	Vol 1.1	Vol 1.2	Vol 1.3	Vol 1.4	Vol 1.6
Student Experience	Study maps for patterns in earthquakes and volcanoes	Making a topographic map of a volcano	Modeling volcanic flows.	Read Only	Classifying igneous rocks
Big Idea	Volcanoes and earthquakes form linear patterns	Magma composition determines topography. High silica, high viscosity, composite volcano. Low silica, low viscosity, shield volcano.	Viscosity of magma effects area of the flow. High silica, high viscosity, composite volcano. Low silica, low viscosity, shield volcano.	Volcanic explosivity index	Rocks tell a story. Rock features identify both chemical composition and location of formation.
Connection to Chapter Challenge	World, California, and local maps	Volcano feature article. Volcano features. Volcano tie-in to plate tectonics big picture			Geologic history: world & local
CA content standards	3.f	3.e	3.e	3.e	3.c.
Approximate Time	120 min	90 min	120 min	60 min	120 min
Notes	All Parts	All Parts	Cartoon Analysis Think About It Investigate Part A Only Reading Check Your Understanding Understanding and Applying What You Have Learned	Read Only - no activity. Check Your Understanding only	Cartoon Analysis Think About It Investigate Part A Only Reading Check Your Understanding Understanding and Applying What You Have Learned

	PT 2.1	PT 2.2	PT 2.3	PT 2.4	PT 2.5
Student Experience	Paper Lab Motion of plates Plate tectonic vocabulary	Modeling plate boundaries	Measuring Rock Densities	Paper Lab World Plate Map And Cross Section	Paper Lab Reconstructing Pangaea
Big Idea	The Earth's surface is broken into plates which move.	There are 3 types of plate boundaries identified by the motion of the plates at the boundary.	Rock density affects plate movement.	Plate boundaries can be identified by specific features. Convergent boundaries have trenches and mountain chains, divergent boundaries have ridges and mountain chains, transform boundaries have lots of earthquakes.	Earth's surface has changed through time. Evidence of change can be found in rocks. Evidence includes: fossils, rock formations, mountain chains, and glacial evidence.
Connection to Chapter Challenge	Sea-floor spreading provides support for plate motion. Big Picture of plate tectonics: mechanisms	Subduction recycles plate material. Big Picture of plate tectonics: boundaries and features	Big Picture of plate tectonics: mechanisms, boundaries, and features	Big Picture of plate tectonics: mechanisms, boundaries, and features	The rock record shows evidence of these changes Geologic history: world.
CA content standards	3.b	3.b	7.c	3.b	3.a, 9.d.
Approximate Time	120 min	180 min	120 min	60 min	180 min
Notes	Cartoon Analysis Think About It Investigate Part 1. A-F Only Reading Check Your Understanding Understanding and Applying What You Have Learned #s 1,3,4,5,6,7 Only	All Parts	Cartoon Analysis Think About It Investigate Part C Only Reading Check Your Understanding Understanding and Applying What You Have Learned	Cartoon Analysis Think About It Investigate Parts 1,3-7 Only Part 2 as Teacher Demo Reading Check Your Understanding Understanding and Applying What You Have Learned	All Parts However, parts 3and 4 can be assigned to individuals within a group rather than having all students complete 3 and 4 if time is limited.

	Eq 3.1	Eq 3.2	Eq 3.3	Eq 3.4	Whole Lotta Shakiing Goin' On	Eq 3.5
Student Experience	Modeling seismic waves. Fault block models.	Build a seismograph and record an earthquake	Create an isointensity map	Mapping California earthquake history	Create a Shake Intensity Map.	Interpreting Hazard Maps
Big Idea	Waves transfer energy. The energy in earthquakes comes from the energy released when rocks break under pressure.	Seismic waves can be recorded and analyzed. Analysis of seismic waves can help determine location, duration, and the amount of energy released.	There are multiple ways to measure earthquakes (absolute and relative). Earthquake intensity is based on observable phenomena and personal experience during an earthquake.	Mapping faults can indicate where risks are highest for earthquakes	Earthquake reports can be used to create intensity maps	Earthquake hazards can be mapped and analyzed.
Connection to Chapter Challenge	Earthquake feature article and PSA	Earthquake feature article and PSA	Earthquake tie-in to plate tectonics big picture	Geologic history: local Earthquake feature article and PSA	Earthquake feature article and PSA	Earthquake feature article and PSA
CA content standards	3.d	3.d	3.d	9.b, 9.d	9.b, 9.d	9.b, 9.d
Approximate Time	180 min	60 min	60 min	60 min	60 min	120 min
Notes	Cartoon Analysis Think About It Investigate Parts A & B Only Part C as Teacher Demo Reading Check Your Understanding	Cartoon Analysis Think About It Investigate Parts 2-7 Only Part 1 as Teacher Demo Reading Check Your Understanding Understanding and Applying What You Have Learned	Cartoon Analysis Think About It Investigate Part A Only Reading Check Your Understanding Understanding and Applying What You Have Learned	All Parts	All Parts	Cartoon Analysis Think About It Investigate Parts 1-3 Only Reading Check Your Understanding Understanding and Applying What You Have Learned