Name: _____ Date: _____ Period: _____
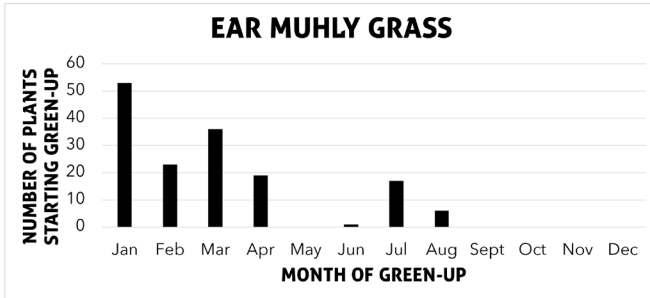
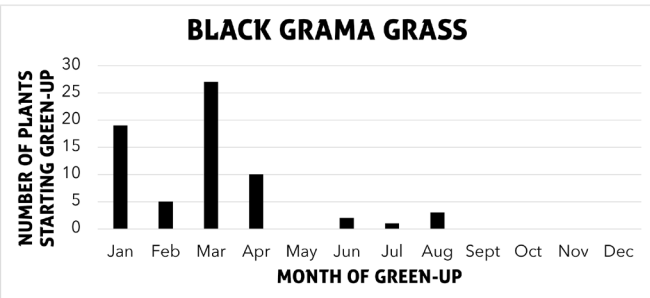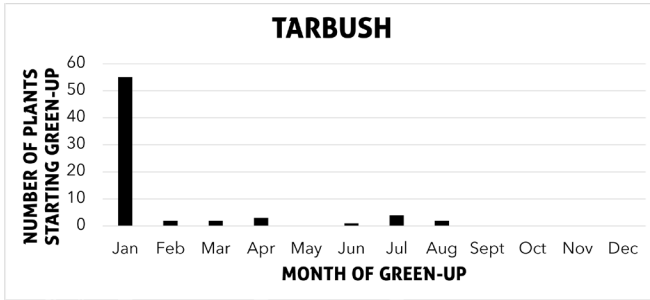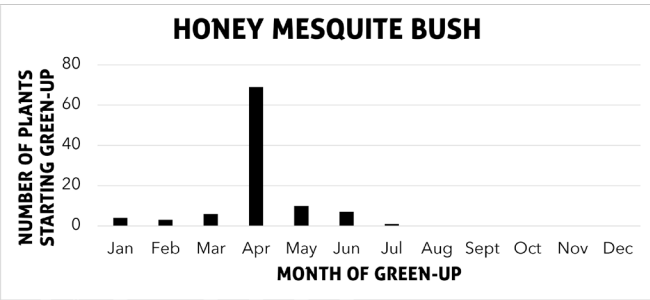_____ A Desert _____ Phenology Lesson

WHEN IS THE GRASS GREENER?

PHENOLOGY:
The study of seasonal patterns in plants and animals and their timing.

1. These graphs show how many plants greened up each month during the study. Briefly describe the phenology of each plant below.

HONEY MESQUITE BUSH
NUMBER OF PLANTS STARTING GREEN-UP
Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec
MONTH OF GREEN-UP

TARBUSH
NUMBER OF PLANTS STARTING GREEN-UP
Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec
MONTH OF GREEN-UP

BLACK GRAMA GRASS
NUMBER OF PLANTS STARTING GREEN-UP
Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec
MONTH OF GREEN-UP

EAR MUHLY GRASS
NUMBER OF PLANTS STARTING GREEN-UP
Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec
MONTH OF GREEN-UP

Honey Mesquite Bush:

Tarbush:

Black Grama Grass:

Ear Muhly Grass:

2. What is the difference between the phenology of the bushes (honey mesquite bush and tarbush) and the grasses (black grama grass and ear muhly grass)?

3. Based on the diagram of plant roots, and the game you played, explain how plant roots affect phenology.

4. If climate change leads to more drought and less frequent rainfall in the southwest, which plants will be most affected?

5. Read the scenarios below and apply what you know about phenology, climate change and desert plants to predict how each person will be affected by climate change.

   a. Freddy is a rancher whose cows graze on desert grasses. If there isn't enough grass, Freddy must bring in hay or supplemental food to ensure his cows stay healthy. Based on what you know about the phenology of grasses, how will Freddy be impacted by climate change? How can Freddy adapt to climate change or solve the problem it is causing?

   b. Mariana walks to school every day. Next to the school is a large area with no buildings. On windy days, lots of dust is picked up off the ground from this area and gets in her eyes, mouth, and hair. Mariana has noticed that when grass is growing, there is less bare ground and the grass seems to hold onto the soil. Based on what you know about phenology, how will Mariana's walk to school be impacted by climate change? How can Mariana adapt to climate change or solve the problem it is causing?