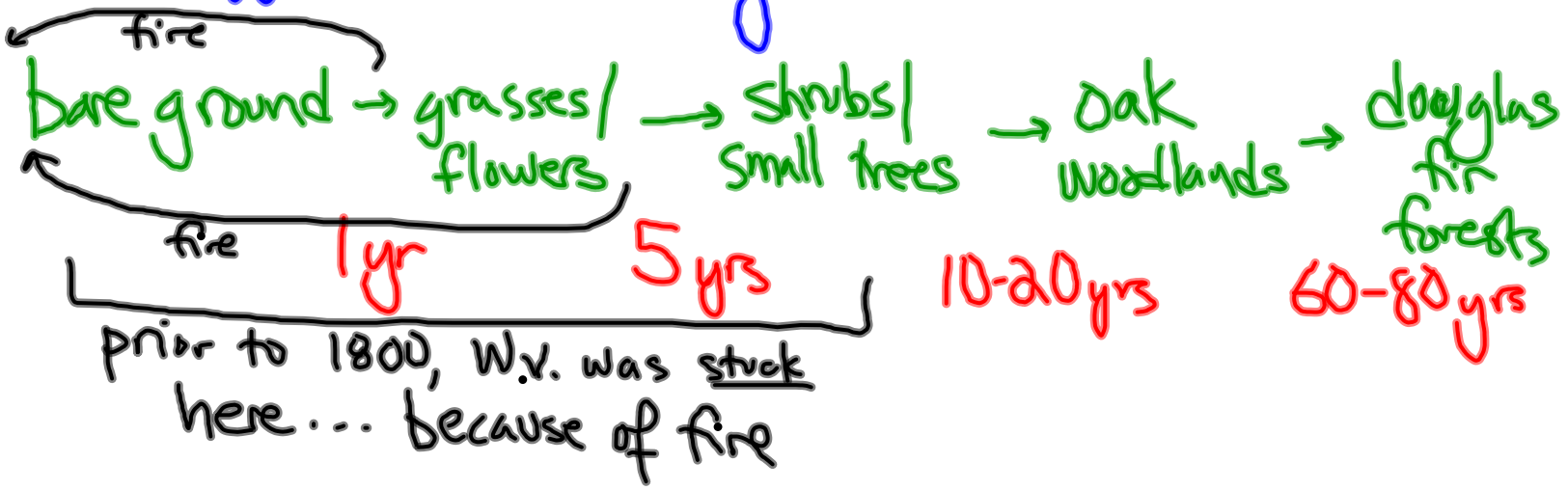
Ecological Succession:

- There is a predictable progressive change in vegetation over time
- Willamette Valley:



Why were there frequent fires prior to 1800?

- Natural (lightning)
- Native Americans (MAJORITY)
  - Helped prepare ground for cultivation
  - Aided with hunting
  - Promoted growth of beneficial native plants
  - Promoted growth of scattered oaks for acorns

Why did the burning stop after 1800?

- European settlers didn't want fire!
- Actively prevented fires from 1800 →
  - Fire ≠ houses
  - Fire ≠ barns

How fire maintained oak savanna/prairie landscapes prior to 1800:

1. Grasses and flowers would die back at the end of summer/start of fall

2. Native Americans lit fires which burned the dead plant material

3. Fires were hot enough to burn dead plant material, newly sprouted trees, and shrubs, but NOT old, established trees or all plant seeds

4. In the spring, new plants (grasses and flowers) would sprout and the process would repeat

How Douglas Fir forests took over the Willamette Valley after 1800:

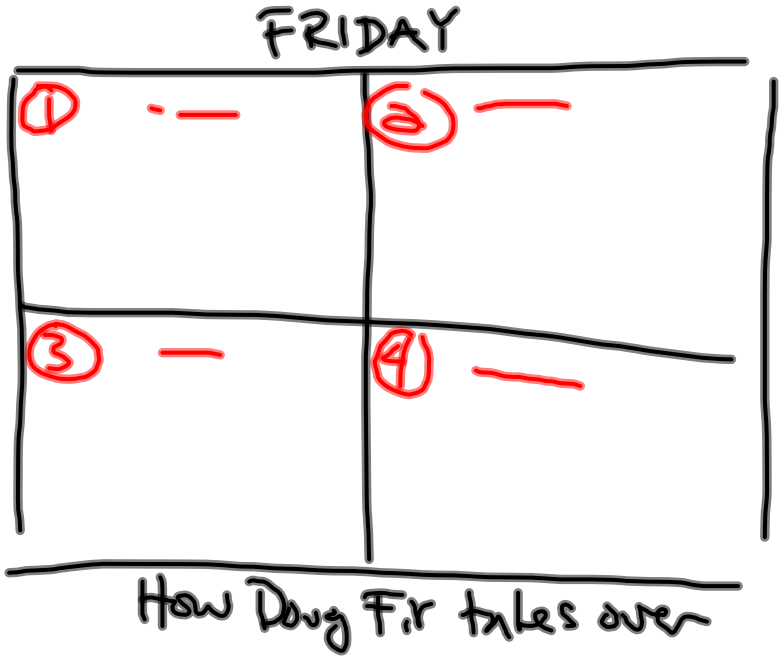
1. For a few years, the oak savanna and prairies stayed mostly the same

2. Tree and shrub seedlings were no longer burned away - so they became established plants

3. Douglas Fir trees grow very tall more quickly than other trees (after 50 years or so)

4. Deprived of sunlight, oak trees and other plants died back (after 80 years or so)

Create a series of illustrations for each stage of EACH process:



Exam: Willamette Valley Ecology

Wed. Dec. 8 / Thurs. Dec. 9

→ Plants, ecology, fire, history

→ Material: notes posted on line
(you can use notes on test)

→ Answers will require you to think, rework the information in your notes

"WHAT IF..."