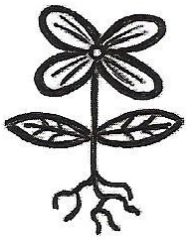
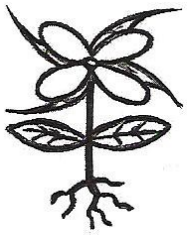
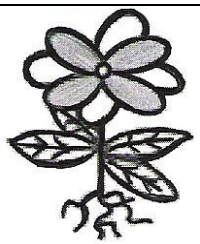
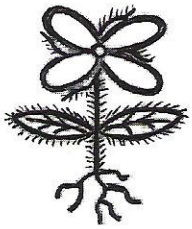
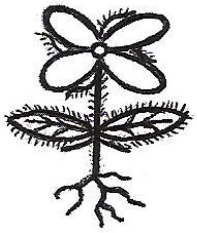
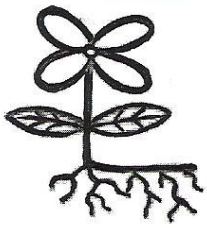
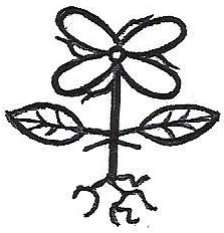
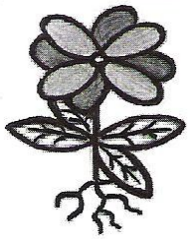
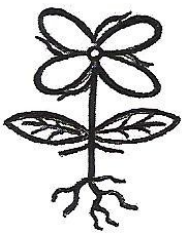
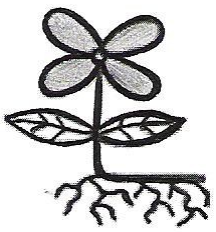
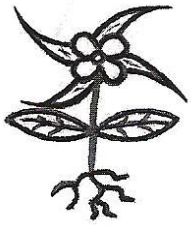
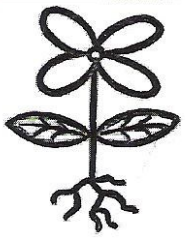
Worksheet 1a: Interpreting the Pseudocot Phylogeny

Name: _____ Date:_____

1. You are part of a research team investigating some hypothetical flowering plants called Pseudocots. You have collected 12 extant species from across North Americas (see field notes for environmental data). Your current task is to cut out the images of the living Pseudocots (Species 1-12) and group them into categories indicating how you think they are related to one another. In the space below, write down the groupings you finalized. Explain what evidence you used to organize these species and how you think these groups are related.

2. Based upon your categories of Pseudocots, describe/draw what you think the most ancestral Pseudocot would look like.

Living Pseudocots:

 Species 1	 Species 2	 Species 3	 Species 4
 Species 5	 Species 6	 Species 7	 Species 8
 Species 9	 Species 10	 Species 11	 Species 12

Field notes:

Species 1: Collected from a rocky meadow by a stream in the Midwest (US), shady conditions, fertile soil (found by #10)

Species 2: Collected from an upland forested area in Eastern US, limited sunlight available, poor soil (found by #3)

Species 3: Collected from an upland forested area in Eastern US, limited sunlight available, poor soil (found by #2)

Species 4: Collected from a swampy wetlands area in the Midwest (US), shady conditions (found by nonpseudocots)

Species 5: Collected from a desert in Southwest (US), full sun conditions (found by #7 & #12)

Species 6: Collected from a tall grass prairie in the Midwest (US), full sun conditions

Species 7: Collected from a desert in Southwest (US), full sun conditions (found by #5 & #7)

Species 8: Collected from a rocky meadow by a stream in the Northeast (US), shady conditions, fertile soil (found by nonpseudocots)

Species 9: Collected from a tropical rain forest in Southern Mexico, limited sunlight, poor soil

Species 10: Collected from a rocky meadow by a stream in the Midwest (US), shady conditions, fertile soil (found by #1)

Species 11: Collected from a tropical rain forest in Southern Mexico, limited sunlight, poor soil

Species 12: Collected from a desert in Southwest (US), full sun conditions (found by #5 & #7)