

How fire maintained prairie / open woodlands complex (prior to ~ 1850) - Succession interrupted:

1. At the end of the summer, grasses and small flowers would produce seeds and die back.

2. Native Americans would light fires - which would burn dead plant material

3. Because the fires weren't very hot (due to lack of fuel), they would not burn 1) seeds or 2) large, living plants ^(trees) - but they did burn young, newly sprouted trees and shrubs

4. In the spring, seeds would sprout making new grasses, flowers, and baby shrubs and trees.

(THEN THE CYCLE WOULD REPEAT)

How the lack of fire led to Douglas Fir forests (after ~1850) - Succession proceeds over 50-100yrs:

1. At the end of summer, the flowers and grasses make seeds and die back.

2. With the lack of fire, the small shrubs and trees don't die at the end of summer, and after a few years, they've grown significantly

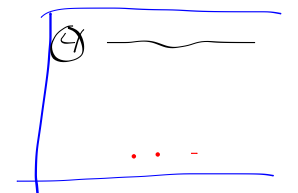
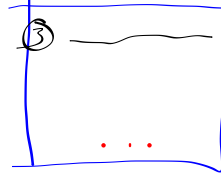
3. The shrubs and trees start to prevent the grasses and flowers from growing because they're deprived of sunlight. — open woods → dense forests

4. Douglas Firs grow faster and taller than the other trees, so they eventually kill off oaks, alders, maples, and ash trees, forming a Douglas Fir forest.

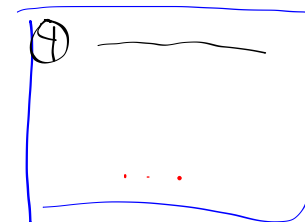
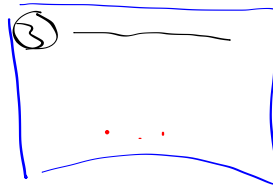
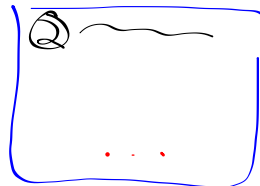
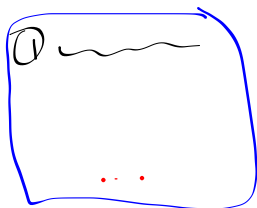
→ From existing vegetation,
from animals

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WITH FIRE....



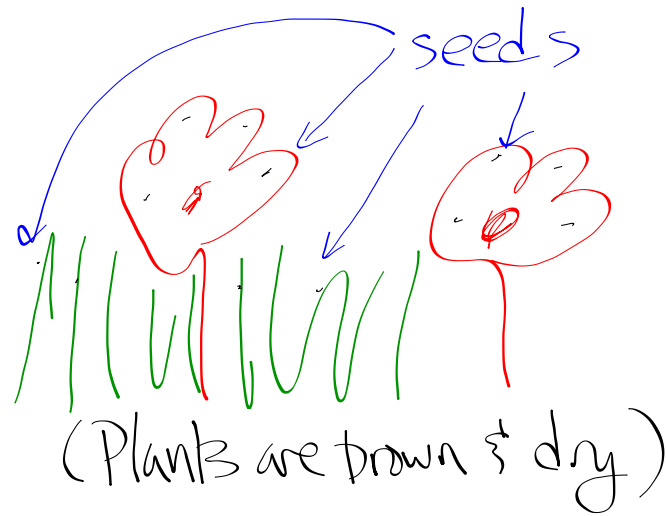
WITHOUT FIRE....



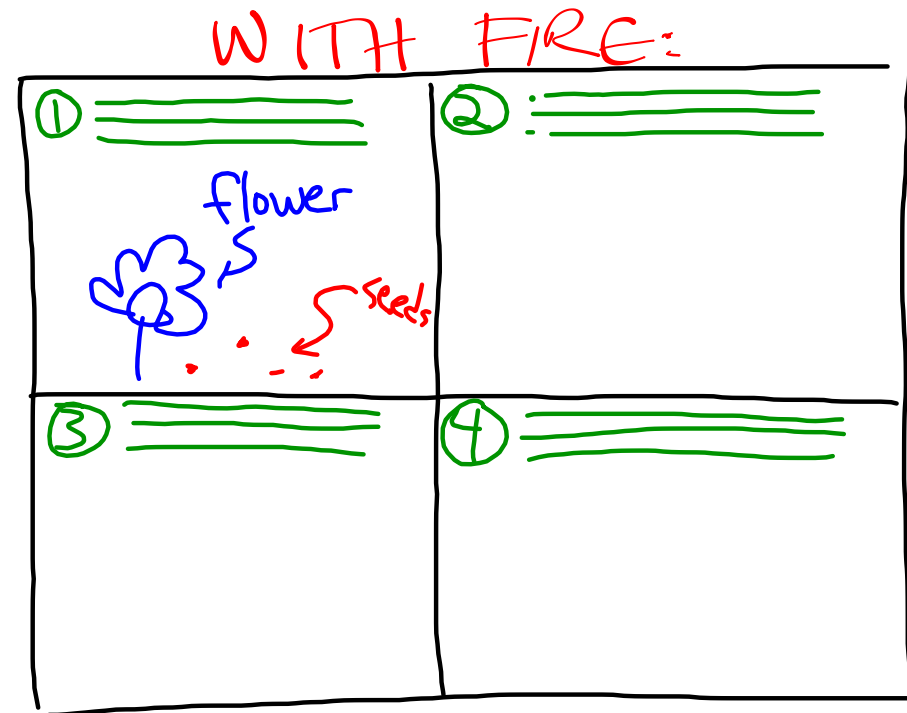
Example...

"At the end of the summer..."

①



Illustrate the process through which
Native Americans interrupted succession
and maintained prairies



Illustrate the process through which the lack of fire leads to succession proceeding and the domination of Douglas Fir forests

