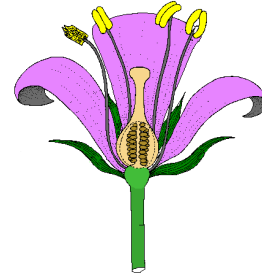


Flower Dissection

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Objectives:

- ✗ To learn the parts of the flower.
- ✗ To compare male and female anatomy
- ✗ to determine if the male or female parts are longer and what advantage that might have in fertilization.



Procedure:

1. You and your partner will be given one gladiolus flower.
2. In **Figure 1**, draw your flower. Note the color and flower position. Label the sepals and petals.
3. Using your scalpel, very **CAREFULLY**, make a vertical incision to open your flower.
4. Pin the petals and ovary to keep it open.
5. In **Figure 2**, draw your flower pinned open. Be sure to label: Sepals, Anther, Stamen, Filament, Stigma, Style, Ovary, & Pistil
6. Using your ruler, measure the length of the **Pistil** (stigma, style, & ovary) in mm. Record in **Table 1**.
7. Measure the length of the **Filament only** (mm). Record in **Table 1**. Repeat for all 3.
8. Measure the length of the **Anther only** (mm). Record in **Table 1**. Repeat for all 3. The anthers may be releasing **pollen**. Look for a powdery residue.
9. Look inside the ovary. See if you can find the **ovules**. When fertilized, these will become **seeds**.
10. Record the lengths of the pistil and filament on the class stem and leaf **Figure 3**.
11. Calculate data, answer questions.

Data:

Figure 1: Drawing of Gladiolus Flower (half page)

Color _____ Position _____ Label Sepals and Petals

Figure 2: Flower Pinned Open (half page)

Label: Sepals, Anther, Stamen, Filament, Stigma, Style, Ovary, & Pistil

Table 1: Table of Anther, Filament and Pistil Lengths in mm. (half page)

| Flower Part | # 1 | # 2 | # 3 | Average (mm) |
|-------------|-----|------|------|--------------|
| Pistil | | none | none | |
| Anther | | | | |
| Filament | | | | |

Figure 3: Double Stem and Leaf of Pistil and Average Stamen (anther + filament) Length. (half page)

Table 2: Summary Data Table of Pistil and Stamen Lengths. (half page)

| | n | max | min | range | sum | mean | med |
|--------|---|-----|-----|-------|-----|------|-----|
| Pistil | | | | | | | |
| Stamen | | | | | | | |

Analysis:

1. Name the female parts of your flower.
2. Name the male parts of your flower.
3. In **your** flower, which was longer?
4. According to our class data table, which had the longer lengths?
5. Was your flower mature? (open or closed)
6. Was your flower releasing pollen? How could you tell?
7. Why would having a longer pistil or stamen be an advantage in pollination?
8. Draw the leaf of a gladiolus. Note the margin and vein pattern.

Extension:

Using the data from each lab group in your class, create a line graph of length in mm (y-axis) vs. flower position (x-axis). Using 3 lines, graph the average lengths of the anthers, pistils, and stamens. Do you notice any trends?

Conclusion:

2-3 sentences on what you learned.