

Title: Survival of the Forest

Standard of Learning:

Biology 7b-d:

- b.) how genetic variation, reproductive strategies, and environmental pressures impact the survival of populations
- c.) how natural selection leads to adaptations
- d.) emergence of new species

- I. Introduction: (5 minutes)
  - a. Who am I?
  - b. What is PINEMAP?
  - c. What did I do this summer?
- II. Presentation: (20 minutes)
  - a. Background of southeastern forests
    - i. Dominated by Pine trees
    - ii. Managed by private landowners
    - iii. Effected by climate change
  - b. Brief overview of Climate change
    - i. Climate vs. Weather
    - ii. Reduces biodiversity in forests
    - iii. Decreases carbon sequestration
  - c. Genetic Variation and Natural Selection
    - i. Forests consists of various trees
    - ii. Some trees thrive more than other based on there genetic makeup and phenotype
    - iii. Survival of the fittest concept
  - d. Forest Competition
    - i. Trees need water, sunlight, and nutrients which are limited
    - ii. Competition might cause tree stress
    - iii. Stress is detrimental to tree health because insects will prey on trees
  - e. Managing Practices
    - i. Thinning and burning are common ways to reduce completion
- III. Video- (5-7 minutes) \*
  - a. Forest landowner will explain managing practices he uses in his forests.
- IV. Activity- (20 minutes)
  - i. This will be used to show competition in forests. Explain the importance of sunlight, water, and nutrients. Briefly explain managing practices such as thinning and burning and the importance of healthy, resilient forests in the effects of a changing climate.
- V. Closing (5 minutes)
  - a. Review

Total time: 50 minutes

\*-only if time permits