

Congruence with the NGSS

Unit Title: **Documenting Past Climate**

Science and Engineering Practices (SEPs)

SEPS	Activities
Asking Questions and Defining Problems	<ul style="list-style-type: none"> Climate Detectives – Lab 1: Preparing for the Voyage Climate Detectives – Lab 6: Analyzing Sediment Cores
Developing and Using Models	<ul style="list-style-type: none"> Climate Detectives – Lab 2: Coring is not Boring Climate Detectives – Lab 3: Mountains of Ice Climate Detectives – Lab 4: Climate Clues from Sand and Mud Climate Detectives – Lab 5: (Geologic) Timing is Everything! Climate Detectives – Lab 6: Analyzing Sediment Cores
Planning and Carrying Out Investigations	<ul style="list-style-type: none"> Climate Detectives – Lab 2: Coring is not Boring Climate Detectives – Lab 4: Climate Clues from Sand and Mud Climate Detectives – Lab 5: (Geologic) Timing is Everything! Climate Detectives – Lab 6: Analyzing Sediment Cores
Analyzing and Interpreting Data	<ul style="list-style-type: none"> Climate Detectives – Lab 1: Preparing for the Voyage Climate Detectives – Lab 2: Coring is not Boring Climate Detectives – Lab 3: Mountains of Ice Climate Detectives – Lab 4: Climate Clues from Sand and Mud Climate Detectives – Lab 5: (Geologic) Timing is Everything! Climate Detectives – Lab 6: Analyzing Sediment Cores
Using Mathematics and Computational Thinking	<ul style="list-style-type: none"> Climate Detectives – Lab 5: (Geologic) Timing is Everything! Climate Detectives – Lab 6: Analyzing Sediment Cores
Constructing Explanations and Designing Solutions	<ul style="list-style-type: none"> Climate Detectives – Lab 2: Coring is not Boring Climate Detectives – Lab 4: Climate Clues from Sand and Mud Climate Detectives – Lab 5: (Geologic) Timing is Everything! Climate Detectives – Lab 6: Analyzing Sediment Cores
Engaging in Argument from Evidence	<ul style="list-style-type: none"> Climate Detectives – Lab 6: Analyzing Sediment Cores

Obtaining, Evaluating and Communicating Information	<ul style="list-style-type: none"> Climate Detectives – Lab 1: Preparing for the Voyage Climate Detectives – Lab 2: Coring is not Boring Climate Detectives – Lab 4: Climate Clues from Sand and Mud Climate Detectives – Lab 5: (Geologic) Timing is Everything! Climate Detectives – Lab 6: Analyzing Sediment Cores
Scientific Knowledge is based on Empirical Evidence	<ul style="list-style-type: none"> Climate Detectives – Lab 3: Mountains of Ice Climate Detectives – Lab 4: Climate Clues from Sand and Mud Climate Detectives – Lab 6: Analyzing Sediment Cores

Disciplinary Core Ideas (DCIs)

DCIs	Activities
ESS1B: Earth and the Solar System	<ul style="list-style-type: none"> Climate Detectives – Lab 3: Mountains of Ice
ESS1C: The History of Planet Earth	<ul style="list-style-type: none"> Climate Detectives – Lab 5: (Geologic) Timing is Everything!
ESS2A: Earth Materials and Systems	<ul style="list-style-type: none"> Climate Detectives – Lab 3: Mountains of Ice Climate Detectives – Lab 4: Climate Clues from Sand and Mud
ESS2C: The Role of Water in Earth's Surface Processes	<ul style="list-style-type: none"> Climate Detectives – Lab 4: Climate Clues from Sand and Mud

Cross Cutting Concepts (CCCs)

CCCs	Activities
Patterns	<ul style="list-style-type: none"> Climate Detectives – Lab 1: Preparing for the Voyage Climate Detectives – Lab 2: Coring is not Boring Climate Detectives – Lab 3: Mountains of Ice Climate Detectives – Lab 6: Analyzing Sediment Cores
Cause and Effect	<ul style="list-style-type: none"> Climate Detectives – Lab 2: Coring is not Boring Climate Detectives – Lab 3: Mountains of Ice Climate Detectives – Lab 4: Climate Clues from Sand and Mud

	<ul style="list-style-type: none"> • Climate Detectives – Lab 5: (Geologic) Timing is Everything! • Climate Detectives – Lab 6: Analyzing Sediment Cores
Scale, Proportion, and Quantity	<ul style="list-style-type: none"> • Climate Detectives – Lab 2: Coring is not Boring • Climate Detectives – Lab 3: Mountains of Ice • Climate Detectives – Lab 5: (Geologic) Timing is Everything! • Climate Detectives – Lab 6: Analyzing Sediment Cores
Systems and System Models	<ul style="list-style-type: none"> • Climate Detectives – Lab 2: Coring is not Boring • Climate Detectives – Lab 4: Climate Clues from Sand and Mud • Climate Detectives – Lab 5: (Geologic) Timing is Everything! • Climate Detectives – Lab 6: Analyzing Sediment Cores
Energy and Matter	<ul style="list-style-type: none"> • Climate Detectives – Lab 4: Climate Clues from Sand and Mud
Structure and Function	<ul style="list-style-type: none"> • Climate Detectives – Lab 2: Coring is not Boring • Climate Detectives – Lab 6: Analyzing Sediment Cores
Stability and Change	<ul style="list-style-type: none"> • Climate Detectives – Lab 3: Mountains of Ice • Climate Detectives – Lab 4: Climate Clues from Sand and Mud • Climate Detectives – Lab 6: Analyzing Sediment Cores
Interdependence of Science, Engineering and Technology	<ul style="list-style-type: none"> • Climate Detectives – Lab 1: Preparing for the Voyage