

Reproduction

Reproduction:

The process of producing offspring. There are two types.

Asexual Reproduction:

- Offspring are genetically identical to the parent (cloning).
- Advantages: Fast, only one parent needed, good traits passed on.
- Disadvantages: Lack of variation, low disease resistance, competition for resources.

Sexual Reproduction:

- Involves fusion of two gametes (male and female) to form a zygote, producing genetically unique offspring.
- Advantages: Variation, adaptability, and disease resistance.
- Disadvantages: Requires two gametes, slower process.

Plant Reproduction:

- Pollination: Transfer of pollen from anther to stigma.
- Self-pollination: Within the same flower/plant; lower variation.
- Cross-pollination: Between different plants; higher variation and adaptability.

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Human Reproduction:

- Male: Penis, testes, scrotum, sperm duct, prostate gland.
- Female: Vagina, cervix, uterus, ovaries, fallopian tubes.
- Fertilization occurs when sperm meets egg, forming a zygote, which develops into a fetus.

Fetal Development:

- Placenta: Facilitates nutrient/waste exchange between mother and fetus.
- Umbilical cord: Connects fetus to placenta.
- Amniotic fluid: Protects fetus from physical harm.

Pregnancy and Childbirth:

- Sperm fertilizes egg, forming an embryo, which implants into the uterus and - develops into a fetus.
- Childbirth: Hormonal triggers lead to labor and birth, followed by cutting the umbilical cord.
- Menstrual Cycle: Controlled by four hormones:
 - Oestrogen: Builds uterine lining.
 - Progesterone: Maintains uterine lining.
 - FSH: Matures the follicle.
 - LH: Triggers ovulation.

Sexually Transmitted Diseases (STIs):

- HIV/AIDS: Attacks the immune system by destroying lymphocytes, reducing immunity.
- Prevention: Condom use, abstinence, and sterilized needles.

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