Process

Geomagnetism
Deposition & Erosion
Crystallization
Plate Tectonics
Isostasy
From People & Geoscience
Movement due to Density Differences

Nature of Science

Start from first principles and then apply practically
Predictions, predictive models
Scientific Method
Formulate and test hypotheses, based on analysis of geologic data
Constructing models to gain understanding
Understand a simple model and where it breaks down
Assume Ideality and Model non-identity
Recognize the limitations of the methods used

Data Analysis

Data analysis, such as graphs and diagrams and qualitative assessments and simple math.
Critiquing data: identify signs of error in data sets
Reasoning from evidence, through collecting of valid and reliable data. Sort out relevant info and interpret/analyze what it means.
How to evaluate evidence as it supports data
Detecting patterns in data
Detect likelihood of confounders, revise hypothesis to detect confounding influences

Geospatial Visualization Skills

Use Geologic Compasses, GIS, GPS, systems, and related cartographic tools
Construct Simple Geologic Maps
Locate, compile & organize information using a variety of techniques and current technology
Convert 2D to 3D to 4D

People & Geoscience

Understanding the impact of geology & the Earth on society
To Processes
Water Quality
Significance of geology as an "historical" science
Familiar with geologic history of the local area
Geohazards Assessment
Effect of total nature processes and human activity on the environment.
Social Context of Science
Humans as agents of Earth change
To Geoscience Systems

Geoscience Systems

From People & Geoscience
Climate
Water Cycle
Earth Materials
Stability
Oceans
Equilibrium
Sun-Earth-Moon Relationships
Conservation of Matter and Energy
Atmosphere
Conservation of Elements on Earth
Biogeochemical Cycles
Cycles that operate on Earth

Collecting & Organizing Data

Observation skills -> Creation of explanation -> Communicating results
Making observations and making sense of those observations
Carry out measurements of physical and chemical properties of materials
Classification and its inverse
Identify common rocks and minerals
Use observation to see what is going on

Deep Time

Episodic Events
Main Events in Earth History
Operating at and converting between different Scales
Uniformitarianism - Continuous Events