I. Introduction
    a. About me (name, hometown, school, major)
    b. Projects I worked on this summer
    c. What is PINEMAP
    d. We know that plants (and all living things for that matter) have DNA. But how exactly does DNA do its thing and what does it mean for the plants?
II. Body
    a. Review (what is DNA, what makes up DNA i.e. ATCG)
    b. Transcription
        i. Takes place in the nucleus
        ii. RNA polymerase- copies DNA into mRNA
        iii. Makes an exact copy of the non-coding strand although thymine is replaced with uracil
    c. Translation
        i. Takes place in the ribosome
        ii. tRNA carrying amino acids line up in groups of 3 (called codons) and create protein chains
    d. Activity
        i. Legos: Legos are perfect for building DNA chains; for example, red for A, blue for T, yellow for C, green for G. Form DNA and RNA chains. Explain codons and amino acids. Determine what "traits" come from what proteins.
        ii. Using the amino acid chains and proteins from activity i, put pieces on Mr. Potato-head. Students will work in teams to put together the models (some normal, some not)
        iii. I will tie in loblolly pines and PINEMAP by explained how through genetic manipulation we can develop trees that are more drought tolerant or use less nitrogen and why that is important.
III. Conclusion
    a. Questions- accepting and asking follow-up questions of the students.

Note: activity may be done at the same time as the "lecture" depending on time

Back up activity: quiz/jeopardy review for candy or prizes