scientist looks like that shows your assumptions about how a scientist looks land the activities that scientists do. Check your assumptions by comparing your picture to the science activities we did in class or stories you have read about real life scientists?	What inferences can we make from the data you have collected for your experiment? How is that inference based on the data you have collected and on your prior knowledge of similar situations?	Make a diagram to organize your thoughts about the process that scientists use to test their ideas. Analyze each phase of the process, and how scientists insure that their results are accurate and valid. Take an example of an experiment done by a scientist and show how they accomplished the steps you described above.	Prioritize the activities you do in science by which ones most help insure that the conclusions you reach are valid.	What is your judgment comparing the results of a scientific investigation to test an idea to the results of someone just thinking up ideas about how the world works? Give evidence to justify your belief.
Rock Cycle		Given your knowledge of how rocks form – What would you infer would happen to one kind of rocks were subjected to different forces such	Looking at the variety of rocks and their configuration found in a given location analyze the sequence of events that have taken place in that	Prioritize the characteristics of rocks that help us to identify if a rock is igneous, sedimentary or metamorphic.	Judge what impact the rock cycle has on how earth looks today. Use evidence to show how you came up with your statement.

		as extreme heat, pressure or weathering?	location over time.		
Earth Changes	Draw pictures of what earth showing your assumptions about how it looked in 3 different times of its development. Add a brief explanatory paragraph for each drawing to explain what changes are taking place. What evidence do you have for these assumptions?	Given your understanding of how rocks form – What would the discovery of each kind of rock in an area allow us to infer what has happened to the earth?	Analyze different earth changes and distinguish between slow and fast (abrupt) changes. What other ways can organize earth changes?	Prioritize the most important forces that have helped shape how the earth has changed over time.	Judge what you think the surface of the earth with look like in a million years from now based on what you know about earth processes. Give evidence to support your idea.
Fossils - Evidence of Life Changes	If you find a fossil imbedded in a rock what do you assume about the origin of the fossils, how they are formed, and how they got to be in the spot where they were found?	Given your understanding of living things – What would the discovery of each kind of fossil in an area allow us to infer what has happened to life in that area and how it has changed over time?	Analyze the relationship between the location of a fossil in rock layers to its age and the environment in which it was formed and how that environment affects the life at that time. (Simulated Fossil Dig)	Prioritize the evidence we have from fossils that tell us how life has changed over time.	Judge if you think that fossils are important in shaping our understanding of how life has changed over time on earth? Justify your answer based on evidence.

Natural Selection	When you hear the term “natural selection”, what do you assume that we are talking about in science?	Infer what would happen to the characteristics of a population of animals or plants if their environment becomes hotter and drier using natural selection?		Prioritize the evidence we have that natural selection is a process that has happened in shaping life on earth.	Judge what you feel about the statement: “Natural selection is still an active process in shaping life on earth today.” Justify your answer based on evidence.