

Congruence with the NGSS

Unit Title: **Plate Tectonics A: Foundational Knowledge**

Science and Engineering Practices (SEPs)

SEPS	Activities
Asking Questions and Defining Problems	<ul style="list-style-type: none"> • Analyzing Plate Motion Using EarthScope GPS Data • Hot Spot Activity
Developing and Using Models	<ul style="list-style-type: none"> • Dynamic Earth • Teaching About Faulting and Plate Tectonics Using Foam Models
Planning and Carrying Out Investigations	<ul style="list-style-type: none"> • The Race is On... with Seafloor Spreading • Measuring Plate Motion With GPS
Analyzing and Interpreting Data	<ul style="list-style-type: none"> • An Expedition to the Sea Floor • Hot Spot Activity • Analyzing Plate Motion Using EarthScope GPS Data • UNAVCO GPS Velocity Viewer
Using Mathematics and Computational Thinking	<ul style="list-style-type: none"> • Analyzing Plate Motion Using EarthScope GPS data • An Expedition to the Sea Floor • Measuring Plate Motion with GPS
Constructing Explanations and Designing Solutions	<ul style="list-style-type: none"> • The Race is On... with Seafloor Spreading
Engaging in Argument from Evidence	<ul style="list-style-type: none"> • Measuring Plate Motion with GPS • Developing the Theory: Continental Drift • Hot Spot Activity
Obtaining, Evaluating and Communicating Information	<ul style="list-style-type: none"> • The Race is On... with Seafloor Spreading • Developing the Theory: Continental Drift
Scientific Knowledge is based on Empirical Evidence	<ul style="list-style-type: none"> • Developing the Theory: Continental Drift • Analyzing Plate Motion Using EarthScope GPS Data • Measuring Plate Motion with GPS • UNAVCO GPS Velocity Viewer

Disciplinary Core Ideas (DCIs)

DCIs	Activities
ESS1C: The History of Planet Earth	<ul style="list-style-type: none"> • Developing the Theory: Continental Drift • The Race is On... with Seafloor Spreading • Hot Spot Activity
ESS2A: Earth Materials and Systems	<ul style="list-style-type: none"> • The Earth Science Literacy Principles, Big Idea 4: Earth Continually Changes

	<ul style="list-style-type: none"> • Dynamic Earth
ESS2B: Plate Tectonics and Large-Scale Systems	<ul style="list-style-type: none"> • Hot Spot Activity • Analyzing Plate Motion Using EarthScope GPS Data • Measuring Plate Motion with GPS • Sumatran Tectonics • Teaching About Faulting and Plate Tectonics Using Foam Models
ESS3A: Natural Resources	<ul style="list-style-type: none"> • Dynamic Earth
ESS3B: Natural Hazards	<ul style="list-style-type: none"> • The Earth Science Literacy Principles, Big Idea 4: Earth Continually Changes • Analyzing Plate Motion Using EarthScope GPS Data • Sumatran Tectonics

Cross Cutting Concepts (CCCs)

CCCs	Activities
Patterns	<ul style="list-style-type: none"> • Dynamic Earth • Developing the Theory: Continental Drift • Hot Spot Activity • Teaching About Faulting and Plate Tectonics Using Foam Models
Cause and Effect	<ul style="list-style-type: none"> • Hot Spot Activity • Analyzing Plate Motion Using EarthScope GPS Data • Teaching About Faulting and Plate Tectonics Using Foam Models
Scale, Proportion, and Quantity	<ul style="list-style-type: none"> • Dynamic Earth • Developing the Theory: Continental Drift • The Race is On... with Seafloor Spreading
Systems and System Models	<ul style="list-style-type: none"> • Analyzing Plate Motion Using EarthScope GPS Data • Measuring Plate Motion with GPS • Teaching About Faulting and Plate Tectonics Using Foam Models
Energy and Matter	<ul style="list-style-type: none"> • The Earth Science Literacy Principles, Big Idea 4: Earth Continually Changes • Hot Spot Activity
Structure and Function	<ul style="list-style-type: none"> • Dynamic Earth • Teaching About Faulting and Plate Tectonics Using Foam Models
Stability and Change	<ul style="list-style-type: none"> • An Expedition to the Sea Floor • Analyzing Plate Motion Using EarthScope GPS Data • Measuring Plate Motion with GPS • Teaching About Faulting and Plate Tectonics Using Foam Models

	<ul style="list-style-type: none"> • Models
Interdependence of Science, Engineering and Technology	<ul style="list-style-type: none"> • The Race is On... with Seafloor Spreading • Analyzing Plate Motion Using EarthScope GPS Data • Measuring Plate Motion with GPS
Influence of Engineering, Technology and Science on Society and the Natural World	<ul style="list-style-type: none"> • Developing the Theory: Continental Drift • Teaching About Faulting and Plate Tectonics Using Foam Models