

Sexual Reproduction in Flowering Plants

one pollen tube, two fusions, one seed

Androecium vs Gynoecium

Androecium (male)

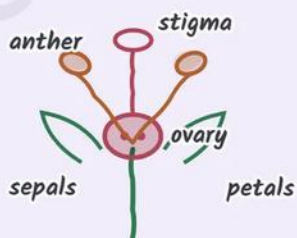
- a stamen = filament + anther
- each anther is bilobed, 4 microsporangia (pollen sacs) total, 2 per lobe

Gynoecium (female)

- a pistil = stigma + style + ovary
- ovary holds one or more ovules, attached at the placenta

androecium makes pollen, gynoecium makes the embryo sac, and the whole chapter is just what happens inside each

The four whorls, in section



sepals and petals outside, two stamens and the central pistil, stigma down to ovary, inside

Anther and pollen sac wall

- each microsporangium is wrapped in 4 wall layers: epidermis, endothecium, middle layers, and the innermost tapetum
- the tapetum nourishes the developing pollen grains and is used up by the time the pollen matures
- as the anther matures, the microsporangium becomes the pollen sac, packed with pollen grains

Pollen mother cell

$2n$

one of the many sporogenous cells filling each microsporangium

Microspore tetrad

meiosis

PMC divides, four haploid microspores held together

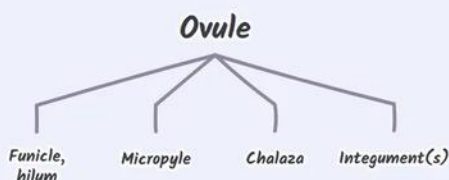
Pollen grain

n

microspores separate out, wall layers develop

microsporogenesis: this is the meiosis that halves the chromosome number, so every pollen grain downstream is haploid

The ovule, walked stalk to tip



the four parts a diagram question actually asks for: the funicle attaches at the hilum, the micropyle sits at that same end, the chalaza at the far end, and the integuments wrap the whole nucellus