

BACKPACK THE PARKS

Expeditions in Education



ACADEMY



Backpack the Parks!



At Expeditions in Education, we believe that learning extends far beyond the classroom walls. That's why we're thrilled to introduce our "Backpack the Parks" initiative, designed to ignite students' curiosity and love for the great outdoors while fostering a deeper understanding of our national parks.

With "Backpack the Parks," educators have the unique opportunity to curate and pack 8 engaging activities into backpacks, making it easier than ever for students to check out and explore the wonders of our national parks. From hands-on science experiments to wildlife scavenger hunts, each activity is carefully crafted to immerse students in the beauty, history, and natural wonders of these treasured landscapes.

Join us in empowering the next generation of park enthusiasts and conservationists as they embark on unforgettable learning adventures in our nation's most cherished natural spaces. With "Backpack the Parks," the journey to discovery begins with the turn of a backpack strap, and the possibilities for educational exploration are endless.

Backpack the Parks!



Instruction

Step 1: Ask for Donations of Backpacks and Clean Them Up

- Reach out to parents, local businesses, or the school community to request donations of gently used backpacks.
- Inspect the donated backpacks for any damage or excessive wear.

Step 2: Print the Activity Cards and Laminate

- Prepare activity cards that detail each of the educational activities you plan to include in the backpacks.
- Print these activity cards on durable cardstock paper.
- Laminate the activity cards to protect them from wear and tear during use.

Step 3: Put Cards on Rings

- Hole punch each laminated activity card.
- Use rings or zip ties to secure the cards together, creating a set of instructions for each activity.

Step 4: Purchase or Collect the Materials Needed for the Activities

- Create a list of materials required for each activity, as outlined in your activity plan.
- Gather all the necessary materials for each activity. This may include items such as magnifying glasses, sketchbooks, rocks, clay, flashlights, and more.

Step 5: Put Materials in Ziplock Bags

- Organize the materials for each activity into separate ziplock bags.
- Ensure that each bag contains all the necessary materials, making it easy for students to access and use them.

Step 6: Attach the National Park Tag to the Outside of the Bag

- Create or print a National Park-themed tag that identifies the backpack as part of the Backpack the Park program.
- Attach this tag securely to the outside of the ziplock bag or backpack.

Activity 1: Rocky Shore Exploration:

Materials:

- Smooth rocks
- Sand
- Seashells.

Instructions:

- Create a mini rocky shore scene with rocks, sand, and seashells.
- Discuss how the shoreline features are formed by waves and erosion.

Acadia National Park

Activity 2: Glacial Erratic Model:

Materials:

- Clay
- Small rocks
- Plastic containers.

Instructions:

- Mold clay into mountain shapes and place small rocks (erratics) on top.
- Explain how glaciers transported these rocks.

Activity 3: Erosion Experiment:

Materials:

- Sand
- Water
- Small plastic cups for mountains or clay.

Instructions:

- Pour water over sand to demonstrate erosion.
- Discuss how glaciers carved valleys in a similar way.

Activity 4. Animal Adaptation Matching Game:

Materials:

- Pictures of animals
- Index cards
- Resource materials

Instructions:

- Research animals from Acadia and their adaptations.
- Create a game that will match animals with their specific adaptations, discussing how these adaptations help them survive in Acadia's ecosystems.



Acadia National Park

Activity 5: Create a Food Web:

Materials:

- String
- Pictures of plants and animals.

Instructions:

- Use string to connect pictures of organisms in Acadia's food web.
- Discuss the interdependence of species.

Activity 6: Tide Pool Display:

Materials:

- Milk jug
- Clay
- Small sea creature figurines

Instructions:

- With help, cut a hole in the front of your milk jug.
- Create a tidal zone diorama, placing clay creatures to represent marine life.
- Discuss tidal effects and share your display with classmates.

Activity 7: Ocean Currents in a Bottle:

Materials:

- Clear plastic bottle, water
- Food coloring
- Small toy boat.

Instructions:

- Fill the bottle with water and a drop of food coloring.
- Place the boat and observe how currents move it.
- Share how waves affect the boat and talk about how weather affects the fishing industry.

Activity 8: Seashore Art:

Materials:

- Sand
- Seashells
- Glue
- Craft Supplies

Instructions:

- Make seashore-themed art by gluing sand and seashells onto paper, discussing the importance of coastal environments.
- Write a commercial to talk about why we should take care of our waterways.

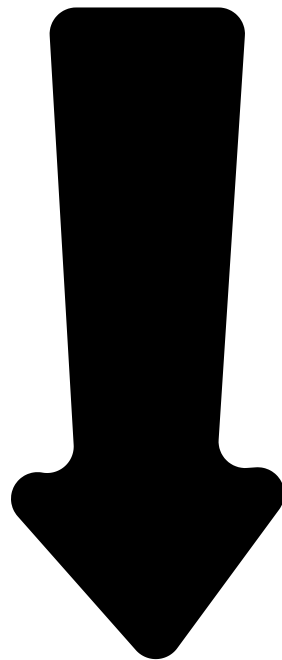
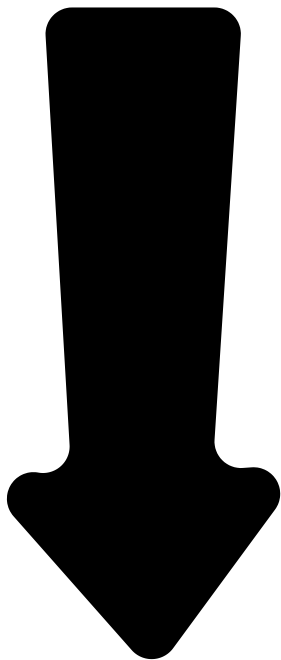


Activity Cards

Print on cardstock

Laminate

Put on rings



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BAG TAG BELOW!



**Acadia
National Park**

Backpack the Parks!

#ExploreTheParksWithUs

**"Pack Your Curiosity,
Explore Nature's Beauty!"**

www.expeditionsineducation.org

Acadia Tidal Pools

Acadia National Park, located on the beautiful coast of Maine, is famous for its stunning landscapes, including its unique tidal pools. Tidal pools are small, shallow bodies of water that form in rocky areas along the park's coastline. They are a natural wonder and an important part of the park's ecosystem.

Formation of Tidal Pools

Tidal pools are created by the ebb and flow of the ocean tides. When the tide comes in, it fills the rocky crevices and depressions along the shore with seawater. As the tide goes out, these pools are left behind, and they become temporary homes for a wide variety of marine life.

Biodiversity in Tidal Pools

One of the most exciting things about tidal pools is the incredible diversity of marine species that inhabit them. When you peer into a tidal pool, you might see colorful sea anemones, small crabs scuttling across the rocks, and tiny fish darting between the seaweed. You might even spot snails, starfish, and other fascinating creatures. These pools provide a safe and sheltered environment for these animals to feed and hide from predators.

Exploring Tidal Pools

Exploring tidal pools can be a fantastic educational experience for nature enthusiasts of all ages. Here are some tips to make the most of your tidal pool exploration:

1. **Safety First:** Wear sturdy shoes with good grip to protect your feet from sharp rocks.
2. **Handle with Care:** When observing the creatures in tidal pools, be gentle and avoid disturbing them. Use a net or your hand to gently touch and examine them, but always return them to their natural habitat.
3. **Timing Matters:** Tidal pools are best explored during low tide or when the tide is going out. Check the tide schedule for Acadia National Park to plan your visit accordingly.
4. **No Collecting:** Remember that it is illegal to collect shells, rocks, or any animals from the tidal pools in national parks. Leave everything as you found it to preserve this unique ecosystem.

Food Webs

Primary Producers:

- Plants (e.g., seaweed, grasses, trees)

Primary Consumers (Herbivores):

- Deer
- Rabbits
- Squirrels
- Insects (e.g., butterflies, grasshoppers)

Secondary Consumers (Carnivores/Herbivores):

- Coyotes (prey on herbivores and scavengers)
- Foxes (prey on small mammals and birds)
- Hawks (prey on smaller birds and mammals)
- Snakes (prey on small mammals and birds)

Tertiary Consumers (Carnivores):

- Bald Eagles (predators of fish and other birds)
- Bobcats (predators of small mammals)
- Owls (predators of small mammals and birds)
- Red Foxes (predators of smaller mammals)

Decomposers:

- Bacteria and fungi (break down dead organisms and organic matter)

Scavengers:

- Vultures (feed on carrion)

Aquatic Food Web:

- Plankton (tiny plants and animals)
- Fish (e.g., trout, salmon) - feed on plankton and smaller fish
- Osprey (predators of fish)
- Seals (predators of fish)

Marine Food Web (Seashore and Tidal Pools):

- Seaweeds and algae
- Crabs and lobsters - feed on algae and small organisms
- Sea urchins - feed on algae
- Seagulls (predators of marine creatures and scavengers)

Ocean Currents and Their Influence on Coastal Ecosystems

Ocean currents are like rivers in the ocean, constantly moving masses of seawater. They play a crucial role in shaping the world's oceans and can have a significant impact on coastal regions, including places like Acadia National Park.

Types of Ocean Currents:

1. **Surface Currents:** These are driven by wind and are found in the top layer of the ocean. Surface currents can flow for thousands of miles and influence the temperature and climate of coastal areas.
2. **Deep Ocean Currents:** These currents are driven by differences in water density, temperature, and salinity. They move slowly but can extend deep into the ocean.

Potential Influence on Coastal Ecosystems:

1. **Temperature Regulation:** Ocean currents can carry warm or cold water from one region to another, affecting the temperature of coastal waters. This, in turn, influences the types of marine life that can thrive in an area.
2. **Nutrient Transport:** Ocean currents can transport nutrients and plankton, which are essential for the food web in coastal ecosystems. Areas with nutrient-rich currents often support diverse marine life.
3. **Storm Impact:** Strong ocean currents can intensify the effects of storms, leading to coastal erosion and changes in the landscape.
4. **Marine Habitats:** Ocean currents help create and sustain various marine habitats, including kelp forests and coral reefs, which are essential for biodiversity.

Acadia Animals

1. **White-Tailed Deer (*Odocoileus virginianus*):** These elegant, medium-sized herbivores are a common sight in Acadia. They are known for their white undersides and tails, which flash when they run.
2. **Red Fox (*Vulpes vulpes*):** Red foxes are skilled hunters with striking rusty-red fur. They are often seen hunting small mammals and birds in the park.
3. **Eastern Cottontail Rabbit (*Sylvilagus floridanus*):** These small rabbits are known for their fluffy white tails and are often seen hopping around the park's meadows.
4. **Bald Eagle (*Haliaeetus leucocephalus*):** The bald eagle, America's national bird, can be spotted soaring in the skies over Acadia. They have distinctive white heads and tails.
5. **Peregrine Falcon (*Falco peregrinus*):** These raptors are known for their incredible speed and agility. They nest on cliffs within the park and can be seen hunting other birds in mid-air.
6. **Eastern Chipmunk (*Tamias striatus*):** Chipmunks are small, striped rodents often found scurrying through the underbrush, storing food in their cheek pouches.
7. **Eastern Gray Squirrel (*Sciurus carolinensis*):** Gray squirrels are abundant in Acadia and can be identified by their bushy tails and gray fur.
8. **Harbor Seal (*Phoca vitulina*):** Along the coastline, you may spot harbor seals basking on rocks or swimming in the waters of Acadia. They have sleek, grayish bodies.
9. **Common Loon (*Gavia immer*):** Loons are striking waterbirds known for their haunting calls. They can be seen on many of the park's lakes.
10. **Moose (*Alces alces*):** While moose are not as common in Acadia as some other animals, lucky visitors may catch a glimpse of these massive herbivores in the park's northern reaches.
11. **American Red Squirrel (*Tamiasciurus hudsonicus*):** Smaller than the gray squirrel, the American red squirrel has reddish-brown fur and is known for its vocal chattering.
12. **American Crow (*Corvus brachyrhynchos*):** Crows are intelligent and adaptable birds found throughout the park. They have glossy black feathers and are often seen foraging for food.
13. **Common Eider (*Somateria mollissima*):** These sea ducks can be spotted along the coast of Acadia. Males have striking black and white plumage, while females are brown.
14. **Barred Owl (*Strix varia*):** Known for their "who-cooks-for-you" call, barred owls are nocturnal birds of prey that inhabit Acadia's forests.