Menstrual Analysis Worksheet

Analysis

1. During which days of the menstrual cycle does the level of FSH increase? What happens to the follicle during this time?

   *FSH increases during the follicular stage of the ovarian cycle (between day one and day six). During the rise in FSH, a follicle is maturing in preparation for the release of a mature ovum.*

2. On which day is the level of LH in the bloodstream at its highest? What event occurs immediately after this peak?

   *LH reaches its highest concentration on day 13. This causes the follicle to burst, releasing the ovum, and the follicle begins to develop into a corpus luteum.*

3. What event is associated with the decline of LH in the blood?

   *LH begins to decline in the blood once the corpus luteum begins to secrete progesterone and some estrogen.*

4. During which days of the cycle does the level of estrogen in the blood increase most rapidly? What happens in the uterus during this time?

   *The greatest rise in estrogen levels happens as the follicle matures. This increase acts on the anterior pituitary to inhibit the release of FSH and trigger the release of GnRH from the hypothalamus. (This leads to an increase in LH levels.) The endometrium begins to thicken.*

5. During which days of the cycle does the level of progesterone in the blood increase most rapidly? What happens in the uterus during this time?

   *The most significant rise in progesterone levels is after ovulation (around day 14). During this time the endometrium thickens rapidly.*

6. During which days of the cycle are the levels of estrogen and progesterone at their lowest? What happens in the uterus during this time?
Estrogen and progesterone are at their lowest levels during the first two or three days of the cycle. During these early days of the cycle, the endometrium is sloughed off. This is menstruation.

Conclusions
7. How do increased levels of estrogen and progesterone appear to affect the level of FSH in the blood?

Increased levels of estrogen and progesterone suppress the release of FSH.

8. Do the names of the hormones FSH and LH correspond to their functions? Explain your answer.

Yes, the names of FSH and LH correspond to their function in females. FSH — follicle-stimulating hormone — was named for its function, which is to stimulate follicles to grow and mature. LH — luteinizing hormone — was named for its function, which is to stimulate the development of the corpus luteum.

9. Select and use an appropriate mode of representation to compare and contrast the functions of estrogen and progesterone in the menstrual cycle.

Your representation should show that estrogen stimulates the initial growth of the endometrium, while progesterone stimulates vascularization and maintenance of the endometrium.

10. At which time in the menstrual cycle is a woman most fertile? Explain your answer.

A woman is most fertile on day 14, after the follicle has burst and the ovum has been released.