

# The Thorny Issue of the Yellow Star-Thistle

by

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Maria, a horse enthusiast, has an ailing horse that has eaten poisonous yellow star-thistle plants in her pasture. In an effort to protect her other horses, Maria consults with an expert to learn how flowering plants reproduce. After completing this case study, you should be able to (1) recognize the structures and functions of the parts of a flower, (2) trace the events of sexual reproduction in flowering plants, and (3) propose strategies to prevent sexual reproduction in flowering plants.

During the case, Dr. Luna shows Maria an overview of reproduction in a peach tree, as illustrated in Figure 1. Dr. Luna's explanation focuses on the events occurring at flowers.

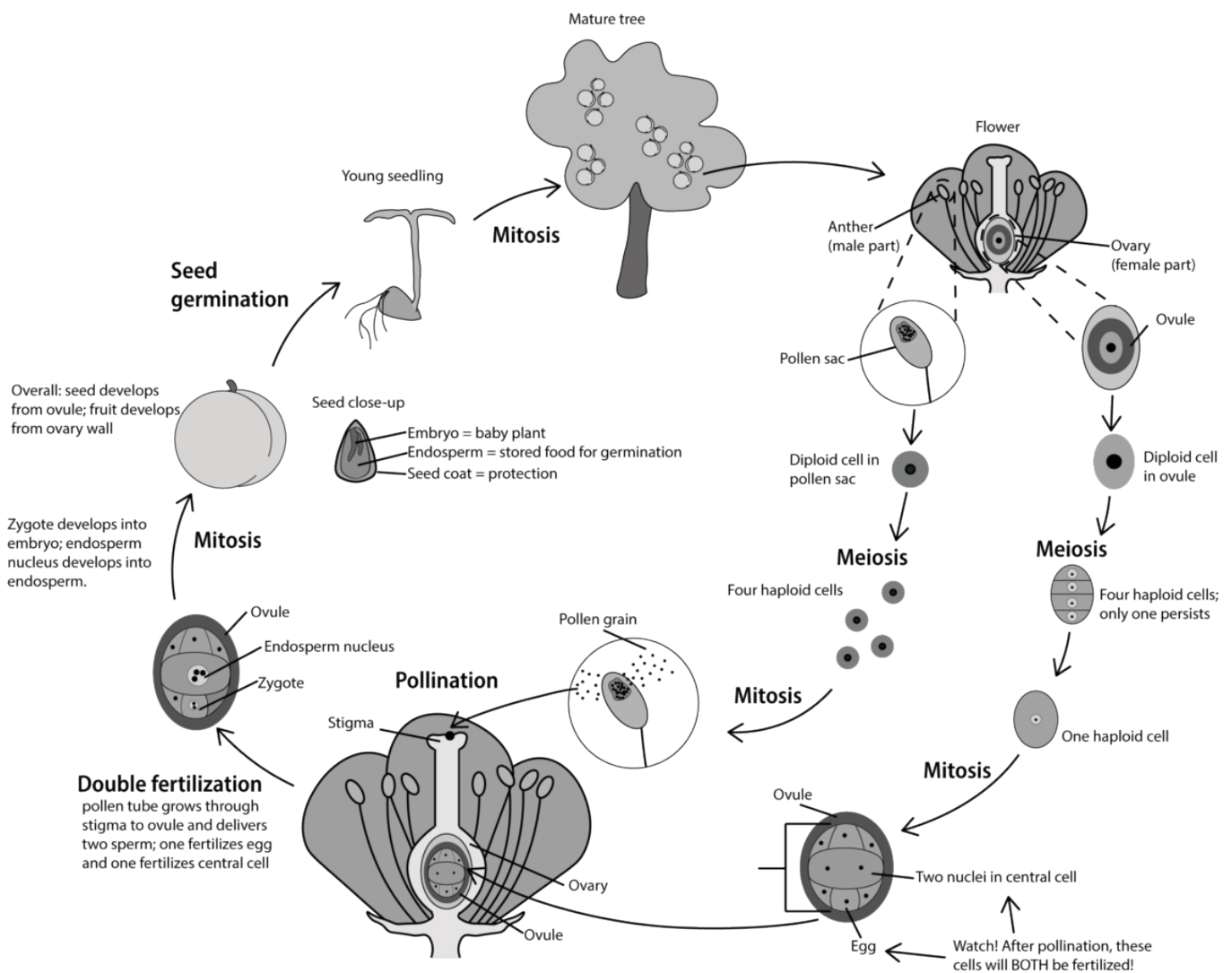
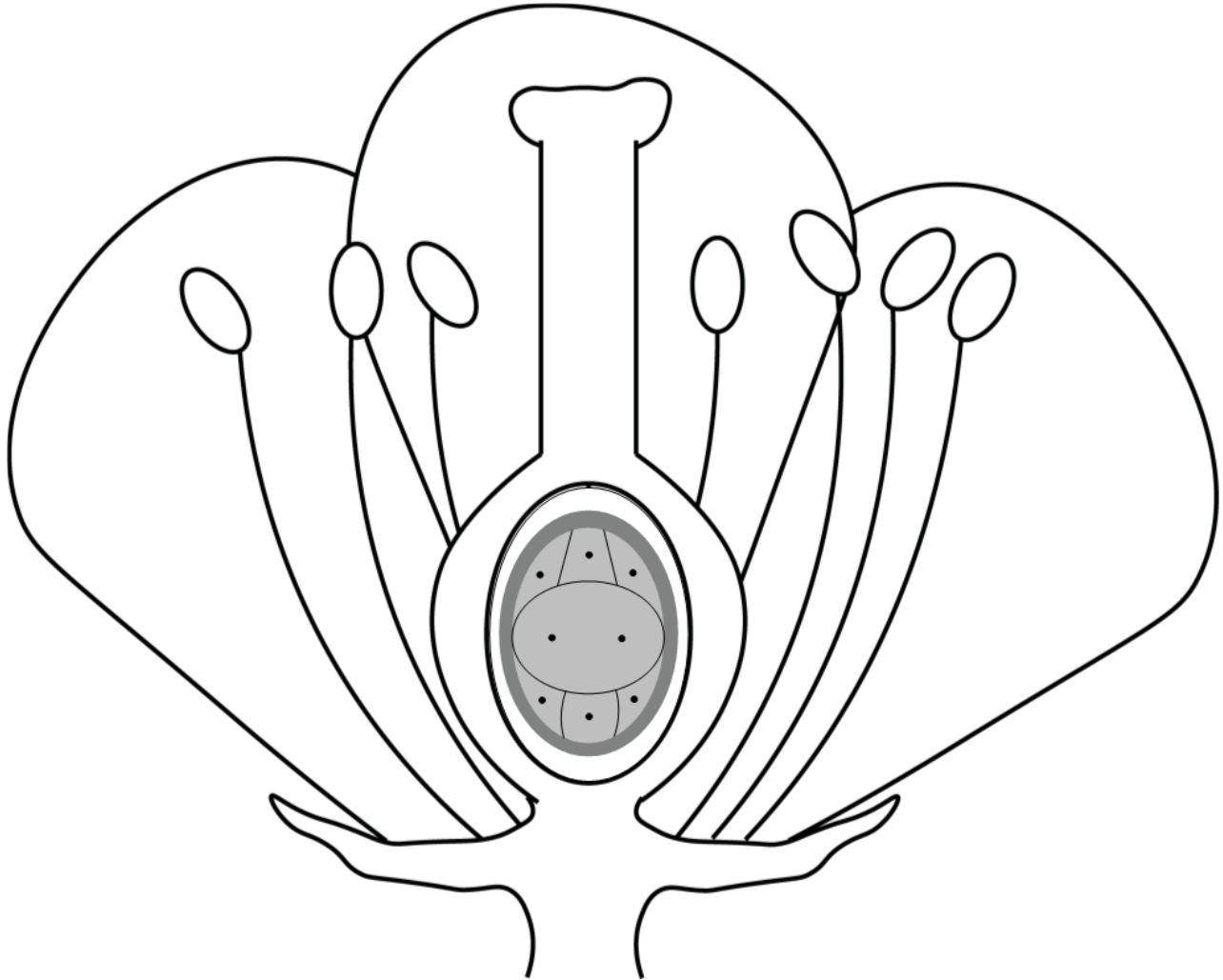


Figure 1. Overview of flowering plant life cycle. Credit: Sarah Greenwood, cc BY-SA 4.0, [https://commons.wikimedia.org/wiki/File:Angiosperm\\_Life\\_Cycle.png](https://commons.wikimedia.org/wiki/File:Angiosperm_Life_Cycle.png).

After showing Maria the plant reproduction overview in figure 1, Dr. Luna walks Maria through the simplified peach flower diagram shown in Figure 2. As specified in the figure caption, mark up this diagram as Dr. Luna speaks. You will need to refer to it while you work your way through the case.



*Figure 2.* What happens in a flower? Add labels for the following structures: anther, stigma, style, ovary, ovule. Then use this illustration to trace the events of flowering plant reproduction as they are presented in the case study. When the diagram is finished, you should have additional labels for pollen, sperm, pollen tube, egg, embryo, seed, and fruit. *Credit:* Sarah Greenwood, cc BY-SA 4.0, (ovary modified by M. Hoefnagels), <[https://commons.wikimedia.org/wiki/File:Flower\\_Illustration.png](https://commons.wikimedia.org/wiki/File:Flower_Illustration.png)>