



Rocky Shore Field Experience Teacher Resources

Grades preK-2nd

Thank you for your interest in the educational programs at the Northeastern University Marine Science Center (NUMSC)!

This packet will provide you with information on how to incorporate a marine science field experience into your science curriculum, including background information on program content, what to expect during your visit, pre- and post-visit classroom activities and how these field experiences and activities satisfy requirements of the Massachusetts Curriculum Frameworks. For information regarding logistics and planning your visit, please see the Group Visit Registration pack.

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A. What to Expect on Your Visit

Program Description

A typical field trip to the Marine Science Center consists of three, 45-minute components:

1. *Introduction to the rocky shore/meet rocky shore organisms*

- NUMSC staff will use a display to demonstrate students a rocky shore at high and low tide and will ask the students if they have ever been to such a place. Students will be asked to name the types of animals that live on the rocky shore.
- NUMSC staff will lead students in exploring our touch tanks, where they can meet and touch animals that live on the rocky shore. Teachers and chaperones are asked to enforce rules and ensure students treat animals with respect.

2. *Rocky shore field experience*

Students must wear closed toed shoes and demonstrate good behavior in order to participate in the rocky shore activity.

- NUMSC staff will distribute scavenger hunt data sheets and chaperones will lead groups of students on a scavenger hunt on the rocky beach. Students will find various objects (shells, seaweed, animals etc.) and will circle the items on the sheet at students find them.

3. *Tour of East Point*

- NUMSC staff will lead students around the grounds of the NUMSC and to the top of East Point while discussing the history of the area, important geological features, and some current research at the NUMSC. Topics include:
 - Military history of East Point: bunkers, triangulation towers, submarine detection strip, Nike Missile Silo.
 - Nahant as a historically popular destination for tourists and scientists alike.

Program Modifications

The duration and specific content of each component may be modified depending on time constraints or requests from teachers. If you have an activity in mind that is not covered here, or would like NUMSC staff to place particular emphasis on a certain component of the program outlined above, please contact us prior to your visit to discuss modifications to the typical program.

Weather Cancellation Policy

In the event of inclement weather we generally leave it to the visiting group to decide to reschedule/cancel the trip. We will proceed with the program as normal in the event of rain, and encourage teachers, chaperones and students to dress appropriately if rain is in the forecast. In the event of lightning or other dangerous weather conditions we encourage teachers to reschedule, but we understand that this is not always possible and we have

indoor activities that can replace the rocky shore field survey, such as invertebrate dissections and seaweed identification and pressing.

Preparing Students and Chaperones

Prior to visiting the Marine Science Center, teachers are encouraged to utilize the resources provided in this pack in order to prepare their students for the visit. This includes not only communicating with them what to bring and what to expect, but also leading activities that will introduce them to the concepts they will be learning and activities they will be doing during their visit. We hope that by providing these tools to teachers, we can work together to make a visit to the NUMSC more than just a one-time field experience, but an experience that can fit into a larger natural sciences curriculum.

Teachers should communicate with chaperones prior to the trip regarding what to bring and what to expect, and distribute the Teacher/Chaperone Guidelines handout, provided below.

TEACHER/CHAPERONE GUIDELINES

Thank you for your interest in our educational programs at the Northeastern University Marine Science Center! Your visit will be filled with hands-on activities both inside and outside, and as a teacher/chaperone, we ask that you keep students safe and on-task. Our instructors will give directions and information to the students, so please help us by following and enforcing these guidelines:

- At least one teacher/chaperone must always accompany students to the restrooms.
- While on the rocky shore, teachers/chaperones should be assigned to particular groups of students, or at least spread out so that there are adults on the low tide areas and the high tide areas.
- There is no climbing on the high rocks and no swimming at any time. Students should not be in any water above the ankle.
- As necessary, remind students to be respectful of animals, handle them carefully, and observe any areas designated as no-touch zones.
- Students who do not have appropriate footwear for the rocky intertidal may be asked to stay on the beach with a teacher/chaperone during that activity.
- Shoes must be worn at all times during the visit, even on the lawn.
- We do not allow electronics other than cameras out during our programs. Students may take pictures with a phone, but we advise them not to bring them onto the rocky shore.
- Nothing should be removed from the Marine Science Center except worksheets, and nothing should be left behind. We will provide trash bags for lunchtime, and there are recycling bins available as well.
- We know you are curious and smart too! But please allow students to answer questions and figure things out on their own to the greatest extent possible. Having said that, please maintain order and focus in your group, and facilitate the student completion of tasks when they are stuck.

Thank you for your cooperation

FIELD TRIP ETIQUETTE

Preparing Students

Before your outdoor field trip, brainstorm with students about how everyone should conduct themselves. Below are some general themes to guide your discussion. If desired, the teacher can document the rules on a board or flip-chart paper.

Established rules of the site

- Challenge students to think about who lives in the habitat they are exploring?
- How should students behave to ensure they respect these inhabitants?
- What rules are in place to protect these inhabitants?
- General discussion on proper handling/respect of living things

School rules

- Students should conduct themselves as they would in school
- Reminders about any field-trip specific rules
- Students are responsible for representing their school via good behavior

Safety

- Ask students to brainstorm any dangers or hazards at the field trip site
- How should students avoid these dangers?
- What rules are in place to avoid dangers or respond to potential hazards?

Logistics

- Allow students to ask questions about field trip logistics. This will help to avoid distraction during the field trip.
- Give them all the details such as: how long is the bus ride, what will we be doing, is there a gift shop, when will we eat lunch?
- Discuss what students should wear/bring, and what they should not. Send home a handout with this information before the field trip.

If the students don't think of everything while brainstorming, be sure to mention these general rules regarding visiting coastal habitats:

- Remind students that they shouldn't take anything home and to be sure not to leave behind any equipment, personal belongings or trash.
- Its ok to get your feet wet, but no one should be more than ankle deep in the water.
- On the rocky beach, no one should climb on high rocks above where seaweed grows.

Preparing Chaperones

Invite chaperones to attend the in-class discussion of field trip etiquette and even the pre-visit educational activities that you do to prepare students for the field trip. The more information that the chaperones are familiar with, the more they can help students get the most out of the experience. Share resources with chaperones such as the field trip etiquette document, a schedule of activities for the day, procedures for activities, what to bring handout, site map or website where they can find out more information about the site.

WHAT TO BRING

- The weather in Nahant is usually a bit cooler and windier than on the “mainland”. Layers of clothing, a change of clothing, and/or rain gear is highly recommended. A hat is advisable.
- Though swimming is not permitted, feet WILL get wet while tidepooling, so rubber-soled shoes such as boots, water shoes, or old sneakers are recommended. Participants wearing slip-on sandals, flip flops, Crocs, Tevas, or heels may be denied participation in tidepooling.
- Participants should bring sunscreen and/or hand sanitizer, as they will not be provided.
- Each person should bring an ample supply of water, there is a water fountain to refill water bottles, but no water bottles/drinks/cups will be provided.
- Participants may bring snacks and lunch to eat onsite during designated breaks only.
- With the exception of cameras, all electronic devices must be out of sight at all times.

B. Classroom Resources

Background Information for Teachers

This section of the packet provides details regarding the type of information students will learn during a typical field experience at the Northeastern University Marine Science Center. This information is provided in order to help teachers prepare their students for the visit, as well as plan/implement pre and post extension activities to ensure students get the most out of an NUMSC visit.

The Rocky Shore

The rocky **intertidal** is a zone of rocky coastline that falls between high tide and low tide. The rise and fall of the tides creates an area that is covered by water part of the day and exposed to air for part of the day. Below the rocky shore is the **subtidal** zone, which is always submerged in water, and above the rocky shore are uplands, which waves rarely reach. These rocky shores generally occur in relatively exposed waters, and are generally comprised of bedrock and other large glacial rocks and cobble.

These rocks provide a hard substrate for a variety of **sessile** (non-moving) organisms to settle. Additionally, many mobile organisms dwell in the cracks, crevices and **tidepools** left behind as the water retreats to the low tide line. Due to the habitat provided by the rocks, the tide pools, and the foundations species living here, the rocky shore hosts variety of life that is much more apparent at first glance compared to the sandy beach. **Invertebrates** and seaweeds (red, green and brown) dominate life on the rocky shore. Large, brown seaweeds form dense canopies that trap water and provide relief from the stressful conditions experienced by organisms during low tide. Cooperation between organisms is important for survival in this stressful environment.

The rocky shore has several distinct zones that are defined by elevation relative to the water's edge and distinct geologic features. These include a low, mid, and high zone, and the splash zone above. The intertidal is not uniform. These distinct zones are submerged in water and exposed to air for different lengths of time, resulting in increasing physical stress associated with higher tidal elevations. This physical stress includes drastic changes in **temperature, salinity, dissolved oxygen** levels, and **pH** in high tidepools during low tide when they are separated from the flow of seawater. Additionally, organisms living directly on the rocks outside of tidepools must deal with **desiccation** stress due to emersion. Organisms have adapted to these stressors by developing high tolerances for changes in these **abiotic** conditions. For instance, a periwinkle in a high tide pool is able to survive in temperatures ranging from below freezing to over 90 degrees F, and salinities ranging from 15 to 45ppt. Wave action is another abiotic stressor on the rocky shore. Large waves can dislodge organisms from the rocks, washing them into deeper waters, or to the uplands beyond the intertidal. As a result many intertidal organisms have adaptations that allow them stick to rocks such as tube feet in sea stars and byssal threads in mussels.

In addition to abiotic stressors, **biotic** stressors include competition and predation. Isolated tidepools contain limited quantities of food and oxygen, leading to competition for these essential resources. Space is at a premium on rocky shores, and organisms compete for a spot on the rocks to settle. Competition is so intense that organisms even settle on top of one another. Like land plants, seaweeds that grow on other seaweeds are known as epiphytes. Sessile animals such as mussels, barnacles and tunicates settle on each other as well as on larger organisms such as crabs and snails, and are referred to as epibionts.

Intertidal organisms are subject to predation from both land and sea. At high tide large subtidal crabs and fish can venture into the intertidal for a snack. Similarly, at low tide, terrestrial predators such as seabirds, rodents and raccoons might make a meal out of tidepool creatures.

Despite all these challenges and stressors facing organisms in the rocky intertidal, the cold, nutrient-rich waters of the temperate coastal climates in which these habitats occur, allow the rocks to support a large diversity of life.

History of East Point

Nahant has been a popular destination for recreation, science and military defense for years. Nahant is a special type of peninsula known as a tombolo, which means it is nearly an island, only connected to the mainland via a small strait or sandbar. Historically Nahant was a popular vacation destination among affluent Bostonians. In the 1800s hotels and summer vacation homes dominated the town. East Point, the current site of the Marine Science Center was home to several hotels.

After several fires eliminated the hotels from the site, the military established a presence on East Point, during WWII, due strategic location of Nahant, extending out into Boston Harbor. Remnants of the military presence can still be seen at East Point, including 3 underground bunkers once used for protection and artillery storage, 3 triangulation towers previously used for detecting invading enemies and the infrastructure of a primitive submarine detection device. Post-WWII the military presence persisted with the construction of a Nike Missile Silo.

In 1967, Northeastern University established a marine science lab at East Point with the goals of marine science research, education, and community outreach.

Geology of East Point

East Point, Nahant is well known as an important geological study site due to the unique rocks that make up its terrain, some of which can be found no where else in New England. One reason that the rocks here fascinate geologists is that some rocks in Nahant provide evidence for the theory of **Pangea**. Using techniques such as Stable Isotope Analysis and Radiocarbon Dating, scientists have shown that rocks in Nahant have the same signatures as rocks in Northern Africa. This indicates that when the African continent split from North America, rocks from Africa were left behind in Nahant.

The sheer cliffs in Nahant also provide visual illustrations of some key geological concepts. The cliffs at East Point are all tilted at a North facing 45 degree angle, evidence that these rocks were involved in **Mountain Building** as Africa crashed into North America due to the movement to continental plates.

The rocks that form of the cliffs of East Point have a base of **sedimentary rock** such as limestone (grey/white) and siltstone (grey, green and black). This rock is around 580 million years old. Around 400 to 500 million years ago, hot molten rock beneath the earth, known as **magma**, rose to the surface. As it rose, the magma fractured and displaced the sedimentary rock, filling in the cracks it created. These "**igneous intrusions**" form distinct colored stripes and sections on the rocks at East Point. A horizontal intrusion is known as a **sill** and a vertical intrusion is known as a **dike**.

Furthermore, Nahant is home to some very special fossils, which give geologists and paleontologists clues as to what kind of animals inhabited this area millions of years ago. Notably, the rocks here are home to the oldest fossils of shelled organisms (ancestors of modern Mollusks)

CONNECTION TO MASSACHUSETTS CURRICULUM FRAMEWORKS (Grade PreK-2nd)

	Classroom	Rocky Shore	Touch Tank	Tour	Pre / Post Activity
Science and Technology/Engineering		•		•	
<i>Earth and Space Sciences</i>		•		•	
<ul style="list-style-type: none"> PreK-ESS2-1- Raise questions and engage in discussions about how different types of local environments (including water) provide homes for different kinds of living things 	•	•	•	•	•
<ul style="list-style-type: none"> PreK-ESS2-2- Observe and classify non-living materials, natural and human made, in their local environment 	•	•	•	•	•
<ul style="list-style-type: none"> PreK-ESS2-3- Explore and describe different places water is found in the local environment 	•	•	•	•	•
<ul style="list-style-type: none"> PreK-ESS2-4- Use simple instruments to collect and record data on elements of daily weather, including sun or clouds, wind, snow or rain, and higher or lower temperature 		•			•
<ul style="list-style-type: none"> PreK-ESS2-5- Describe how local weather changes from day to day and over the seasons and recognize patterns in those changes. 	•	•		•	•
<ul style="list-style-type: none"> PreK-ESS2-6. Provide examples of the impact of weather on living things. 	•	•		•	•
<ul style="list-style-type: none"> PreK-ESS3-1. Engage in discussion and raise questions using examples about local resources (including soil and water) humans use to meet their needs. 				•	•
<ul style="list-style-type: none"> PreK-ESS3-2- Observe and discuss the impact of people’s activities on the local environment 	•	•	•	•	•
<ul style="list-style-type: none"> K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment. 	•	•	•	•	•
<ul style="list-style-type: none"> 2-ESS2-3. Use examples obtained from informational sources to explain that water is found in the ocean, rivers and streams, lakes and ponds, and may be solid or liquid. 	•	•	•	•	•
<ul style="list-style-type: none"> 2-ESS2-4- Observe how blowing wind and flowing water can move Earth materials from one place to another and change the shape of a landform 	•	•	•	•	•
<i>Life Science</i>					
<ul style="list-style-type: none"> PreK-LS1-1. Compare, using descriptions and drawings, the external body parts of animals (including humans) and plants and explain functions of some of the observable body parts. 	•	•	•	•	•
<ul style="list-style-type: none"> PreK-LS2-1. Use evidence from animals and plants to define several characteristics of living things that distinguish them from non-living things 	•	•	•		•
<ul style="list-style-type: none"> PreK-LS2-2- Using evidence from the local environment explain how familiar plants and animals meet their needs where they live 	•	•	•	•	•
<ul style="list-style-type: none"> PreK-LS2-3- Give examples from the local environment of how animals and plants are dependent on one another to meet their basic needs 	•	•	•	•	•
<ul style="list-style-type: none"> PreK-LS3-1. Use observations to explain that young plants and animals are like but not exactly like their parents. 		•	•		

	Classroom	Rocky Shore	Touch Tank	Tour	Pre / Post Activity
<i>Life Science (continued)</i>					
<ul style="list-style-type: none"> • K-LS1-1- Observe and communicate that animals and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow. 	•	•	•		•
<ul style="list-style-type: none"> • K-LS1-2(MA). Recognize that all plants and animals grow and change over time. 		•	•		
<ul style="list-style-type: none"> • 1-LS1-1- Use evidence to explain that different animals use their body parts and senses in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. 		•	•		•
<ul style="list-style-type: none"> • 1-LS3-1. Use information from observations (first-hand and from media) to identify similarities and differences among individual plants or animals of the same kind. 		•	•	•	•
<ul style="list-style-type: none"> • 2-LS4-1- Use texts, media, or local environments to observe and compare different kinds of living things in an area, and differences in the kinds of living things in different types of areas 	•	•	•	•	•
<i>Physical Science</i>					
<ul style="list-style-type: none"> • PreK-PS1-2- Investigate natural and human-made objects to describe, compare, sort, and classify objects based on observable physical characteristics, uses, and whether something is manufactured or occurs in nature 	•	•	•	•	•
<ul style="list-style-type: none"> • K-PS3-1. Make observations to determine that sunlight warms materials on Earth’s surface. 		•	•	•	
English Language Arts					
<i>Reading Standards for Informational Texts</i>					
<ul style="list-style-type: none"> • RI.1 (PK-2)- With prompting and support, ask and answer questions about key details in a text 		•			•
<ul style="list-style-type: none"> • RI.7 (PK-2)- With prompting and support, describe the relationship between illustrations and the text in which they appear (ex: what a person, place, thing, or idea in the text an illustration depicts) 		•			•
<ul style="list-style-type: none"> • RI.10 (PK-K)- Actively engage in group reading activities with purpose and understanding 		•			•
<ul style="list-style-type: none"> • RI.3 (PK-2)- Describe the connection between two individuals, events, ideas, or pieces of information in a text. 		•			•
<i>Reading Standards: Foundational Skills</i>					
<ul style="list-style-type: none"> • RF.3 (PK-2) – Know and apply grade-level phonics and word analysis skills in decoding words 		•			
<i>Writing Standards</i>					
<ul style="list-style-type: none"> • W.2 (PK-2)- Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information on the topic 		•			•
<ul style="list-style-type: none"> • W.3 (PK-2)- Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened 					•

<i>Writing Standards (continued)</i>	Classroom	Rocky Shore	Touch Tank	Tour	Pre / Post Activity
<ul style="list-style-type: none"> W.8 (K-2)- With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question 	•	•	•	•	•
<i>Speaking and Listening Standards</i>					
<ul style="list-style-type: none"> SL.1 (PK-2) - Participate in collaborative conversations with diverse partners with peers and adults in small and large groups. 	•	•	•	•	•
<ul style="list-style-type: none"> SL.3 (PK-2) - Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue 	•	•	•	•	•
<ul style="list-style-type: none"> SL.4 (PK-2) - Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences. 	•	•	•	•	•
Mathematics					
<i>Counting and Cardinality</i>					
<ul style="list-style-type: none"> PK.CC-MA.1. Listen to and say the names of numbers in meaningful contexts. 		•	•		•
<ul style="list-style-type: none"> PK.CC-MA.3. Understand the relationships between numerals and quantities up to ten 		•	•		•
<ul style="list-style-type: none"> PK.CC-MA.4. Count many kinds of concrete objects and actions up to ten, using one-to-one correspondence, and accurately count as many as seven things in a scattered configuration. 		•	•		•
<ul style="list-style-type: none"> PK.CC-MA.5. Use comparative language, such as more/less than, equal to, to compare and describe collections of objects. 		•	•		•
<ul style="list-style-type: none"> K.CC-4. Understand the relationship between numbers and quantities; connect counting to cardinality. 		•	•		•
<ul style="list-style-type: none"> K.CC-6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies 	•	•	•		•
<i>Measurement and Data</i>					
<ul style="list-style-type: none"> K.MD-2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference 	•	•	•		•
History and Social Science		•			
<ul style="list-style-type: none"> PreK–K.3 Identify the student’s street address, city or town, and Massachusetts as the state and the United States as the country in which he or she lives. Identify the name of the student’s school and the city or town in which it is located. 				•	
<ul style="list-style-type: none"> 2.3 Locate the oceans of the world: the Arctic, Atlantic, Indian, Pacific, and Southern Oceans. 				•	
<ul style="list-style-type: none"> 2.10 After reading or listening to a variety of true stories about individuals recognized for their achievements, describe and compare different ways people have achieved great distinction (e.g. scientific, professional, political, religious, commercial, military, athletic, or artistic). 				•	

Extension Activities

These in-school activities are designed to either prepare students for, or debrief students after their field experience. While some activities are particularly suited for either before or after, some are more flexible and can be conducted anytime as teachers see fit. All activities satisfy requirements of the Massachusetts Curriculum Frameworks.

Activity 1: Introduction to the rocky shore and Nahant

Materials:

Slide presentation (provided)

Map of Nahant (provided)

Rocky shore vocab list (provided)

Duration: 1 class period

Learning Objectives: Build on prior knowledge to learn what lives on the rocky shore, and the physical factors that influence life in this habitat.

Instructions:

- This activity introduces students to the field-trip site and prepares them for the trip, including an explanation of the activities on the trip, vocabulary and field-trip etiquette/safety.
- Teacher displays an image of a rocky shore and asks students if they have ever been to such a place. Students will be invited to share their experiences of the rocky shore in a group discussion. Discussion will continue as teacher presents the rocky shore Slide show and introduces students to vocabulary associated with the rocky shore.
- Teacher will pose questions such as
 - What kind of organisms live on the rocky shore?
 - What might make it hard or stressful to live on the rocky shore?
 - What kind of adaptations might organisms have to survive here?
- After the discussion of the rocky shore, teacher will show students a map of Nahant as an example of a rocky shore location. Teacher will lead a discussion about the upcoming NUMSC visit.

Activity 2: Introduction to taxonomic classification

Materials:

Variety of seashells

Field guides (books and/or online)

Duration: 1 class period

Learning Objectives: Classify animals based on shared characteristics

Instructions:

- Students will be organized into groups of 4 to classify different types of shells based on characteristics observed. Groups will share and discuss their classification schemes with the whole group. The teacher will then show students how to use a field guide to identify organisms, shells in particular. Students will use the field guides to identify the types of shells they have been given.

Activity 3: Rocky shore memory game

Materials:

Printed pictures of rocky shore organisms/objects (provided)
Printed names of rocky shore organisms/terms (provided)

Duration: 10-20 minutes

Learning Objectives: Review recently learned vocabulary

Instructions:

- Pairs of students will be given an envelope containing the vocabulary terms addressed in the Slide presentation and images representing those terms. Students will work together to sort the images with the correct term.

Activity 4: Research a rocky shore organism

Materials:

Research materials (books and/or online)
Presentation materials (posters and/or electronic)

Duration: 1-2 class periods

Learning Objectives: Become familiar with rocky shore species, practice research skills

Instructions:

- Students (on their own or in pairs) will choose a rocky shore organism to research. Students should focus on the specific habitat or niche of the organism, how it grows, eats and reproduces and special adaptations that allows it to live on the rocky shore.
- Students will present information on their organism to the class.

Activity 5: Construct a field guide

Materials:

Field guide template (provided)

Learning Objectives: Become familiar with rocky shore organisms and classification methods

Duration: 1-2 class periods

Instructions:

- Using information learned from previous activities, field trip or research (activity 4) students will create field guide pages for selected rocky shore organisms.
- Depending on grade level and time constraints, all pages can be combined into one field guide for the entire class, or smaller groups of students can collaborate to create a field guide among their group.

Activity 6: Name that organism!

Materials:

Rocky shore organism photos (provided in field guide, be sure to remove names first!)

Duration: 10-15 minutes

Learning Objectives: Use prior knowledge to identify organisms

Instructions:

- In this assessment activity, ten images of rocky shore organisms will be displayed one at a time to the whole group. Students are given 3 minutes to individually use their field guide to identify and record the displayed organisms.

Activity 7: Construct a food web

Materials:

Pictures of rocky shore organisms

Yarn

Poster or board on which to construct food web

Duration: 1 class period

Learning Objectives: Identify feeding relationships and how energy is transferred between organisms.

Instructions:

- With teacher guidance, students will use the knowledge they have gained from the NUMSC visit and classroom activities to construct a food web as a group with pictures of organisms, identifying organisms at different feeding levels (consumers, producers etc.)

Rocky Shore Vocabulary List

High tide

Low tide

Rocky Beach

Tidepool

Periwinkle

Crab

Hermit crab

Sea star

Sea urchin

Sea gull

Seaweed (green, red, brown)

Lobster

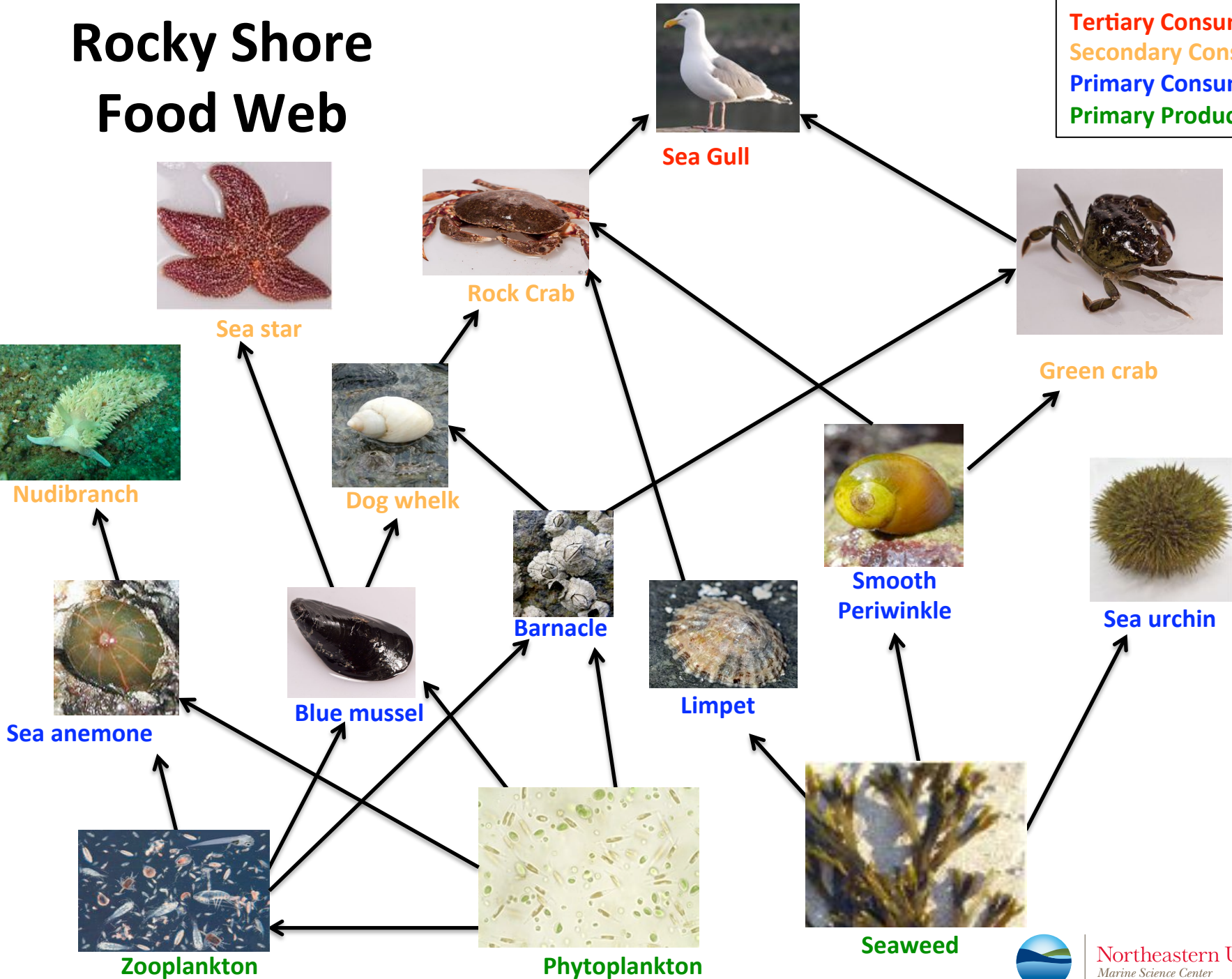
Anemone

Barnacle

Blue mussel

Rocky Shore Food Web

Tertiary Consumers
Secondary Consumers
Primary Consumers
Primary Producers



Rocky Shore Critters

Crabs and Friends



Northeastern University
Marine Science Center



Asian Shore Crab



Green Crab



Hermit Crab



Rock Crab



Spider Crab



Barnacles



Lobster

Rocky Shore Critters

Snails and Friends



Northeastern University
Marine Science Center



Periwinkles



Moon Snail



Blue Mussel



Lady Slipper Snail



Sea Slug

Rocky Shore Critters

Sea Stars and Friends



Northeastern University
Marine Science Center



Sea Stars



Green Sea Urchin



Cormorant



Sea Anemones

Brown Seaweed



Green Seaweed



Red Seaweed





Marine Science
Center





Construct a Field Guide

Organism Name: _____

Habitat: _____

Interesting fact about this organism: _____

Draw the organism or paste a picture of the organism in this box:

MARINE SCIENCE CENTER BEACH SCAVENGER HUNT



Group Name: _____ Today's Date: _____

Group Members: _____

Circle each item once you find it!

Slipper shell



Green algae



Blue mussel



Crab



Common periwinkle



Barnacle



Sea star



Lobster claw



Brown algae



Skate egg case



Red algae



Trash

