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Outline

SOLS: BIO.2.d; BIO.8.a; BIO.8.b; BIO.8.c; BIO.8.d; BIO.8; LS.6.a; LS.7.a

Project Learning Tree: Every Tree for Itself; Activity 27

- I. Introduction
  - a. Name, hometown, VT, etc.
  - b. PINEMAP
    - i. What is PINEMAP?
    - ii. What is the overall goal?
    - iii. What is my part in PINEMAP?
- II. Body
  - a. State Themes
    - i. Trees are in constant competition for the resources necessary to grow and live.
      1. Personify: Battle of the Trees
    - ii. Humans and natural events can change the resources and their availability.
  - b. Let's Get Thinking- class discussion and writing on whiteboard
    - i. What do humans need? What do trees need?
    - ii. How do trees grow?
      1. Tree chips, draw a couple rings on paper plates to represent your sapling
  - c. Every Tree for Itself Activity
    - i. Students Spread Out in the Classroom as Pine Trees
      1. Year One: throw out balls to represent water, nitrogen, sun disease, CO<sub>2</sub>.
      2. Graph Results, "Kill Trees," Draw New Growth Rings, Discuss
      3. Year Two: Competition
      4. Year Three: Disease
      5. Year Four: Drought
        - a. Drought adaptations: stomata closes
    - ii. Discuss competition for resources, Root Spread, Natural Resource Managers, landowners, and Forest Managers, Human Effects, etc. between each year
  - d. Students Return to Desk and Show Pictures of Trees with Cool Battle Weapons (Adaptations)
    - i. What is an adaptation?
    - ii. How do adaptations occur? (Natural selection, genetics)
    - iii. Strangler Fig, Siberian Elm, Longleaf Pine, Bald Cypress etc.
- III. Conclusion
  - a. How are trees similar to humans? How are they different?
  - b. Do you think it's hard to be a tree?
  - c. Why would humans want to maximize tree growth?