

Congruence with the NGSS

Unit Title: **Plate Tectonics B: Earth Beneath Our Feet**

Science and Engineering Practices (SEPs)

SEPS	Activities
Asking Questions and Defining Problems	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone’s “Breathing” Volcano • Using Data from Fossil Corals to Understand Tectonic Processes
Developing and Using Models	<ul style="list-style-type: none"> • Plate Tectonics • Taking the Pulse of Yellowstone’s “Breathing” Volcano • Geoworld Plate Tectonics Lab
Planning and Carrying Out Investigations	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone’s “Breathing” Volcano
Analyzing and Interpreting Data	<ul style="list-style-type: none"> • Plate Tectonics • Using Data from Fossil Corals to Understand Tectonic Processes • Hot Spot/Plate Motion Exercise
Using Mathematics and Computational Thinking	<ul style="list-style-type: none"> • Plate Tectonics • Using Data from Fossil Corals to Understand Tectonic Processes • Hot Spot/Plate Motion Exercise
Constructing Explanations and Designing Solutions	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone’s “Breathing” Volcano
Engaging in Argument from Evidence	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone’s “Breathing” Volcano • Using Data from Fossil Corals to Understand Tectonic Processes • Hot Spot/Plate Motion Exercise
Obtaining, Evaluating and Communicating Information	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone’s “Breathing” Volcano • Using Data from Fossil Corals to Understand Tectonic Processes • Hot Spot/Plate Motion Exercise
Scientific Knowledge is based on Empirical Evidence	<ul style="list-style-type: none"> • Plate Tectonics • Using Data from Fossil Corals to Understand Tectonic Processes • Hot Spot/Plate Motion Exercise

Disciplinary Core Ideas (DCIs)

DCIs	Activities
ESS1C: The History of Planet Earth	<ul style="list-style-type: none"> • Plate Tectonics

	<ul style="list-style-type: none"> • Geoworld Plate Tectonics Lab • Using Data from Fossil Corals to Understand Tectonic Processes
ESS2A: Earth Materials and Systems	<ul style="list-style-type: none"> • Plate Tectonics • UNAVCO GPS Velocity Viewer
ESS2B: Plate Tectonics and Large-Scale Systems	<ul style="list-style-type: none"> • Plate Tectonics • Hot Spot/Plate Motion Exercise • UNAVCO GPS Velocity Viewer
ESS2E: Biogeology	<ul style="list-style-type: none"> • Using Data from Fossil Corals to Understand Tectonic Processes
ESS3A: Natural Resources	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone's "Breathing" Volcano
ESS3B: Natural Hazards	<ul style="list-style-type: none"> • Hot Spot/Plate Motion Exercise

Cross Cutting Concepts (CCCs)

CCCs	Activities
Patterns	<ul style="list-style-type: none"> • Using Data from Fossil Corals to Understand Tectonic Processes • Hot Spot/Plate Motion Exercise
Cause and Effect	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone's "Breathing" Volcano
Scale, Proportion, and Quantity	<ul style="list-style-type: none"> • Plate Tectonics • Geoworld Plate Tectonics Lab
Systems and System Models	<ul style="list-style-type: none"> • Plate Tectonics • Hot Spot/Plate Motion Exercise
Energy and Matter	<ul style="list-style-type: none"> • Plate Tectonics • Hot Spot/Plate Motion Exercise
Structure and Function	<ul style="list-style-type: none"> • Geoworld Plate Tectonics Lab • UNAVCO GPS Velocity Viewer
Stability and Change	<ul style="list-style-type: none"> • Plate Tectonics • Hot Spot/Plate Motion Exercise
Interdependence of Science, Engineering and Technology	<ul style="list-style-type: none"> • Plate Tectonics • Hot Spot/Plate Motion Exercise • UNAVCO GPS Velocity Viewer
Influence of Engineering, Technology and Science on Society and the Natural World	<ul style="list-style-type: none"> • Taking the Pulse of Yellowstone's "Breathing" Volcano