

Congruence with the NGSS

Unit Title: **Earth’s Global Ocean**

Science and Engineering Practices (SEPs)

SEPS	Activities
Asking Questions and Defining Problems	<ul style="list-style-type: none"> • Corals • Hot, Cold, Fresh and Salty • Inside the Plastic Vortex
Developing and Using Models	<ul style="list-style-type: none"> • Hot, Cold, Fresh and Salty • Exploring Sea Floor Topography • Corals
Planning and Carrying Out Investigations	<ul style="list-style-type: none"> • Hot, Cold, Fresh and Salty • Ocean Layering
Analyzing and Interpreting Data	<ul style="list-style-type: none"> • Exploring Sea Floor Topography • Hot, Cold, Fresh and Salty • Corals
Using Mathematics and Computational Thinking	<ul style="list-style-type: none"> • Hot, Cold, Fresh and Salty
Constructing Explanations and Designing Solutions	<ul style="list-style-type: none"> • Inside the Plastic Vortex
Engaging in Argument from Evidence	<ul style="list-style-type: none"> • Ocean Layering Corals
Obtaining, Evaluating and Communicating Information	<ul style="list-style-type: none"> • The Perpetual Ocean • Corals • Ocean Layering
Scientific Knowledge is based on Empirical Evidence	<ul style="list-style-type: none"> • Hot, Cold, Fresh and Salty • Corals

Disciplinary Core Ideas (DCIs)

DCIs	Activities
ESS2A: Earth Materials and Systems	<ul style="list-style-type: none"> • Ocean Layering
ESS2B: Plate Tectonics and Large-Scale Systems	<ul style="list-style-type: none"> • Exploring Sea Floor Topography
ESS2D: Weather and Climate	<ul style="list-style-type: none"> • Hot, Cold, Fresh and Salty • Ocean Layering
ESS2E: Biogeology	<ul style="list-style-type: none"> • Corals
ESS3A: Natural Resources	<ul style="list-style-type: none"> • The Perpetual Ocean Corals
ESS3C: Human Impacts on Earth's Systems	<ul style="list-style-type: none"> • Charles Moore: Seas of Plastic • Inside the Plastic Vortex

Cross Cutting Concepts (CCCs)

CCCs	Activities
Patterns	<ul style="list-style-type: none"> • Corals • Exploring Sea Floor Topography
Cause and Effect	<ul style="list-style-type: none"> • Hot, Cold, Fresh and Salty • Corals
Scale, Proportion, and Quantity	<ul style="list-style-type: none"> • Exploring Sea Floor Topography
Systems and System Models	<ul style="list-style-type: none"> • Ocean Layering • Hot, Cold, Fresh and Salty
Energy and Matter	<ul style="list-style-type: none"> • Hot, Cold, Fresh and Salty • Ocean Layering
Structure and Function	<ul style="list-style-type: none"> • The Perpetual Ocean • Corals
Stability and Change	<ul style="list-style-type: none"> • Ocean Layering • Corals
Interdependence of Science, Engineering and Technology	<ul style="list-style-type: none"> • Ocean Layering • Exploring Sea Floor Topography
Influence of Engineering, Technology and Science on Society and the Natural World	<ul style="list-style-type: none"> • Charles Moore: Seas of Plastic