### Plant Evolution Essay Rubric

#### Introduction
- **Title** - Creative and Summarizes project
- **Introduce paper**
- **Phylogenetic tree**

#### 1. Characteristics of plants
- Chloroplasts
- Cell wall
- Photosynthesis
- Connection to the rest of the food web (food, O₂)
- Introduce plant phyla

#### 2. Charophytes
- Transition to ¶
- Identify as green algae
- Not True plants - Ancestral Plants
- **Live in water** - Unless as lichen

#### 3. Bryophytes
- Transition to ¶
- Identify as moss
- Live on land
- Non Vascular
  - Effect on shape: Long and Skinny, Why?
- Reproduction – Conjugation
  - Spirogyra or Ulva - Discuss shape

#### 4. Pterophytes
- Transition to ¶
- Identify as Ferns
- Live on land
- Vascular
  - Effect on shape:
    - NO Seed (spore instead)
    - Sori
    - Do they rely on water for reproduction?

#### 5. Gymnosperms
- Transition to ¶
- Identify as Conifers/Pine trees
- Live on land
- Vascular
  - Effect on shape: Can grow REALLY tall
    - AMAZING VASCULARITY
    - Why is it amazing?
- Seed
  - What's the big deal?
  - Pollen (structure and function)
  - Do they rely on water for reproduction?
  - What is the purpose of a cone?
    - Connect the structure of a cone to a flower

#### 6. Angiosperms
- Transition to ¶
- Identify as Flowering Plants
- Live on land
- Vascular
  - Effect on shape: Can grow tall
  - How do they move water
- Seed
  - Do they rely on water for reproduction? Why/Why not?
- Flower
  - Purpose
  - 4 Characteristics of flowers
  - how each of the 4 work

#### Conclusion
- Explain what evolution is, why and how organisms do it.
  - Conclude about the evolution of plants
  - A slow process = Takes many/small steps
- Define and include:
  1) Derived 2) Ancestral, 3) Evolution,
  4) Adaptation, 5) Natural Selection

#### Format/Layout
- **Flow from ¶ to ¶ and throughout paper**
- Effort
- Double Spaced and Double sided print out

#### Grammar
- Use of vocabulary

#### The last 10%
- Going above and beyond the rubric:
  - What story did you track:
  - Integrated into every ¶

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**Score _____/100**