Welcome to the **Sourland Mountain**!

Would you like to become an official protector of the Sourland Mountain, home to thousands of extraordinary species? Here is what you need to do in order to earn the Sourland Explorer patch…

**Steps:**
1. Complete the number of activities for your age group, choosing at least one activity from each section. Feel free to ask an adult for help with the activities.

<table>
<thead>
<tr>
<th>Ages 5-8: Complete at least 7 activities</th>
<th>Ages 9-12: Complete at least 10 activities</th>
</tr>
</thead>
</table>

**Activities:**
- Detective Rock
- Rock Storyteller
- Cartographer
- Timeline Trouble
- Navigate the Sourlands
- Spot the Animals
- Who am I?
- Dinner Time
- A Seed's Journey
- Sourland Eye-Spy
- Nature Artist
- Sourland Explorer Notebook

2. Spend at least 60 minutes in the Sourland Mountain and complete at least 1 bonus activity. *see bonus activity at the end of the packet*

3. Show your activity book and bonus activity to the Sourland Conservency, or email them your activity book at **info@sourland.org** and they will give you your badge.
Activity 1:

Detective Rock

Directions:
Look at the rocks below and label each rock using the word bank. Then, circle the type of rock you found in the Sourlands.

Word Bank:

- Rounded boulder
- Fractured boulder - a broken boulder
- Sedimentary rock - rock with lots of layers
Activity 2:

Rock Storyteller

Directions: As you explore the Sourlands, notice the many large boulders and rocks throughout the preserve. How do you think they got there?

Write your explanation about how the boulders got here below:

While the Sourland Mountain is a volcanic creation, these rocks were brought by muddy, unstable soil which carried these boulders downhill from higher up the mountain. This movement mostly happened in the ice ages, when permafrost affected the Sourland soil.
Activity 3: Cartographer

Directions: A cartographer is a person who makes maps. In this activity, you must connect the landmark to its place on the map by drawing a line between the matching shapes. For ages 9-12 completing this activity, you must also identify what road the landmark is on.

**Stoutsburg Sourland African American Museum** - housed in the former AME Church which was constructed before 1850 on Zion road. Camp meetings were held here, attended by both blacks and whites.

Road: __________________________

**Highfields** - Built in 1931 by Charles Lindbergh, site of the infamous Lindbergh kidnapping.

Road: __________________________

**John Harbort's House** - Built in 1768 was used as a store, a hat factory, tavern and post office.

Road: __________________________

**Hunt House** - Built in 1752. In 1778, George Washington hosted a council of Revolutionary leaders.

Road: __________________________

**James Wilson Marshall House**
Home of James Wilson Marshall, discoverer of gold in California in 1848

Road: __________________________
Activity 4: **Timeline Trouble**

What stories does this mountain hide? Fill in the timeline below using the word bank to find out.

1778- George Washington hosted the largest gathering of revolutionary leaders at the _____________.

1820- many towns in and around the mountains began to develop. The mountains were used as a source for _____________.

1860's- farms (mainly peach farms) were created out of the open areas from forest depletion. People also began relying on _____________.

1900- The _____________.

1920's- During the prohibition, many _____________.

1932- Charles Lindbergh Jr was _____________.

1940's- construction of new roads allowed for people from the ________ to build vacation homes in the Sourlands.

1980's- towns developed from rural communities to _____________.

Present

**Word bank:**
- Moonshiners
- Rock Quarrying
- Suburban
- Lenni Lenape
- Underground Railroad
- Kidnapped
- Lumber
- City
- Hunt House
- Peach
- English
Activity 5:

Navigate the Sourlands

Directions: Sometimes turtles need help crossing the road safely. Can you help the turtle navigate its way across the road?
Activity 6:

Spot the Animals

BEAR
BOBCAT
BUTTERFLY
COYOTE
DEER
FOX
FROG
HAWK
OWL
RABBIT
RACCOON
SALAMANDER
SPARROW
SQUIRREL
TURTLE
WOODPECKER
Activity 7:

Who am I?

Directions: Match the description with the picture.

![Barred Owl]

**Furry**

I am small and slippery. In the winter, I live underground. I am an amphibian. I come out in the rain to travel to vernal pools where I make my home.

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![Spotted Salamander]

I am big and fury. There are many of us all over the Sourlands. I am crepuscular which means I am awake at dawn and at dusk. I travel with my family made up of does, bucks, and fawns. I only eat plants, but I eat a lot of them.

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![Deer]

I am nocturnal which means I only come out at night and sleep during the day. I eat mostly small mammals such as mice and squirrels. I have sharp eyes that can spot small critters in the night and large talons which help me catch them. Who am I?
Activity 8:

**Dinner Time**

Directions: Put each animal in the circle of the Venn Diagram which shows what that animal eats.

<table>
<thead>
<tr>
<th>Herbivore: someone that eats plants only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omnivore: someone that eats both plants and meat</td>
</tr>
<tr>
<td>Carnivore: someone that eats meat only</td>
</tr>
</tbody>
</table>

Word Bank:
- Squirrel
- Frog
- Worm
- Mouse
- Owl
- Grasshopper
- Bird
- Hawk
- Bunny
- Fox
Activity 9:

A Seed’s Journey

Directions: Below is the life cycle of a plant. Label each part of the cycle and color in the images.

Word Bank:

Roots and stem  Seed  Flowers  Germination  Leaves
Activity 10:
**Sourland **Eye Spy **
Directions: Go on a hike and when you see one of the items below in the wild, cross it off on the board. Try to get five in a row.

<table>
<thead>
<tr>
<th>Frog</th>
<th>Moss</th>
<th>Stream</th>
<th>Deer</th>
<th>Pine Tree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uprooted Tree</td>
<td>Rabbit</td>
<td>Turtle</td>
<td>Woodpecker Hole</td>
<td>Butterfly</td>
</tr>
<tr>
<td>Cairn</td>
<td>Maple Tree</td>
<td>Boulder</td>
<td>Tulip Tree</td>
<td>Flower</td>
</tr>
<tr>
<td>Grape Vine</td>
<td>Poison Ivy</td>
<td>Nest</td>
<td>Skunk Cabbage</td>
<td>Bird</td>
</tr>
<tr>
<td>Hugging Trees</td>
<td>Ash Tree</td>
<td>Cleft Boulder</td>
<td>Squirrel</td>
<td>Stump</td>
</tr>
</tbody>
</table>
Activity 11:

**Nature Artist**

Directions: Draw a picture of what you have seen on your hike in the Sourlands.
Activity 12:
Sourland Explorer Notebook

Date:______________  Time of Day:________

Weather:
- Raining
- Sunny
- Cloudy
- Windy
- Snowing
- Hot
- Cold
- Warm
- Calm

Observations:
List 4 things you saw:
1. ________  2. ________  3. ________  4. ________

List 3 sounds you heard:
1. ________  2. ________  3. ________

List the animals, birds, or insects you saw:
__________________________________________________________________________

Draw anything interesting you saw that you haven't seen before:
*Bonus Activities

Build a bluebird box

Have a picnic on the boulders

Create “leaf art”

Take a picture and post it using #inthesourlands

Make Trail Mix

Build a fairy house

Pick up trash
Sourland Mountain Field Guide

How to Identify Trees:
Use their leaves or bark to figure out what kind of tree it is.

Ash Tree:  
![Ash Tree](image1.png)

Pine Tree:  
![Pine Tree](image2.png)

Maple Tree:  
![Maple Tree](image3.png)

Black Birch:  
![Black Birch](image4.png)

Eastern Red Cedar Tree:  
![Eastern Red Cedar Tree](image5.png)

Tulip Poplar Tree:  
![Tulip Poplar Tree](image6.png)
How to Identify Animal Tracks
Use the footprints that they have left in the ground to identify animals
Don’t Touch These Plants

Poison Ivy:
“Three leaves, let it be!”
Poison ivy has three leaves and can make a rash on your skin that itches so stay away from it!

“Hairy rope, don’t be a dope”
If you see a hairy rope on a tree don’t touch it! There is also a good chance that vines of Poison ivy will also be coming out of it, so avoid that too!

Poison Oak:
Poison Oak causes a similar reaction to Poison ivy.
Plant Care

Habitat Destruction
Land is destroyed when houses, roads and cities are built on it, so plants cannot grow. This destruction leads to the death of rare plant species that may only live in one area.

Habitat Limitation
Some plants require very specific conditions in order to grow. New Jersey hosts over 350 rare plant species because it provides these conditions these rare plants need in order to survive.

Deer Browse
Although deer may be cute, there are too many living in the Sourlands at once. Because they are herbivores, thousands of native plants are being eaten which leads to the death of many rare plants also.

Invasive vs. Native Plants

Invasive plants are plants that come from different areas and grow here where they don’t belong. They compete with native plants to survive and are able to take over an area where native plants belong. Native plants are also eaten more often than invasive plants which gives invasive plants an extra edge.

How can you help the Sourlands?
1. Garden with native plants
2. Support deer management
3. Stay on trails
4. Avoid picking or digging up wildflowers
5. Don’t leave wrappers behind
Trail Mix Recipes

1. Simple and Sophisticated
   ○ Almonds, dried cherries, dark chocolate chips, sea salt, cinnamon.
2. Old School
   ○ Peanuts, raisins, M&Ms.
3. Tropical Mix
   ○ Cashews, Brazil nuts, dried mango, coconut flakes, banana chips.
4. Fall Flavors
   ○ Pecans, dried apples, maple granola, pumpkin seeds, nutmeg, cinnamon.
5. Savory Seeds
   ○ Almonds, pumpkin seeds, sunflower seeds, garlic powder, onion powder, cayenne pepper.
6. Nuts for Nuts
   ○ Almonds, walnuts, peanuts, cashews, pecans, raisins
7. Energy Mix
   ○ Walnuts, pumpkin seeds, sunflower seeds, cinnamon, nutmeg, sea salt, dried apricots, dried cranberries
8. Peanut Butter Pal
   ○ Banana chips, peanut butter chips, peanuts, almonds, dark chocolate chips
9. Monkey Munch
   ○ Banana chips, peanuts, sea salt, almonds, dark chocolate chips, raisins, coconut flakes
10. Cereal Lover
    ○ Bran flakes, shredded wheat cereal, puffed rice, granola, cashews, dried cherries, dried cranberries, dried blueberries.
11. Chow
    ○ Almonds, whole-grain Chex or wheat cereal, dark chocolate chips, peanut butter chips, cacao nibs, dried cranberries.
12. Pb&J
    ○ Peanuts, dried strawberries, peanut butter chips, shredded wheat cereal.