



Lesson 1

Examining Parts of a Flower



Student Learning Objectives

- 1. Describe the parts of a flower.
- 2. Identify the reproductive structures of plants that exist in the flower.
- 3. Describe the difference between monocot and dicot flowers.
- 4. Explain the difference between pollination and fertilization.
- 5. Describe environmental factors that can influence the beginning of the flowering process.

Terms

- Anther
- Anthesis
- Complete flower
- Dicot
- Fertilization
- Filament
- Flower
- Imperfect flower
- Incomplete flower
- Monocot
- Ovaries
- Ovule
- Perfect flower
- Petal
- Photoperiodism
- Phytochrome
- Pistil
- Pistillate flower



Terms cont.

- Pollen
- Pollination
- Sepal
- Stamen
- Staminate flower
- Stigma
- Style
- Vernalization

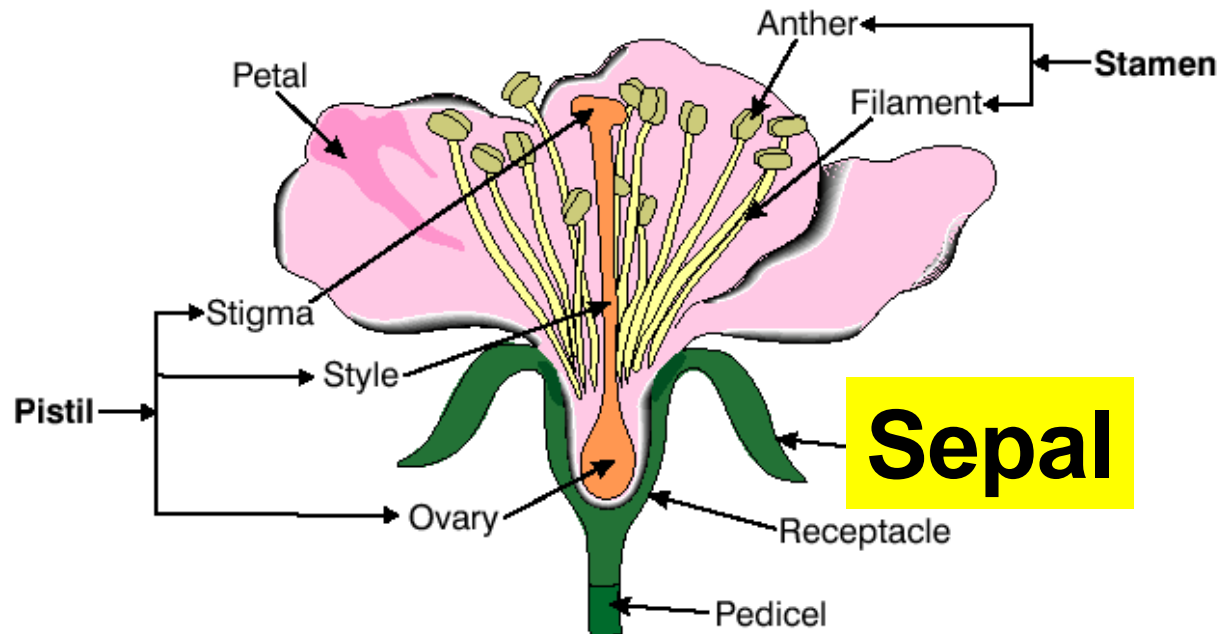
Parts of a Flower

- **Flower** - reproductive part of flowering plants



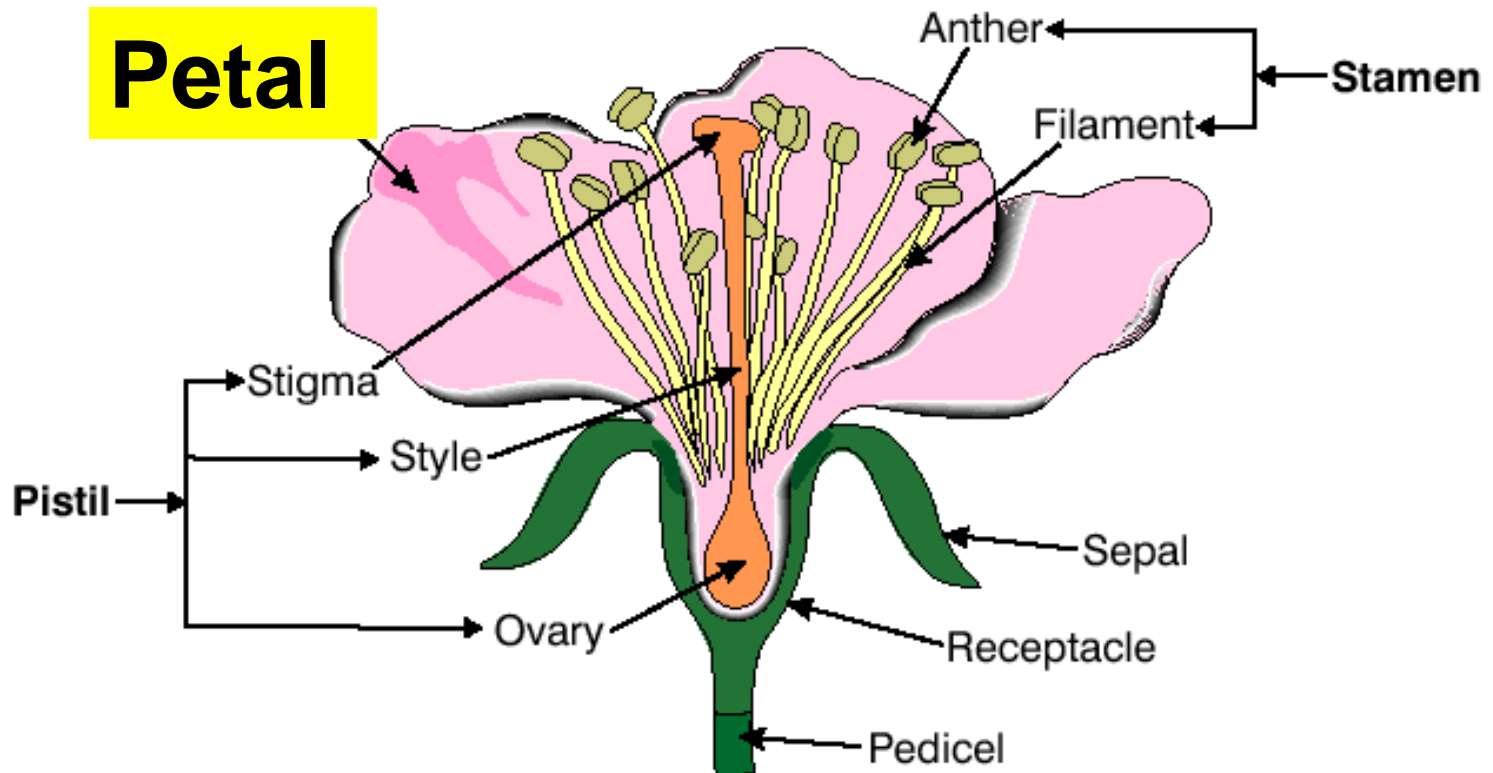
Parts of a Flower cont...

- **Sepals** - green-like structures beneath the petals; offer protection to developing bud



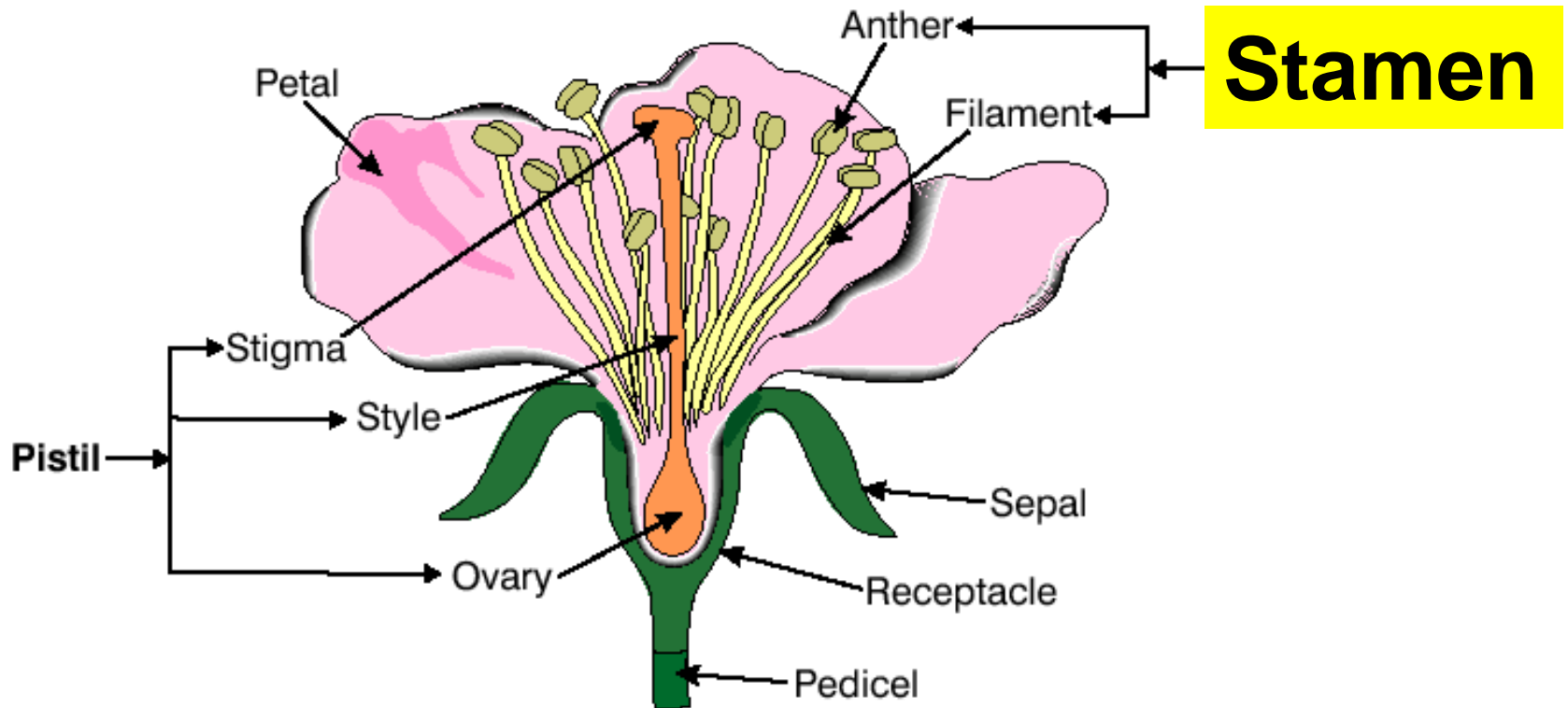
Parts of a Flower cont...

- **Petals** - usually brightly colored; attract pollinators



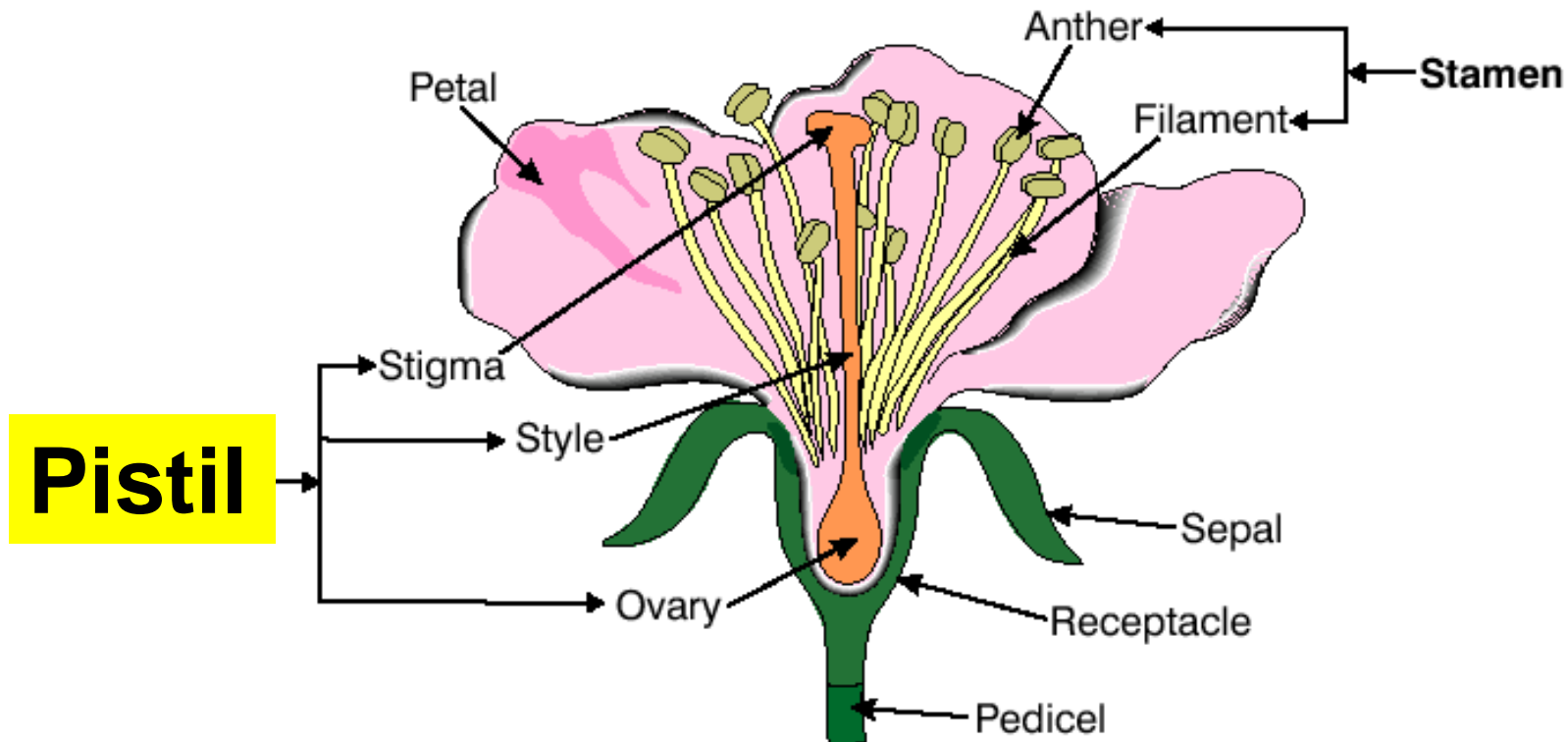
Parts of a Flower cont...

- **Stamens** - male reproductive part of flower

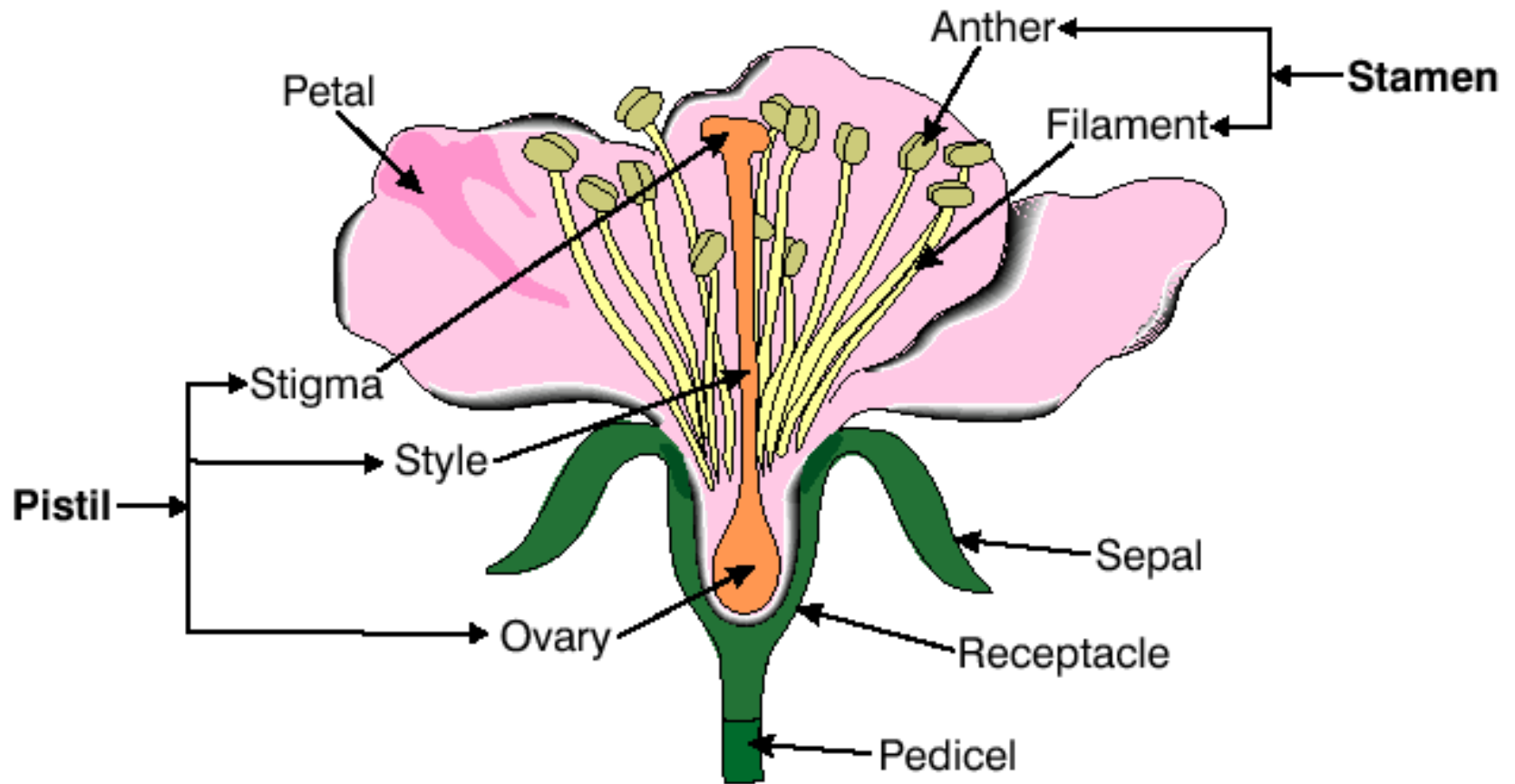


Parts of a Flower cont...

- **Pistil** - female reproductive part of the flower



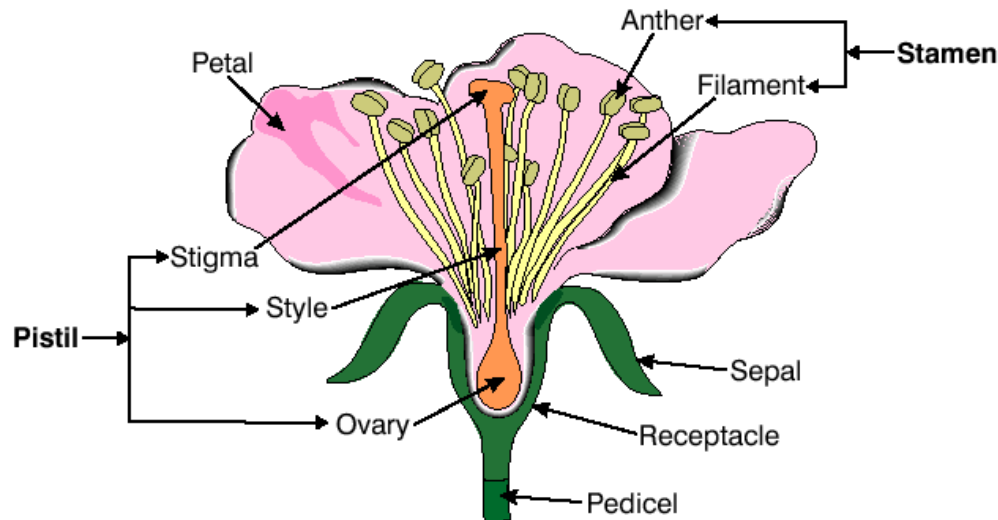
PARTS OF A FLOWER



Reproductive Structures

■ Stamen

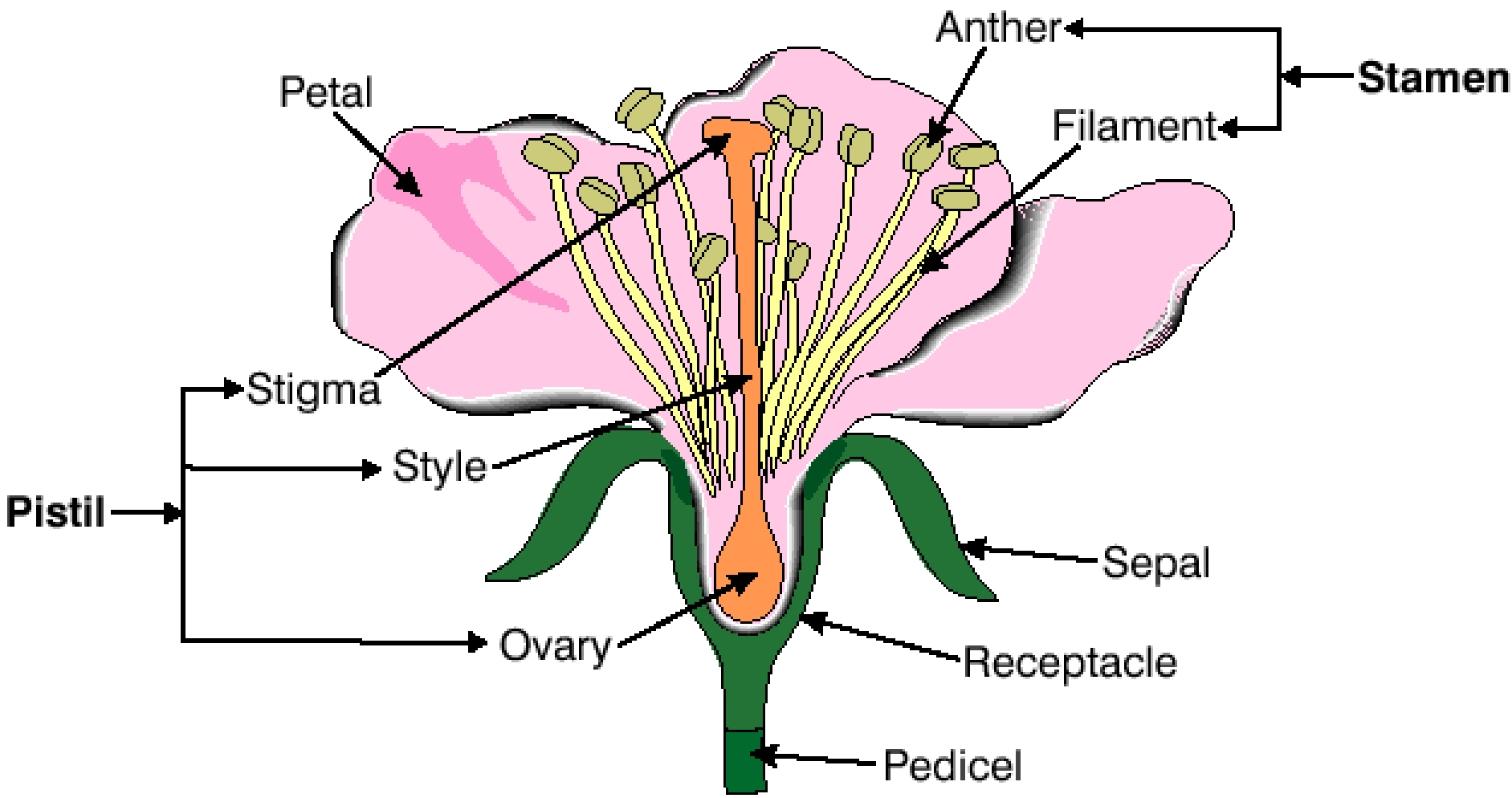
- **Anther** - produces the pollen
- **Filament** - stalk which supports the anther



Reproductive Structures cont...

■ Pistil

- **Stigma** - has sticky surface to capture pollen
- **Style** - tube-like; connects stigma with the ovary
- **Ovary** - contains the ovules





- Groups of flowers

- **Complete flower** - has all four major parts (sepals, petals, stamens, and pistils).

- **Incomplete flower** - lack one or more of the major parts

- **Perfect flower** – contains both stamens and pistils



- Groups of flowers cont...

- **Imperfect flower** - lacks either stamens or pistils

- **Pistillate flower** - has pistils but no stamens

- **Staminate flower** - has stamens but no pistils

Monocot vs. Dicot

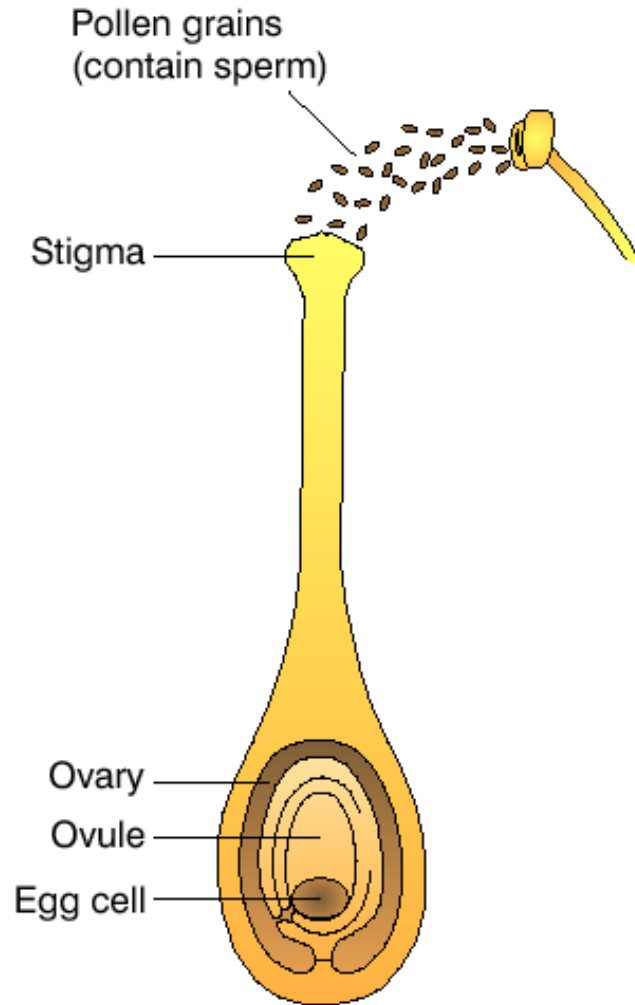
- **Monocots** - flower parts in multiples of 3
- **Dicots** - flower parts in multiples of 4 or 5



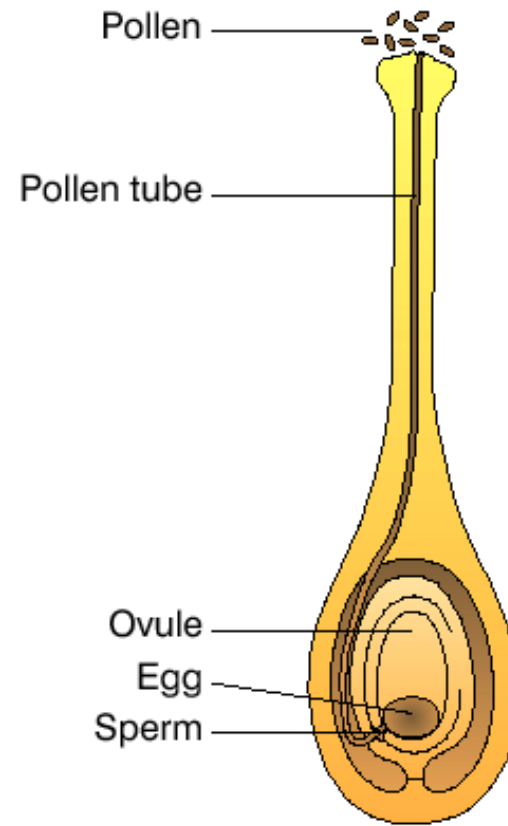
Pollination and Fertilization

- **Pollination** - when a pollinator transfers pollen grains from anther to stigma
- **Fertilization** - when pollen fuses with the egg cell
- VIDEO: <http://www.unitedstreaming.com>
 - Keyword: Pollen Trip; Title: The Pollen Trip

POLLINATION AND FERTILIZATION




POLLINATION



FERTILIZATION

Influence on Flower Formation

- **Photoperiodism** - growth response of a plant to the length of day
- **Vernalization** - process by which floral induction in some plants is promoted by exposing the plants to cool temperatures for a certain length of time

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- **Phytochrome** - pigment in cytoplasm of green plants; associated with the absorption of light that affects growth, development, and differentiation including flowering of a plant, independent of photosynthesis
 - **Anthesis** - release of pollen from the anther



Review/Summary

- What are the major parts of flowers?
- What reproductive structures exist in the flower and what are their functions?
- How is a monocot flower different from a dicot flower?
- What is the difference between pollination and fertilization?
- Describe environmental factors that can influence the beginning of the flowering process.