حل المراجعة النهائية الوحدة الأولى منهج انسباير

التواصل الاجتماعي بحسب الصف التاسع المتقدم					
صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

المزيد من الملفات بحسب الصف التاسع المتقدم والمادة علوم في الفصل الثالث	
1	أوراق عمل وحدة التكاثر الخلوي
2	مراجعة مع حل أسئلة اختبارات سابقة وفق الهيكل الوزاري منهج انسباير
3	حل تجميعة أسئلة اختبارات سابقة وفق الهيكل الوزاري
4	حل مراجعة عامة وفق الهيكل الوزاري
5	حل مراجعة مقرر الاختبار وفق الهيكل الوزاري

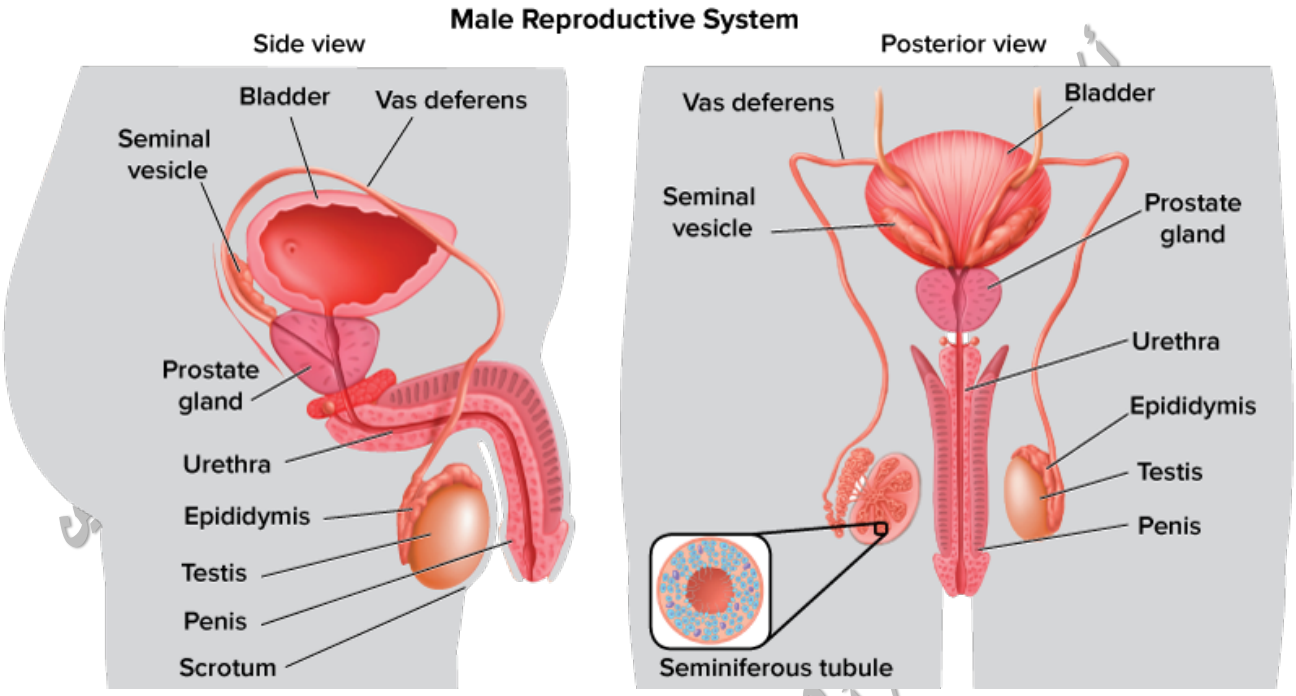
G9- ADV – EOT3- revision

مراجعة الهيكل صف تاسع متقدم - انسير احياء

🔹 Human Reproductive Systems

👨 Male Reproductive System

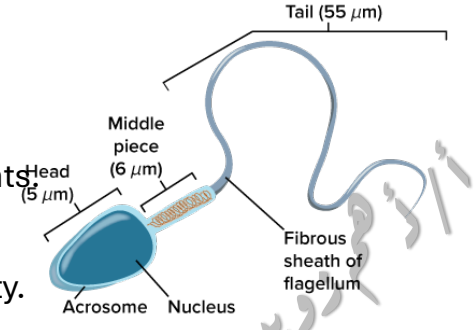
Main Structures:



- **Testes (in scrotum):** Produce sperm; require cooler temperature.
- **Seminiferous tubules:** Site of sperm production (100–200 million daily).
- **Epididymis:** Stores and matures sperm.
- **Vas deferens:** Duct that transports sperm.
- **Urethra:** Carries semen and urine out via the penis.

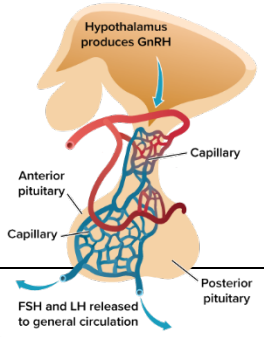
Semen Composition:

- **Sperm** + fluids from:
  - **Seminal vesicles:** Provide sugar and nutrients.
  - **Prostate & bulbourethral glands:**
    Produce alkaline fluid to neutralize acidity.



Structure	Function
Testes	Produce sperm and testosterone; located in scrotum for cooler temperature
Seminiferous Tubules	Site of sperm production (100–200 million daily)
Epididymis	Stores and matures sperm
Vas deferens	Transports sperm from testis to urethra
Urethra	Carries semen and urine outside the body
Seminal Vesicles	Add sugar and nutrients to semen
Prostate & Bulbourethral Glands	Secrete alkaline fluid to protect sperm from acidity

Hormonal Regulation



Hormone	Produced By	Function
GnRH	Hypothalamus	Stimulates pituitary to release FSH and LH
FSH	Anterior pituitary	Stimulates sperm production in testes
LH	Anterior pituitary	Stimulates testosterone production in testes
Testosterone	Testes	Supports sperm production, secondary sex traits

Feedback Mechanism:

- High testosterone → inhibits GnRH, FSH, LH (negative feedback).
- Low testosterone → increases hormone production.

Both semen and urine are carried outside the body through a tube called the:

A) Vas deferens
B) Ureter
C) Urethra
D) Epididymis

Immature eggs that develop into an ovum are called:

A) Zygotes
B) Follicles
C) Oocytes
D) Embryos

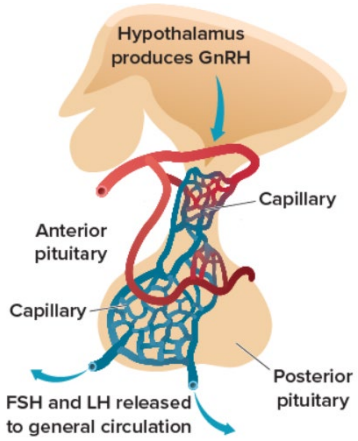
What is occurring during the **flow phase** of the menstrual cycle?

A) The amniotic sac is torn
B) Tissues are shed from the endometrium
C) Fertilization occurs near the ovary
D) A morula is formed in the uterus

Sperm cells are stored in the __.

- ○ **A)** epididymis
- ○ **B)** testes
- ○ **C)** seminiferous tubules
- ○ **D)** vas deferens

What hormone stimulates the gland shown here, in order to regulate testosterone?



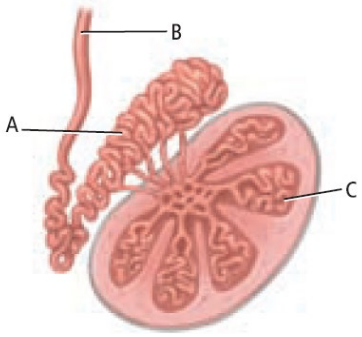
A) dopamine

B) estrogen

C) progesterone

D) gonadotropin-releasing hormone

What occurs in the structure labeled *C* in the illustration?



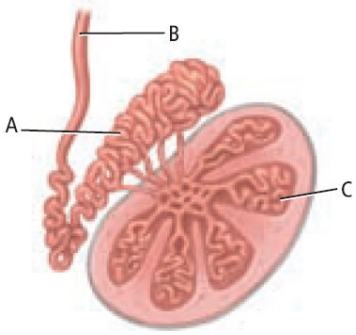
A. sperm cell storage and maturation

B. sperm cell production

C. secretion of sugar

D. production of FSH

What is the function of the structure labeled *A* in the illustration?



A. sperm cell storage and maturation

B. sperm cell production

C. secretion of sugar

D. production of FSH

1. What is the function of the **scrotum** in the male reproductive system?
A. Stores immature sperm
B. Produces testosterone
C. Maintains temperature lower than body temperature for sperm development
D. Protects the urethra

---

2. Where are **sperm cells** produced in the male body?
A. Prostate gland
B. Seminal vesicles
C. Seminiferous tubules
D. Vas deferens

---

3. Which of the following structures **stores and matures** sperm?
A. Scrotum B. Epididymis
C. Bulbourethral gland D. Urethra

---

4. The **vas deferens** is responsible for:
A. Producing sperm
B. Transporting sperm from testes to urethra
C. Producing testosterone
D. Nourishing sperm

---

5. Which **tube carries both semen and urine** outside of the male body?
A. Urethra B. Vas deferens
C. Epididymis D. Seminal duct

---

6. Which structure **secretes a sugar-rich fluid** to nourish sperm?
A. Prostate gland B. Seminal vesicles
C. Epididymis D. Bulbourethral gland

---

7. What is the role of the **prostate gland** and **bulbourethral glands**?
A. Produce sperm
B. Store testosterone
C. Provide alkaline fluid to protect sperm
D. Stimulate puberty

8. What is **semen**?
A. Mature sperm cells
B. Hormone regulating puberty
C. Mixture of sperm and fluids from reproductive glands
D. Sperm stored in the vas deferens

---

9. What is the **main male hormone** produced in the testes?
A. Estrogen
B. GnRH
C. FSH
D. Testosterone

---

10. **Testosterone** is directly responsible for:
A. Uterus development
B. Production of oocytes
C. Facial hair and deeper voice
D. Egg cell fertilization

---

11. What is the function of **FSH (Follicle-Stimulating Hormone)** in males?
A. Stimulates sperm production
B. Regulates heartbeat
C. Promotes testosterone production
D. Produces estrogen

---

12. What stimulates the testes to produce **testosterone**?
A. GnRH
B. LH
C. Estrogen
D. FSH

---

13. What gland releases **GnRH**, initiating hormone regulation in males?
A. Pituitary
B. Testes
C. Hypothalamus
D. Adrenal

---

14. Which structure regulates hormone levels via **negative feedback**?
A. Epididymis
B. Seminal vesicle
C. Hypothalamus
D. Urethra

15. A sudden **drop in testosterone** levels in the blood will cause:

A. sperm production decreases

B. No hormonal response

C. Increased production of LH and FSH

D. decrease production of LH and FSH

What condition is necessary in order for the seminiferous tubules in the testes to produce sperm cells?

A. a slightly acidic environment

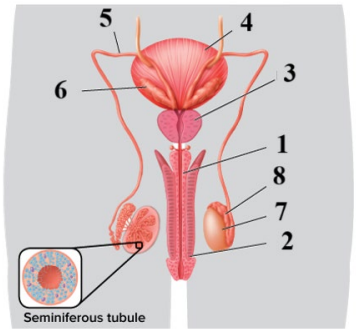
B. a temperature lower than 37° C

C. nutritive fluids from the seminal vesicles

D. the release of gonadotropin-releasing hormone (GnRH)

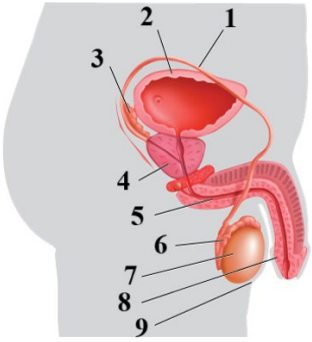
Which part of the male reproductive system is labelled number 1?

A. penis
B. sperm duct
C. urethra
D. scrotum

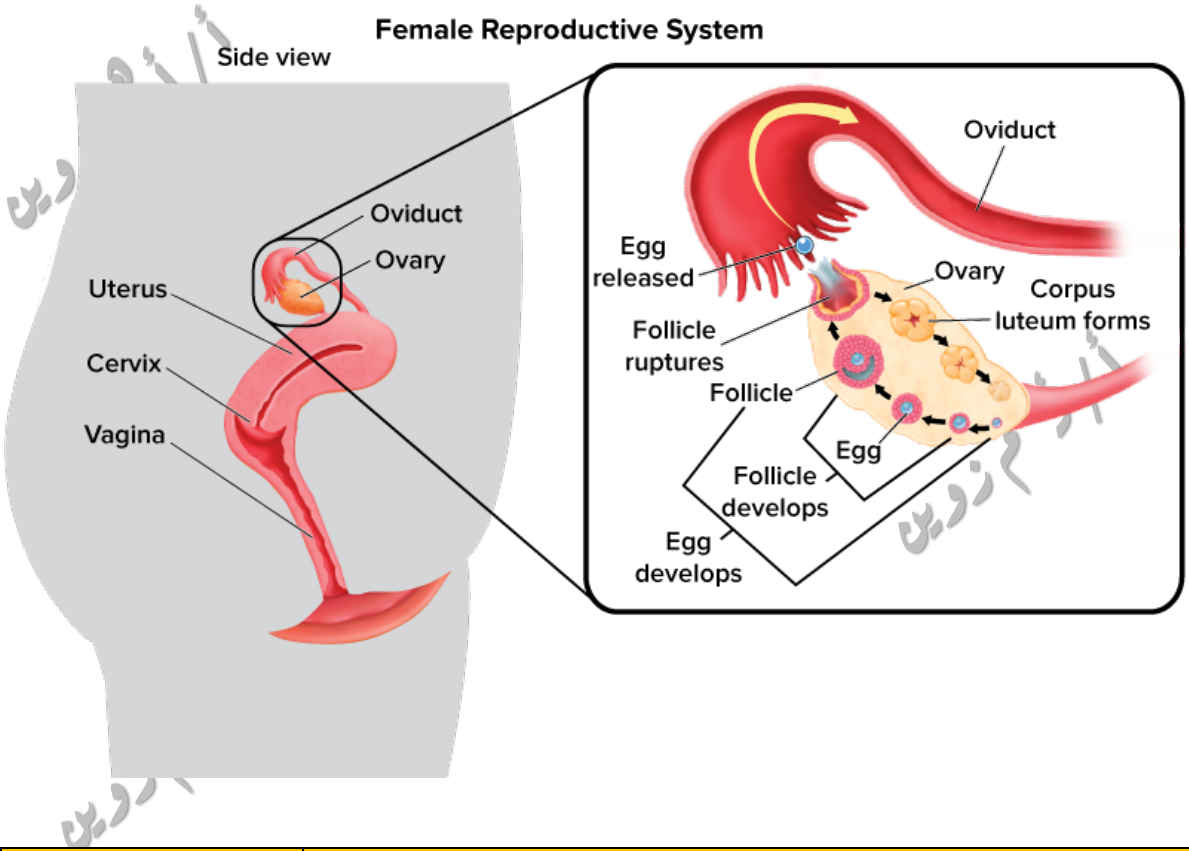


Which part of the male reproductive system is labelled number 1?

A. Epididymis
B. sperm duct
C. urethra
D. Vas deferens



Female Reproductive System



Main Functions	- Produce egg cells - Receive sperm - Provide environment for fertilization and embryo development
Egg Cells	- Produced in the **ovaries** - Immature eggs called **oocytes** - Mature egg is called **ovum** - Surrounded by **follicle cells**
Ovaries	- About the size of an almond - Contain oocytes - Produce estrogen and progesterone
Oviduct (Fallopian tube)	- Tube through which the egg travels from ovary to uterus
Uterus	- Also called the **womb** - About the size of a human fist - Where a baby develops before birth
Cervix	- Lower end of uterus - Narrow opening into the vagina
Vagina	- Leads from the cervix to the outside of the female body

Hormones (Ovaries)	- **Estrogen** and **progesterone** (steroid hormones)
Hormones (Pituitary)	- **LH** (Luteinizing Hormone) - **FSH** (Follicle-Stimulating Hormone)
Hormonal Regulation	- LH and FSH influence estrogen and progesterone levels through **negative feedback**
Puberty Changes	- Increased estrogen causes: → Breast development → Widening of hips → Increase in fat tissue

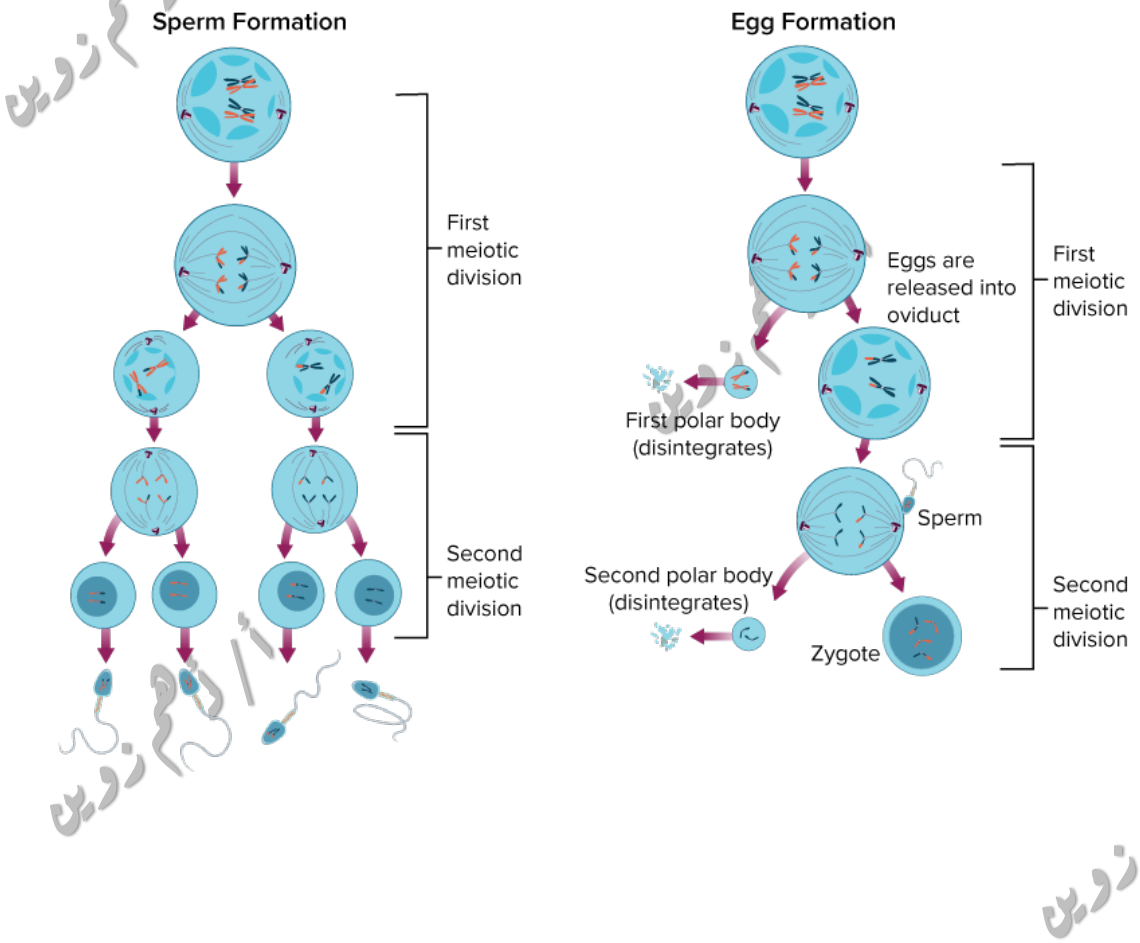
Sex Cell Production

	Male (Sperm Production)	**Female (Egg Production)**
Gonads	Testes	Ovaries
Starting Cell	Primary spermatocyte	Primary oocyte
Timing of Production	Begins at puberty and continues daily throughout life	Begins before birth; paused until puberty
Meiosis Initiation	Meiosis begins at puberty	Meiosis begins before birth but stops before first division is complete
Completion of Meiosis	Continuous and complete for each sperm produced	Meiosis resumes once per menstrual cycle; only completes if fertilization occurs
Number of Gametes Produced	4 sperm per primary spermatocyte	1 egg (ovum) per primary oocyte
Cytoplasm Division	Equal division into 4 sperm	Unequal division — most cytoplasm goes to egg; polar bodies disintegrate
Polar Bodies	Not formed	1 or 2 formed depending on whether fertilization occurs; they disintegrate

Ovulation	Not applicable	Egg ruptures through ovary wall during metaphase II (ovulation)
Fertilization Requirement	Not required to complete meiosis	Required to complete second meiotic division and form zygote
Final Result	4 viable sperm	1 viable egg + 1–2 polar bodies (non-functional)

Fertilization :

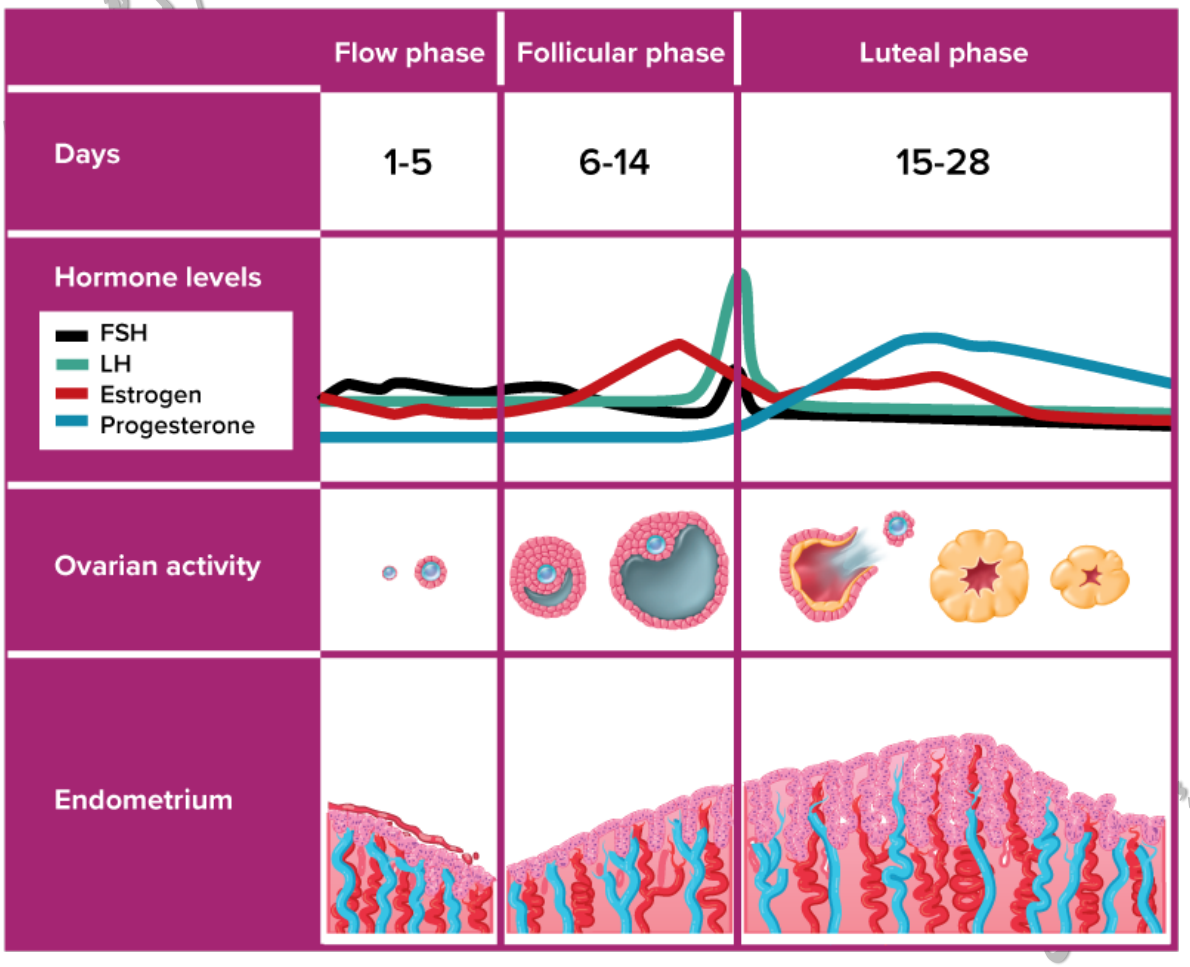
- The second meiotic division occurs only if fertilization happens.
- This results in:
  - A zygote (fertilized egg).
  - A second polar body, which also disintegrates.



🔬 Comparison of FSH and LH in Female and Male Reproductive Systems

Hormone	Target Organ	In Females (Ovaries)	In Males (Testes)
FSH(Follicle-Stimulating Hormone)	Ovaries / Testes	Stimulates **follicle development** and the release of **estrogen**.	Stimulates **sperm production** by acting on **Sertoli cells**.
LH(Luteinizing Hormone)	Ovaries / Testes	Triggers **ovulation** and stimulates the formation of the **corpus luteum**, which secretes **progesterone**.	Stimulates **Leydig cells** to produce **testosterone**.

🔄 The Menstrual Cycle (avg. 28 days)



Phase	Timing	Key Events	Hormones Involved	Structures Affected
Flow Phase	Days 1–5	- Menstrual bleeding occurs due to shedding of the endometrium - Ruptured blood vessels cause bleeding - Endometrial repair begins around day 5	Drop in **progesterone** and **estrogen**	Endometrium (uterine lining)
Follicular Phase	Days 1–13 (approx.)	- Low estrogen triggers pituitary to release **FSH** and **LH** - Follicles start maturing - Estrogen increases - Negative feedback keeps FSH/LH low - Around Day 12: estrogen surge causes **LH spike**, leading to **ovulation**	Rising **estrogen** Surge in **LH** on Day 12	Ovaries (follicle and oocyte)
Luteal Phase	Days 15–28 (approx.)	- Ruptured follicle becomes **corpus luteum** - Corpus luteum secretes **progesterone** and some estrogen - High hormone levels inhibit FSH and LH - Corpus luteum degenerates if no fertilization - Hormone drop triggers new flow phase	High **progesterone**, some **estrogen** Drop at end	Corpus luteum, endometrium

1. What is the function of the ovaries in the female reproductive system?

A. Fertilize the sperm

B. Transport the embryo

C. Produce egg cells and hormones

D. Nourish the fetus

---

2. What is the term for an immature egg found in the ovaries?

A. Ovum

B. Zygote

C. Follicle

D. Oocyte

---

3. After release from the ovary, the egg travels through the:

A. Cervix

B. Urethra

C. Vagina

D. Oviduct

---

4. Which structure provides a suitable environment for a **developing embryo**?

A. Vagina

B. Uterus

C. Ovary

D. Cervix

---

5. The **corpus luteum** forms from:

A. A mature egg

B. A fertilized egg

C. A follicle after ovulation

D. The cervix

---

6. Which two hormones are produced by the **ovaries**?

A. LH and FSH

B. Estrogen and testosterone

C. Estrogen and progesterone

D. GnRH and LH

7. During **puberty**, increased estrogen levels lead to all of the following **except**:

A. Breast development

B. Deeper voice

C. Wider hips

D. Increased fat tissue

---

8. What begins the production of **LH and FSH** in females?

A. Estrogen from the uterus

B. GnRH from the hypothalamus

C. Fertilization of the ovum

D. Progesterone release

---

9. What happens to the **polar body** formed during meiosis?

A. It becomes the zygote

B. It is fertilized

C. It disintegrates

D. It forms another egg

---

10. When does the **second meiotic division** in a female egg cell occur?

A. Before birth

B. During ovulation

C. If fertilization occurs

D. After menstruation

What is occurring during the flow phase of the menstrual cycle?

A) Tissues are shed from the endometrium.

B) The amniotic sac is torn.

C) Fertilization occurs near the ovary.

D) A morula is formed in the uterus

1. What marks the **first day** of the menstrual cycle?
A. Ovulation
B. Follicle maturation
C. Menstrual flow begins
D. Estrogen surge

---

2. What is the **endometrium**?
A. Tissue lining the uterus where an embryo implants
B. Muscular opening of the uterus
C. Outer layer of the ovary
D. Tube connecting ovary to uterus

---

3. What happens during **menstruation**?
A. Ovum is fertilized
B. Ovary releases a hormone
C. Endometrium is shed along with blood and mucus
D. Uterus enlarges to prepare for birth

---

4. When does **repair of the endometrial lining** begin?
A. On day one
B. Around day five
C. After ovulation
D. After fertilization

---

5. What triggers the development of follicles at the **start** of the follicular phase?
A. High estrogen levels
B. LH and FSH release
C. Ovulation
D. Corpus luteum activity

---

6. What hormone is **primarily produced by growing follicles**?
A. Progesterone
B. Testosterone
C. Estrogen
D. GnRH

---

7. What causes **ovulation** to occur?

A. Low estrogen

B. Low progesterone

C. LH surge

D. FSH peak

---

8. Around which **day** of the menstrual cycle does ovulation usually happen?

A. Day 1

B. Day 5

C. Day 12

D. Day 28

---

9. After ovulation, the follicle becomes the:

A. Zygote

B. Corpus luteum

C. Polar body

D. Endometrium

---

10. What does the **corpus luteum** produce after ovulation?

A. LH and FSH

B. Only estrogen

C. GnRH

D. Estrogen and high levels of progesterone

---

11. Which hormone keeps **LH and FSH levels low** during the luteal phase?

A. Both estrogen and progesterone

B. Progesterone only

C. Estrogen only

D. GnRH

---

12. What happens to hormone levels when the **corpus luteum breaks down**?

A. Estrogen and progesterone rise

B. LH increases

C. Estrogen and progesterone rapidly decrease

D. FSH stops being produced

13. What initiates the start of a **new menstrual cycle**?

A. LH surge

B. Decrease in estrogen and progesterone

C. Fertilization

D. Growth of follicles

---

14. If fertilization **does occur**, what happens to the corpus luteum?

A. It ruptures

B. It degenerates

C. It remains active and keeps producing progesterone

D. It forms a polar body

---

15. High levels of progesterone after fertilization help by:

A. Stopping ovulation

B. Increasing blood supply to the endometrium

C. Producing more oocytes

D. Initiating menstruation

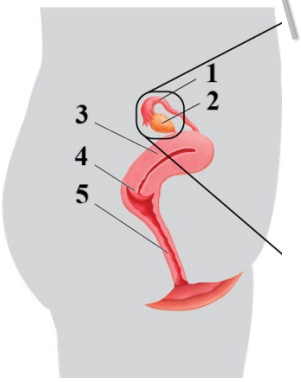
---

1. **Which two steroid hormones are produced by the ovaries?**
   A. testosterone and FSH
   B. estrogen and LH
   C. estrogen and progesterone
   D. progesterone and FSH
2. **The two meiotic divisions of egg production yield how many eggs?**
   A. one
   B. two
   C. four
   D. six
3. **What results from the first meiotic division of the oocyte?**
   A. sperm formation
   B. ovulation
   C. development of a zygote
   D. development of a polar body

4. **Reproductive cells, which pass on genetic traits from the parents to the child, are produced by the process of _____.**
   - a. mitosis
   - b. meiosis
   - c. cytokinesis
   - d. cell cycle

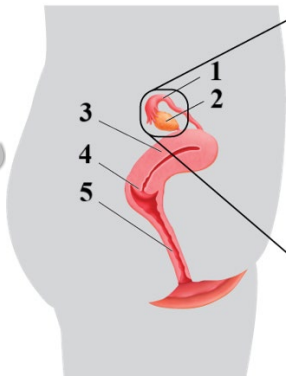
Which part of the female reproductive system is labelled number 1?

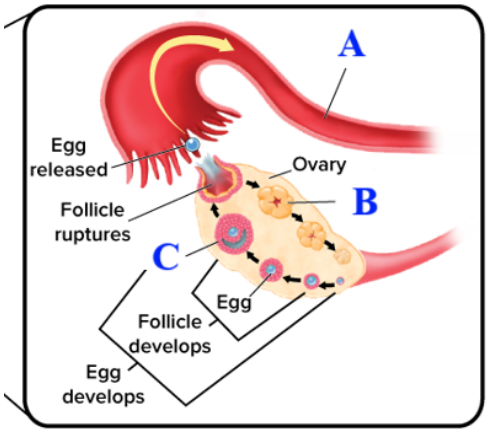
A. Ovary
B. Oviducts
C. Uterus
D. Cervix



Where does fertilization occur?

A- 1
B- 2
C- 3
D- 5





What is the main difference between C and B in the female reproductive system?

A	**C** stores hormones while **B** stores eggs
B	**C** surrounds and nourishes an immature egg, while **B** forms after ovulation to secrete hormones
C	**C** produces progesterone while **B** produces estrogen
D	**B** releases an egg during ovulation, while the **C** maintains hormone levels