Fire Ecology Inventory and Monitoring

Names: **Date:**

School:

Before—Make a Hypothesis (Our Expected Observations)

The slow replacement of one kind of habitat by another habitat is called succession. Succession is going on all the time; it's part of nature. Succession turns abandoned farmland into forest, changes small ponds into dry land, and helps areas burnt by fires to become green again. **Any process, whether natural or man-made, that changes a habitat is called a disturbance**. Fire is a natural disturbance.

After a fire, plants (fireweed, pinegrass, willows) regrow in the newly open, sunny areas and nutrient-rich soil created by the burn. Some will re-grow from roots, bulbs, or rhizomes that survived in the soil. Shrubs (serviceberry, huckleberry) re-sprout after a fire as heartier plants, increasing fruit production. Lodgepole pine and Western larch produce large amounts of seedlings in the new forest.

The stands of forest seen in the park are in different stages of regeneration. Without fire, Glacier Park's landscape would look a lot different. Today we will conduct an experiment and collect data that will help us model the changes that are seen in a forest as it recovers from a disturbance.

Question: How will the physical appearance of a forest change after a disturbance?

1: In the recently burned forest I expect to observe:

2: In the older forest I expect to observe:

After—Analyze Your Data

1. Do you feel the data you and your group gathered is accurate? Why or why not?

2. Does the data your group gathered support your hypothesis? Why or why not?

3. Think of an additional question that your group might like to research. Write it here:

4. What additional data would you need to collect in order to answer your question?

5. What might each forest look like in 20-50-100 years? What factors might affect the growth of this forest?

6. Is there a correlation or trend between the light meter reading and the species of trees in each plot?

Data Collection:

Materials: string, light meter, tree key, pencil, data sheet,

Procedure: Choose a location near the trail. Begin by taking a light meter reading at the center of your plot. Assign one person to be the center pivot point: they should hold one end of the rope while a second person walks around and counts trees. Each tree will need to be identified by species and height. Your third team member is the recorder. Write down any additional findings or species in the "Weather Observation and Additional Notes Sections.

Plot Location:	Height Less than < 2m	Height Greater than >2m	Total:	%
Lodgepole Pine				
Western Larch				
Engelmann Spruce				
Douglas Fir				
Western Red Cedar				
Western Hemlock				
Broadleaf Plant				
Snag *(Standing Dead Tree)*				

Light Meter Reading at 2m _____ **Total**: _____

Weather Observation and Additional Notes:

Plot Location:	Height Less than < 2m	Height Greater than >2m	Total:	%
Lodgepole Pine				
Western Larch				
Engelmann Spruce				
Douglas Fir				
Western Red Cedar				
Western Hemlock				
Broadleaf Plant				
Snag *(Standing Dead Tree)*				

Light Meter Reading at 2m _____ **Total**: _____

Weather Observations and Additional notes: