Plant Mini-Project

The goal of the project is to analyze all parts of the plants and visualize them in action as a whole plant. You will analyze the plant with labeled drawings and summaries. Each person will analyze a plant with a flower.

Phase One:

* You will draw and label the structures of the plant tissues: ***dermal*** with ***cuticle***, ***vascular*** with ***xylem*** and ***phloem***, and ***ground cells***
* You will draw and label the other structures of the plant including:***Stems***, ***Roots***, ***Leaves*** with ***stomata*** & ***guard cells***
* You will draw and label the structures of the plant’s reproductive system. You will include:
  + Male anatomy: ***stamen*** made up of the ***anther*** and ***filament***
  + Female anatomy: *pistil* made up of the ***stigma***, ***style***, and ***ovaries*** (ovules)
  + Other parts: ***petal*** and ***sepal***
* ***Write a summary on the process of pollination including all vocabulary terms of plant reproductive system: stamen, anther, filament, stigma, style, ovaries, petals, & sepals.***

Phase Two:

* You will illustrate the flow of substances throughout the plants. Use a color key/legend to note transpiration and translocation:
  + Using color, you will draw arrows labeling the flow of water through the xylem transpiration; label ***xylem***
  + Using another color, you will draw arrows labeling the flow of sugar through translocation; label ***phloem***
* ***Write a summary explaining the process of transpiration using the following vocabulary: xylem, water, photosynthesis, guard cells, & stomata.***
* ***Write a summary explaining the process of translocation using the following vocabulary: phloem, sugar, & photosynthesis.***

Phase Three:

* You will illustrate 3 situations: ***phototropism***, ***geotropism***, and ***thigmotropism***.
* With green dots, predict where the greatest concentration of ***auxin*** is found on the plant stem.
* ***Write a summary explaining the the 3 situations: phototropism***, ***geotropism***, and ***thigmotropism***.