

BACKPACK THE PARKS

Expeditions in Education



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.

Hawai'i Volcanoes National Park

Activity 1: Volcano Model

Materials:

- Clay
- Small plastic bottle
- Vinegar
- Baking soda
- Red food coloring

Instructions:

1. Shape the clay around the small bottle to make a volcano shape.
2. Put your volcano on a tray.
3. Pour a little vinegar into the bottle.
4. Add a few drops of red food coloring and a spoonful of baking soda to make your volcano erupt!

Activity 2: Rock Identification

Materials:

- Various volcanic rocks (obsidian, pumice, basalt, etc.)
- Magnifying glasses

Instructions:

1. Get different volcanic rocks.
2. Use the magnifying glasses to look closely at the rocks. Describe how they look, their colors, and any crystals you see.

Activity 3: Ecosystem Diorama

Materials:

- Shoebox or other rectangular box
- Construction paper
- Markers
- Small plastic animals or figures

Instructions:

1. Pick an ecosystem in the park (like a rainforest or a lava tube).
2. Use construction paper, markers, and plastic animals or figures to create a small model of your ecosystem inside the shoebox.

Activity 4: Endemic Species Poster

Materials:

- Art supplies
- Pictures of endemic species

Instructions:

1. Learn about an endemic species from the park.
2. Make a poster that shows what the species looks like, its name, and some cool facts about where it lives and what it's like.



Hawai'i Volcanoes National Park

Activity 5: Native Hawaiian Legends

Materials:

- Hawaiian legends or storybooks

Instructions:

1. Listen to a story from Hawaiian legends about volcanoes.
2. Talk about the story and why it's important to Hawaiian culture.

Activity 6: Lava Flow Mapping

Materials:

- Maps of the park
- Colored pencils
- Markers

Instructions:

1. Use a map of the park.
2. Mark where past lava flows have happened using different colors to show different eruptions.

Activity 7: Volcano Safety Plan

Materials:

- Paper
- Crayons
- Safety guidelines

Instructions:

1. Learn about staying safe around volcanoes.
2. Make a plan on paper showing what you should do if there's a volcano eruption.

Activity 8: Erosion Simulation

Materials:

- Sand
- Water
- Plastic trays
- Small rocks

Instructions:

1. Make a small landscape with sand in a tray.
2. Pour water on the sand to see how it changes and talk about how erosion shapes the land.

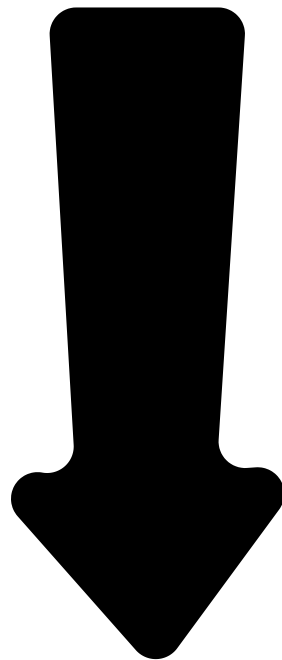
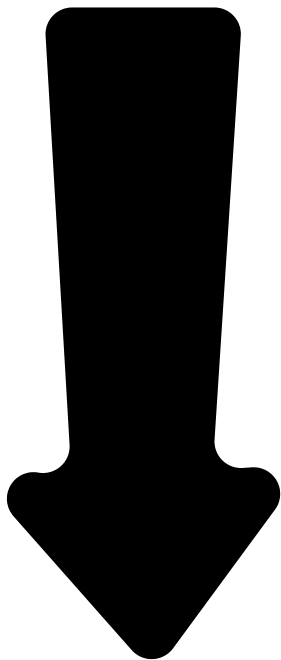


Activity Cards

Print on cardstock

Laminate

Put on rings



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Describe how they look, their colors, and any crystals you see.





Activity 3: Ecosystem Diorama

Materials:

- Shoebox or other rectangular box
- Construction paper
- Markers
- Small plastic animals or figures

Instructions:

- Pick an ecosystem in the park (like a rainforest or a lava tube).
- Use construction paper, markers, and plastic animals or figures to create a small model of your ecosystem inside the shoebox.



Activity 4: Endangered Animals Poster

Materials:

- Art supplies
- Pictures of endangered animals

Instructions:

- Learn about an endangered animals from the park.
- Make a poster that shows what the species looks like, its name, and some cool facts about where it lives and what it's like.



Activity 5: Native Hawaiian Legends

Materials:

- Hawaiian legends or storybooks

Instructions:

- Listen to a story from Hawaiian legends about volcanoes.
- Talk about the story and why it's important to Hawaiian culture.



Activity 6: Lava Flow Mapping

Materials:

- Maps of the park
- Colored pencils
- Markers

Instructions:

- Use a map of the park.
- Mark where past lava flows have happened using different colors to show different eruptions.

Activity 7: Volcano Safety Plan

Materials:

- Paper
- Crayons
- Safety guidelines

Instructions:

- Learn about staying safe around volcanoes.
- Make a plan on paper showing what you should do if there's a volcano eruption.



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Materials:

- Sand
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- Plastic trays
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Instructions:

- Make a small landscape with sand in a tray.
- Pour water on the sand to see how it changes and talk about how erosion shapes the land.



BAG TAG BELOW!



**Hawai'i Volcanoes
National Park**

Backpack the Parks!

#ExploreTheParksWithUs

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

www.expeditionsineducation.org

The Legend of Pele and the Creation of the Hawaiian Islands

In the vast expanse of the Pacific Ocean lies a captivating legend, the tale of Pele, a potent goddess of volcanoes, fire, and lightning, whose abode resided deep within the heart of Hawai'i's Big Island. Her story is steeped in myth and has been passed down through generations, revealing the interplay between the natural world and Hawaiian culture.

Pele, known for her tempestuous disposition, would frequently traverse the islands, often concealing her divine form as an elderly woman. She sought shelter among the people of Hawai'i, where she would test their kindness and hospitality. Those who extended their welcome were rewarded, while those who spurned her presence faced her fiery wrath.

One fateful day, Pele's heart became entangled in an unrequited love. She fell deeply for a gallant warrior named 'Ai'ai, who, alas, had already bestowed his affections upon the enchanting maiden Lehua. Consumed by jealousy and heartache, Pele confronted 'Ai'ai, precipitating an epic clash of fire and lava that raged for days. Flames kissed the heavens, and molten lava surged like a tempestuous river. Ultimately, 'Ai'ai succumbed to Pele's might, and she transformed him into the towering Mauna Loa, a colossal and jagged peak, now one of the world's largest volcanoes.

Haunted by the intensity of her fury, Pele sought refuge on the neighboring island of Maui. Yet, her wrath followed her there, culminating in a monumental battle with Kamapua'a, the pig god. Their ferocious confrontation gave rise to the flourishing Hana rainforest, adorning Maui's eastern coast in lush splendor.

Through the ages, Pele's fiery temperament continued to shape the Hawaiian Islands. She birthed new landmasses by expelling molten lava into the ocean, forging a chain of volcanic islands, each endowed with its own distinctive character. The Hawaiian Islands emerged as a testament to Pele's passionate and tumultuous existence.

To this very day, the people of Hawai'i hold deep reverence for Pele, recognizing her dual nature as both a force of destruction and creation. They pay homage to her with offerings of red hibiscus flowers, believing that plucking a red Lehua flower can coax rainfall, as Pele weeps for her lost love.

The legend of Pele and the formation of the Hawaiian Islands underscores the profound connection between the natural world and the cultural and mythological tapestry of Hawai'i. It serves as a reminder of the enduring relationship between the land, its people, and the timeless stories that continue to shape their identity.

References:

- www.bigislandguide.com/legends-of-pele
- www.robertshawaii.com/blog/legend-behind-hawaiis-goddess-fire/

Volcanoes

A volcano in Hawai'i Volcanoes National Park erupts when hot, melted rock called magma rises from deep inside the Earth. This magma is very hot, and it pushes its way up through cracks in the Earth's crust. When it reaches the surface, it explodes out of the volcano.

The magma contains gases like water vapor and carbon dioxide, which are under high pressure. When the magma reaches the surface, the pressure decreases, and these gases start to bubble out. This creates a lot of pressure, and it can cause the volcano to erupt with a big explosion.

Lava, which is the melted rock, flows out of the volcano. In Hawai'i, the lava can be very hot and liquid, or it can be thicker and move more slowly. The lava flows down the sides of the volcano, and as it cools, it hardens into solid rock.

Sometimes, the lava can shoot high into the sky, creating fountains of fire called 'lava fountains.' These are beautiful but dangerous. The lava can also flow into the ocean, creating new land as it cools and adds to the island.

The eruptions can be loud and fiery, but the volcanoes in Hawai'i are often closely monitored, and people stay safe by following the guidance of scientists and park rangers. Eruptions are a natural part of how these islands were formed, and they continue to shape the landscape of Hawai'i Volcanoes National Park.

Volcano Safety Plans

1. **Stay Informed:** Keep abreast of volcano-related news and updates through official sources like the Hawaiian Volcano Observatory (HVO), local government agencies, and news outlets.
2. **Emergency Kit:** Prepare an emergency kit that includes essential supplies such as non-perishable food, water, flashlights, batteries, a battery-powered radio, first-aid supplies, and any necessary medications. Ensure your kit is easily accessible.
3. **Emergency Contacts:** Have a list of emergency contacts, including local authorities, family members, and friends, readily available.
4. **Evacuation Plan:** Familiarize yourself with evacuation routes and assembly points. Follow evacuation orders issued by authorities promptly.
5. **Protective Gear:** In the event of ashfall or poor air quality, consider using N95 respirator masks, goggles, and long-sleeved clothing to protect against volcanic ash and toxic gases.
6. **Shelter in Place:** If you are not in the immediate danger zone, stay indoors to avoid ashfall, especially if you have respiratory issues.
7. **Driving Safety:** If you need to drive during an eruption, exercise caution as ashfall can reduce visibility and make roads slippery.
8. **Stay Away from Lava Flows:** Do not approach active lava flows. They can be extremely hot, unpredictable, and dangerous.
9. **Stay Off Volcanic Peaks:** Avoid hiking or camping on volcanoes during eruptions, as conditions can change rapidly.
10. **Stay Hydrated:** Drink plenty of water, as volcanic ash can lead to dehydration.
11. **Pet Safety:** Ensure the safety of your pets by keeping them indoors and providing food, water, and shelter.
12. **Air Travel:** If you are planning to visit an island with active volcanoes, check flight schedules and advisories for potential disruptions due to volcanic activity.
13. **Community Resources:** Know the location of local community centers and shelters where you can seek assistance and refuge if needed.
14. **Communication:** Keep communication devices charged and stay in touch with family members and authorities.
15. **Follow Official Guidance:** Always follow instructions and advice from local authorities, including evacuation orders and safety recommendations.

Endangered Species

1. **Hawaiian Monk Seal (*Monachus schauinslandi*):**

- Resource: NOAA Hawaiian Monk Seal Program (<https://www.fisheries.noaa.gov/species/hawaiian-monk-seal>)

2. **Hawksbill Sea Turtle (*Eretmochelys imbricata*):**

- Resource: Hawaii Wildlife Fund (<https://www.wildhawaii.org/>)

3. **Nēnē (*Branta sandvicensis*):**

- Resource: Nēnē Recovery Program (<https://www.nenerecovery.org/>)

4. **Hawaiian Hoary Bat (*Lasiurus cinereus semotus*):**

- Resource: U.S. Fish and Wildlife Service - Hawaiian Hoary Bat (<https://www.fws.gov/pacificislands/wesa/hawaiianhoarybat.html>)

5. **Hawaiian Petrel (*Pterodroma sandwichensis*):**

- Resource: American Bird Conservancy - Hawaiian Petrel (<https://abcbirds.org/bird/hawaiian-petrel/>)

6. **Hawaiian Crow (*Corvus hawaiiensis*):**

- Resource: San Diego Zoo Global - 'Alalā Project (<https://www.sandiegozooglobal.org/what-we-do/conservation/recovery-ecology/alala-recovery/>)

7. **Hawaiian Short-eared Owl (*Asio flammeus sandwichensis*):**

- Resource: Hawaii Audubon Society (<https://hawaiiaudubon.org/>)

8. **Hawaiian Thrush (*Myadestes obscurus*):**

- Resource: Cornell Lab of Ornithology - 'Ōma'ō (<https://www.allaboutbirds.org/guide/Omao/overview>)

9. **Hawaiian Damselflies (*Megalagrion* spp.):**

- Resource: U.S. Fish and Wildlife Service - Hawaiian Damselflies (<https://www.fws.gov/pacificislands/wesa/hawaiianinsects.html>)