Human reproductive system ☺

Fertilisation: fusion of sexcells.
i.e. sperm cell and egg cells which carry genetic materials

Heredity: passing down of genetic materials from one generation to the next.
↓
offsprings will inherit traits from any parents. → can be beneficial, undesirable or neutral.
but will not be identical to parents
*random process
#disease may be passed down

Puberty begins at about 11-14
hormones produced to trigger other organs to functions.

male	female
Height & weight ↑	
Hair growth in armpits & groins	
sperm produce sperm ejaculate voice box enlarges penis enlarges	egg produce menstruation begins hips enlarges breast enlarges

male reproductive system (male)

testis: produce sperm cells and produce sex hormones
sperm duct: transport sperm from testis to urethra.
sex glands: produce nutrient fluid to nourish & protect sperm
urethra: allow semen to pass through during ejaculation
allow urine to pass through
#not at the same time.
penis: deposit semen into vagina during ejaculation

Substance abuse

smoking alcohol drugs → physical, intellectual, behavioural challenges.

premature → not fully develop
• low birth weight
• weak immune system = ↑ risk of infection

↑ heart / lung / brain problems

direction for fertilisation

sperm ↓
semen ↓
semen ↓
fertilisation
yes → embryo → implant in wall of uterus → foetus
other sperm cells die
no → egg cell disintegrate, uterine lining breakdown, blood } discharged during **menstruation**

female reproductive system

vagina: muscular tube that connects cervix to the outside of female body
where semen are deposited.
*birth canal.

cervix: connects vagina and uterus
opening to allow menstrual blood to flow.

uterus (womb): muscular organ for baby to develop
uterine lining thickens to prep for fertilisation

oviduct: muscular tube where egg travels aft release
fertilisation occur here

ovulation

ovary: produce egg sells and (female) sex hormones

Day 1-5: egg, uterine lining & blood discharged
Day 6-9: growth & repair of uterine lining to prepare for baby
Day 10-15: ovulation [Day 14]
Fertile period *sperm survive 3-5 days
egg survive 1 day

method	explain	benefit	disadvantage
Rhythm	counting menstrual cycle and avoid fertile period	No harm to both	not reliable
condom	cover penis to prevent sperm to be deposited	can also prevent STI	Not 100%
spermicide	kills sperm	can use with other methods	not 100%
intra-uterine device	prevent fertilisation, prevent implantation	can use for longer period of time	not good for female's body
birth control pills	contains female sex hormones, disrupt release of egg	prevent fertilisation	not good for female's body
Diaphragm	cover cervix	prevent sperm from entering uterus	not 100%

ligation → oviducts cut and tied (eggs release cannot be fertilised)
vasectomy → sperm duct cut and tied (no sperm release during ejaculation)

★ ABORTION is NOT a birth control method.
★ ABSTINECE is the safest!

STIs caused by bacteria like syphilis and gonorrhea can be cured by antibiotics, if caused by virus like HIV → which leads to AIDS can only be controlled ☹

- blood transfusion
- sharing of needles (injections / tattoos)
- mum → infant (childbirth / breast feed)

Growing population

① medical advancements
→ new drugs
→ new diagnostic technology

② Food production ↑
→ more nutrients
→ less pest and more ways to grow

③ Transportation
→ sharing between region
→ food & medical ship everywhere

④ sanitation improve
→ better waste management