

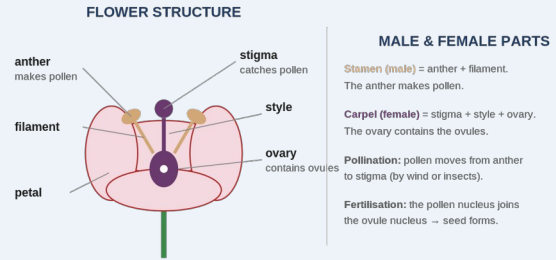
3.1 Reproduction

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1. KEY VOCABULARY

TERM	MEANING
Gamete	A sex cell (sperm/egg, or pollen/ovule). It is haploid.
Fertilisation	The fusing of a male and a female gamete nucleus.
Pollination	Transfer of pollen from an anther to a stigma.
Asexual reproduction	One parent, no gametes — offspring are identical clones.
Sexual reproduction	Two parents, gametes fuse — offspring show variation.

2. FLOWER STRUCTURE



3. SEXUAL vs ASEQUAL

	SEXUAL	ASEQUAL
Parents	Two	One
Gametes	Yes — they fuse	No
Offspring	Varied	Identical (clones)
Example	Most animals/plants	Bacteria, some plants

4. POLLINATION & FERTILISATION (PLANTS)

Pollination: pollen carried from anther to stigma — by insects (large, scented, colourful flowers) or by wind (small, dull flowers).

Fertilisation: a pollen nucleus travels down the style and fuses with an ovule nucleus. The ovule becomes a seed; the ovary becomes a fruit.

5. HUMAN REPRODUCTION

Gametes: sperm (male) and egg/ovum (female). Fertilisation happens in the oviduct.

Menstrual cycle (~28 days): controlled by hormones — FSH and LH from the pituitary, oestrogen and progesterone from the ovaries.

The fertilised egg implants in the uterus lining; the placenta supplies the fetus with food and oxygen.

6. THE WHY

Why sexual reproduction produces variation: offspring get a mix of alleles from two parents, so they are all genetically different.

Why asexual offspring are identical: there is only one parent and no mixing of gametes — the offspring are genetic copies.

7. COMMON EXAM MISTAKES

- ✗ "Pollination and fertilisation are the same."
- ✓ Pollination moves the pollen; fertilisation is the nuclei fusing.
- ✗ "Asexual reproduction produces variation."
- ✓ Asexual offspring are identical clones.
- ✗ "The anther is the female part."
- ✓ The anther is male (stamen); the carpel is female.

8. SELF-CHECK · cover & quiz

Can you...

1. Label the male and female parts of a flower?
2. Compare sexual and asexual reproduction?
3. Explain the difference between pollination and fertilisation?
4. Compare insect- and wind-pollinated flowers?
5. Name the four hormones of the menstrual cycle?
6. Explain why sexual reproduction produces variation?