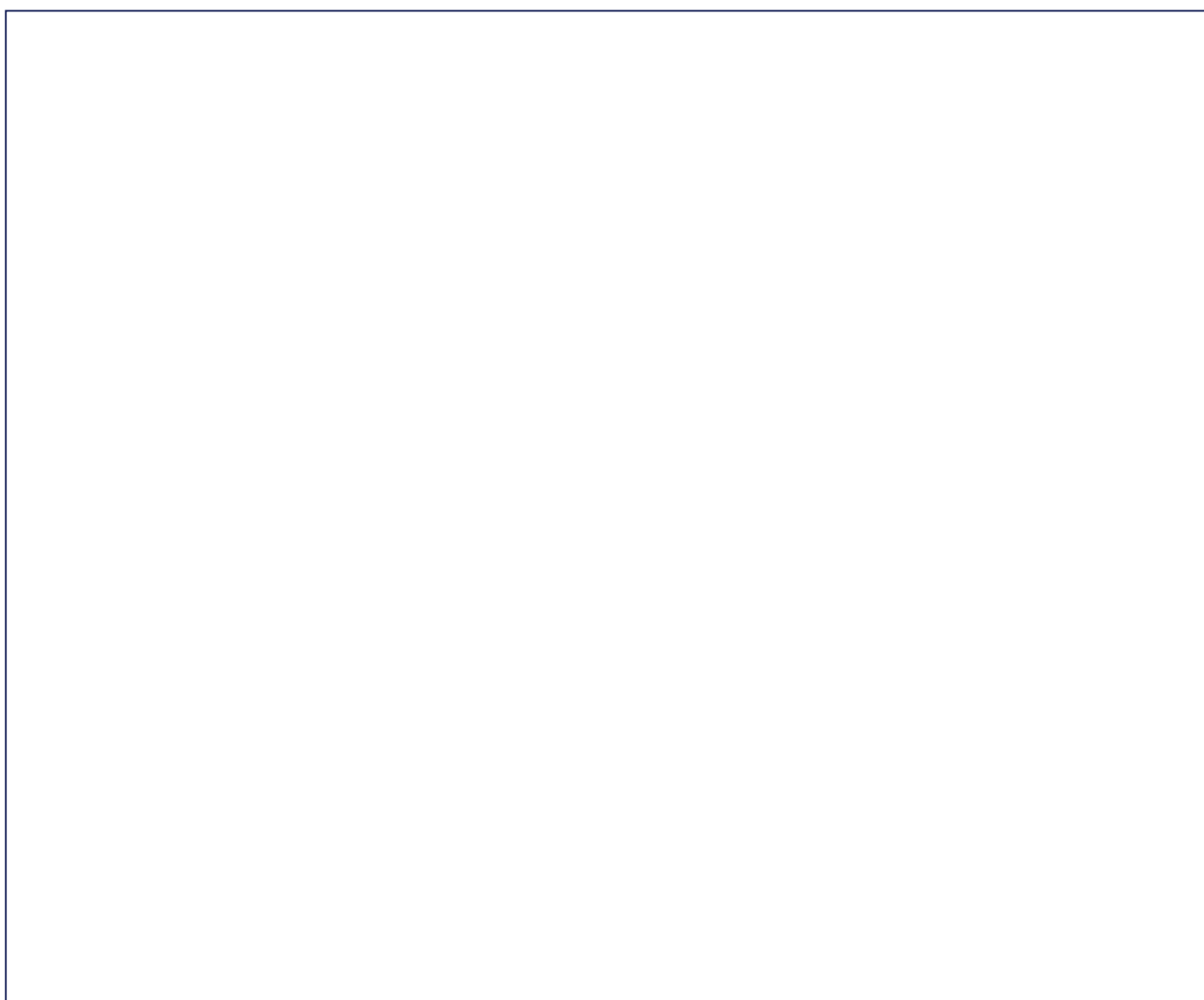


Botanical Blueprint: The Life Cycle of a Flowering Plant

Learning objective: To identify and describe the functions of the different parts of a flowering plant and understand the process of plant reproduction.

Use the provided word bank to label your detailed diagram. Ensure your lines are sharp and clear, pointing precisely to the structure you are identifying. Once labelled, use an annotation to explain the specific function of each part.

Draw: Draw a large, detailed cross-section of a flowering plant. In the centre, draw the internal reproductive structures (the carpel and stamens) clearly. Use a 'scientific illustration' style—think of a botanical sketch with clean, thin lines. Include surrounding petals and sepals at the base. Leave enough white space around the drawing for clear, neat labels and brief explanatory notes.



Label words: Stamen · Carpel · Sepal · Petal · Ovary · Stigma · Filament · Pollen

Steps:

1. Label the parts of the flower on your drawing. Indicate which part is the male reproductive organ and which is the female reproductive organ.
2. Explain why a plant needs brightly coloured petals. What is their primary purpose in the life cycle of the plant?

3. Describe the journey of a pollen grain. How does it travel from the stamen to the stigma?
4. Justify your answer: Why is the ovary essential for the long-term survival of the plant species?
5. Compare and contrast the roles of the sepal and the petal. How do their functions differ during the early stages of a flower's growth?
6. What might happen to the plant's reproduction process if all the pollinators, such as bees, were suddenly unable to visit the flower?