

Full Experience Narrative (both in the classroom and at the museum):

The *Maine Rocks Field Trip Experience* is tailored to fourth grade students who will learn about Maine's natural resources and how they contribute to Maine's economy. The pre-visit activities features a slide show to visually connect students to Maine's natural resources and a group mapmaking assignment. A tour of Colby's museum will highlight artworks that illustrate Maine's natural resources and their connections to our economy. Students will get a chance to create Alex Katz-inspired watercolor collages of their favorite Maine landscape during their museum studio session. Back at school, students will use Maine clay to sculpt their own topographical map of the State. Be sure to map out way to join us and experience how Maine ROCKS, ROLLS AND FLOWS!

Description of Tour and Studio at the Museum:

Artwork on the Guided Tour may include:

<i>Title of piece</i>	<i>Artist</i>	<i>Gallery</i>
<i>Town of Skowhegan</i>	<i>Yvonne Jacquette</i>	<i>Gordon Gallery</i>
<i>Clam Diggers</i>	<i>Lois Dodd</i>	<i>Bernard and Barbo Osher Gallery</i>
<i>A Forest near Portland, Maine</i>	<i>Charles Codman</i>	<i>Arthur Vining Davis Gallery</i>
<i>The Party in the Maple Syrup Camp</i>	<i>Eastman Johnson</i>	<i>Cohen Gallery</i>
<i>Maine Cow / Cows in a Yellow Field</i>	<i>Alex Katz</i>	<i>Katz Gallery</i>
<i>Snake</i>	<i>Maine Artist</i>	<i>Sage Gallery</i>
<i>From Seeing Cape Split</i>	<i>John Marin</i>	<i>Cohen Gallery</i>
<i>Headlands and Sea</i>	<i>Rockwell Kent</i>	<i>Cohen Gallery</i>

Studio Workshop (optional)

Students will discuss the types of Maine landscapes they observed in the paintings at the Museum. They will create a postcard-sized watercolor collage landscape to entice current residents and new visitors to explore and appreciate the beauty of Maine.

Description of Before and After Visit Lessons:

Before the museum visit, students examine the connections between natural resources and the economy. After the visit they construct a topological map in their own classroom.

Maine State Learning Results:

A2 Making Decisions Using Social Studies Knowledge and Skills Students make individual and collaborative decisions on matters related to social studies using relevant information and research and discussion skills.

D. Geography: Students draw on concepts and processes from geography to understand issues involving people, places, and environments in the community, Maine, the United States, and world.

D1. Geographic Knowledge, Concepts, Themes, and Patterns: Students understand the geography of the community, Maine, the United States, and various regions of the world.

BEFORE THE VISIT

Lesson Title: Maine's Natural Resources

Objectives: Students will understand how Maine's natural, human and capital resources help(ed) to create Maine's diverse economy.
Students will understand the similarities and differences between the various economic regions of Maine.
Students will understand how the geographic features of Maine affect the diverse regions on Maine

Materials: Apple TV or other projection device, [slideshow](#) of Maine's geographic features geographic samples- sedimentary, metamorphic and igneous (granite) rocks, beach sand, soil, tree cookie and coniferous branch, drawing supplies, wall map of Maine with physiographic regions scissors, glue, [Word Match](#) handout

Duration: 30-40 minutes

Procedures:

Introduce the unit by telling the students that they are going to be doing activities to learn about how Maine's natural resources affect Maine's economy. Ask what they know about these two terms and then provide definitions.

natural resources- Materials substances such as minerals, forests, water, and fertile land that occur in nature and can be used for economic gain.

capital resources- Goods produced and used to make other goods and services.

human resources- The people available to work.

economy- The wealth or resources of a country or region, especially in terms of the production and consumption of goods and services.

Explain that today's activity will be about Maine's natural resources and the next activity will connect them to Maine's economy. Tell them that they will then go on a field trip to the Colby Museum of Fine Art to look at and make art related to this.

Connect to geology that they may be familiar with through a shared discussion of the earth's crust, rock cycle and rock types. Show pictures of examples of these rocks in Maine and pass around samples for the students to feel.

earth's crust- The outermost layer of a planet. The crust of the Earth is composed of a great variety of igneous, metamorphic, and sedimentary rocks

plate tectonics- The idea that there are eight major plates and many smaller plates on the surface of the Earth. The plates are like the skin of the planet. They constantly move around the planet. When they move they sometimes crash into each other and mountain ranges are created.

rock cycle-The rock cycle is the model that describes the formation, breakdown, and reformation of rock .

sedimentary rocks- A type of rock formed by sediment that is deposited over time, usually as layers at the bottom of lakes and oceans. Sandstone and limestone are examples that are found in Maine.

metamorphic rocks- A type of rock which has been changed by extreme heat and pressure. Slate and marble are examples found in Maine.

igneous rocks- A type of rock formed through the cooling and solidification of magma or lava. Granite is an example. There is a lot of granite in Maine.

erosion- The process of eroding (slow destruction) by wind, water, or other natural agents.

glaciers- A slowly moving mass of ice. It pushes, moves and scrapes the landscape as it moves and leaves behind debris. When it melts and retreats, it leaves behind debris and water that floods plains.

Show and tell with slide show about the geology of Maine and how it is the characteristics of this geology that create our natural resources. Have samples for students to feel.

bedrock- Maine's foundation. The solid, intact part of the earth's crust. Maine's bedrock is made up of many kinds of rocks such as granite, slate, and limestone. Normally covered by surface materials. Shapes what we see.

exposed bedrock- Places where the surface materials have been removed by extreme erosion. Rocky mountain tops, rocky coast and cliffs, waterfalls...

mountains- Created by plates tectonics, volcanic activity and glacier movement.

beaches- Created from erosion of bedrock.

sand- A loose granular substance resulting from the erosion of rocks and forming most of the material in beaches, riverbeds, the seabed, and deserts.

plains- A large area of flat land with few trees. The ones that were once flooded have the richest soils.

till- The debris left behind by a glacier. Because much of Maine's bedrock is granite, which is acidic, Maine's till is acidic. Some trees and plants grow better in acidic soils than others.

soil- The upper layer of earth in which plants grow consisting of a mixture of organic remains, clay, and rock particles.

trees and plants- Coniferous trees (evergreens), potatoes and blueberries are some of the things that like acidic soil.

water- Ocean water covered much of central and southern Maine at one time and glacial melt caused water to flood some upland plains. The water left behind materials that got added to the soils.

fresh water- Rivers, lakes, ponds and streams and the fish found in them.

salt water- The ocean and all that it contains such as fish, shellfish

people- People flock to areas of rich natural resources and then become a resource themselves (producers and consumers).

Create a classroom wall map of Maine covered with pictures of natural resources. Students draw pictures or words of the various natural resources that have been discussed and glue them to the wall map. Explain what is found in each region.

Regions-

South Coast- coastal plain, flat and sandy

Mid Coast- protected and persistent bedrock, rocky

Downeast Coast- low mountains

Mountain Upland- mountain range rises abruptly, large rivers and lakes, waterfalls, gravel

Central Upland- wide rolling hills and smaller mountains, rolling land, dumpsite of glacier left thick till which became rich soils

Northern Region- rolling hills and low mountains, many streams, thickly forested

Downeast Mountains- irregular, eroded granite, rounded low mountains

Assessment:

Students will complete the Word Matching activity.

Homework:

Student will be asked to bring in samples of products, packaging or advertising from Maine products or businesses. These will be used in the next activity.

Differentiation:

Students can work in pairs as needed.

Teacher modeling.

Extensions can include reading more about Maine's geology at

<https://www1.maine.gov/dacf/mgs/explore/index.shtml>.

Artistic students can chose to draw images.

Resources:

Wall map of Maine with physiographic regions

Geographic samples (Geologic Samples- sedimentary (limestone), metamorphic (slate), and igneous (granite) rocks), beach sand, soil, tree cookie and coniferous branch) **NOT PROVIDED**

BY

THE MUSEUM

Slideshow - see "[Colby Museum Maine Studies Pre-Lesson Appendix#1a](#)"

https://docs.google.com/presentation/d/1flul0CuPU2uLc0TU_DnYisHo_gy9xJ4qCQS2H7vA-0Y/edit?usp=sharing

Word Match handout - see "[Colby Museum Maine Studies Pre-Lesson Appendix#1b](#)"

https://docs.google.com/document/d/1gbyV8xX_zB5upFgIKqk8Jy3Ud2uU2kAoZ0wLogs8TW4/edit?usp=sharing

AFTER THE VISIT

Lesson Title: Making a Topographic Map

Objective: Students will describe the effect of Maine’s geographic features on the regional cultures.
Students will learn to read and make a topographical map.

Materials: Salt dough recipe <http://www.busybeekidscrafts.com/Salt-Dough-Recipe.html>
Modeling Clay, Clay from a Maine lake/river
<http://www.kitcornellpottery.com/teaching/clay.html>

Duration: One 45 minute class+

Procedures:

- Students will study a Maine Raised Relief Map
- Students will learn to read Topographic maps, and be able to use the vocabulary in context including contour lines, contour intervals, index contour lines, distance, and elevation.
- Show students this video and do practice questions on “Introduction to Topographic Maps” by Seth Horowitz on YouTube, <https://youtu.be/zqPMYGDxCr0>
- Student will recreate part or all of their own topographical map of Maine out of the dough/clay!
- For detailed instructions, on how to make Topographic maps show students the video “Understanding Topographic Maps” by Michael Hayes on YouTube.
<https://www.youtube.com/watch?v=L1AWNRY0pQ>

Assessment: Students understand basic concept of Maine’s Geography by creating a relief map that shows landforms, lakes, etc. / geographic features of Maine

Differentiation:

Students create a map out of clay

Students create a map out of clay and label it

Students create a map out of clay, label it and research how land forms, rivers, etc. were formed

Appendix:

<http://www.raised-relief-maps.com/me.mgi?page=1>

<http://www.maine-map.org/relief-map.htm#map-menu>

