

The Menstrual Cycle

Use the diagram of the menstrual cycle to answer the following questions:

1. Observe the follicle over the first ten days of the cycle and record changes that take place.

The follicle is getting larger (the egg finishes maturing).

2. What hormone peaks during this follicle stage? Explain the significance of this.

FSH (follicle stimulating hormone) peaks during this follicle stage. This hormone prepares the egg to be released during ovulation.

3. Estrogen peaks for the first time during the follicle phase. What happens to the uterine lining during this time?

The lining begins to thicken during this time.

4. Identify the event that takes place on approximately day 14 of the menstrual cycle.

Ovulation (release of an egg from the ovary) occurs on approximately day 14 of the menstrual cycle.

5. What hormone peaks at this time and is responsible for ovulation?

LH (lutinizing hormone) peaks around the time of ovulation.

6. What is the ruptured follicle referred to as? What hormone is responsible for this transformation?

The ruptured follicle is then referred to as the corpus luteum; LH is responsible for this transformation.

7. What two hormones are produced by the corpus luteum? What changes are occurring to the uterine lining during the luteal phase?

The corpus luteum produced estrogen and progesterone. The uterine lining is at its thickest and is full of blood vessels.

8. Identify the event that takes place at the end of one menstrual cycle/start of the next if no pregnancy occurs.

Menstruation occurs at the end of one menstrual cycle/start of next if no pregnancy occurs.

Stage	Hormone Involved	Major Events
Follicle	FSH Estrogen	FSH stimulates the egg to finish maturing Estrogen increases after FSH has peaked and it thickens the uterine lining
Ovulation	LH	Peaks around the time of ovulation (signals release of egg from the ovary)
Luteal	Estrogen Progesterone	Both hormones work to thicken the uterine lining and increase the number of blood vessels.
Menstruation	Estrogen Progesterone	If pregnancy does not occur, these two hormones decrease which signals the shedding of the unfertilized egg and the lining and the next cycle begins.

Feedback and the menstrual cycle:

- Describe the relationship between FSH and estrogen levels
After FSH peaks, estrogen begins to peak
- Describe the relationship between estrogen and LH levels
After estrogen peaks, LH begins to peak
- Describe the relationship between LH and progesterone levels
After LH peaks, progesterone begins to peak
- Explain the importance of negative feedback in maintaining the menstrual cycle.

Negative feedback helps to ensure that each hormone only peaks at certain times so that each stage happens in the correct order.

