

31/05/20 Reproduction.

* Sexual Reproduction in Plants:

k	w	L.
<ul style="list-style-type: none">- I know that there are 2 types of pollination: self & cross pollination.- Sexual Reproduction involves the fusion of male & female gametes.	<p>→ I want to know the details of the topic</p>	<ul style="list-style-type: none">- I learnt about pollination, fate of the parts of a flower after fertilization, germination.

What

- 2 parents or 2 gametes are involved.
- As a result, there is more variation in offspring.
- It would therefore make sense if organisms came up with sexual reproduction modes that allowed more and more variation
 - ↓
 - due to error in DNA copying
 - The body design will be the same but there will be changes in the characteristics.
 - This is due to the presence of 2 parents.
- Gametes:
 - One germ cell is large and contains the food-stores is called the female gamete or ovum

Chromosomes in human: 46 pairs

each gametes has $\frac{1}{2}$ the no. of
Q: Why is gamete produced the chromosomes that is 23
with half no. of gametes? → When the gamete fuses, it
restores the chromosome no. of that organism.

Q. Gametes are haploid why?

- Haploid - The chromosomes will not be in pairs
- Diploid - The chromosomes are in pairs

gametes.

Diagram in ppt

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Process of Sexual Reproduction

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Pre Fertilization: Formation of male & female gametes & transfer of these gametes

↓
Fertilization: Fusion of male and female gamete.

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Post Fertilization: Zygote and embryo development - For both plants and plants - all 3 steps.

→ Structure of plant:

* Group work:

- Part b → stigma.
Function: - sticky terminal part
- Receives pollen.
- Part e → style: - connects stigma to ovary

Flower diagram

- a → pistil / carpel: Female Reproductive part.
- b → Stigma: - Female reproductive structure
- Collects pollen grains - deposited.
- e → Style. - Connects stigma to ovary.
- Pollen tube germinates ~~to~~ through style
- Female reproductive structure.
- d → Ovary: - Consists of ovule.
- Female Reproductive Structure.
- c → Ovule: - Inside ovary
- Inside ovule, female gamete is present.
- Its a cavity.
- f → Stamen: - Male Reproductive Organ.
- Consists of anther & filament
- g → Anther: - Present in thread-like structure called filament
- Consists of pollen grains, in which - male gamete.
- h → Filament: - Connects anther to base of flower
- i → sepal: - Protects the flower in the budding stage.
- Provides nutrition through photosynthesis to the flower during budding stage.
- j → Petal: - Attracts pollinators.

* 2 types of flowers:

Bisexual

- The flower consists of both male and female reproductive parts.
- eg: Hibiscus, mustard.

Unisexual

- The flower may be unisexual when it contains either stamens / male reproductive organs or pistal / female reproductive part.
- eg: watermelon, papaya

Pollination

Self-pollination



- the transfer of pollen occurs in the same flower
- takes place in bisexual flowers.

Cross-pollination



- Pollens are transferred from one flower to another of same kind.
- Possible in both ~~uni~~ bisexual and unisexual.

→ Transfer of pollen from anther to stigma of a flower.
- Pollination

Board Q:

Differentiate b/wⁿ self and cross pollination?

* Different types of pollinating agents: Air, water, insects, animals

Biotic Agents	Abiotic Agents	
↳ Bees, animals, bats, butterfly	↳ Wind, water	↓
		mainly for cross-pollination.

male

→ 2 gametes - One fuses with female gamete and form

- 2nd male gamete fuses with nucleus and forms endosperm. - Endosperms provide nutrient to the zygote that is development

* In Angiosperms: the fertilization is called double fertilization



∴ it has 2 male gametes in the pollen.

* Monocot & Dicot Seeds



one cotyledons



eg: Barley, rice, grasses.



2 cotyledons



eg: kidney beans, almonds, groundnut.



Protected by ~~dicot~~ seed coat



inside this you can cotyledons which provide nutrition



inside this, you can embryo

Plumule

Radical



develops into shoot.



develops into root

→ Fate of floral parts after fertilization

Floral Part	After fertilization.
(a) sepals, petals & stamens	All wither and drop off
(b) ovary	→ becomes the fruit
ovary wall	→ Fruit wall / peel / skin
ovule	→ seed.
integuments	→ seed coat (testa)
fertilised egg	→ embryo

Germination: Development of embryo into seedling under optimal conditions.

↓
 oxygen, sunlight, water, temperature
 ↓

Some need
 darkness