Hormones in the menstrual cycle

Student activity • observation and reasoning

YEAR 11 / LESSON 86 / BIOLOGY + SCIENCE (DOUBLE AWARD)

The question

How do changing hormone levels relate to ovarian and uterine events?

Use the supplied examples, record your reasoning and correct it using evidence.

Equipment

- Student booklet, pencil and ruler
- Schematic ovarian-hormone and uterine-cycle diagrams

Paper, modelling and written reasoning only. No chemicals or biological samples are handled.

Course coverage: Shared Biology / Double Award: 3.9. Biology-only extension: 3.10B FSH and LH.

Plan, model or apparatus sketch

Draw and label the apparatus or biological model; identify one limitation.

Method and reasoning

Read the whole sequence before starting

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1. Use a schematic cycle diagram and label menstruation, rebuilding of the uterine lining, ovulation and lining maintenance.

2. Explain oestrogen's role in rebuilding the lining and progesterone's role in maintaining it.

3. Explain that falling ovarian hormone levels can lead to shedding when pregnancy has not occurred.

4. Biology extension: link FSH with follicle development and oestrogen production, and the LH surge with ovulation.

5. Biology extension: represent feedback interactions without treating every hormone as continuously rising.

6. State that a 28-day diagram is a teaching model; timing varies and must not be used as a reliable contraception or fertility prediction tool.

Cleanup

- Return models and keep the corrected work.

Record your evidence

Blank spaces are for your own work

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Reference and task data

The diagram is schematic, not an individual's measured cycle. Oestrogen and progesterone have coordinated roles; FSH/LH detail is a Biology extension. No personal cycle records are collected.

Example / trial	Observation / evidence	Explanation / limit
Evidence / comparison		
Explanation		
Limit / correction		

Show your calculations, labelled model or correction here.

Explain and evaluate

Use evidence and show calculation steps where relevant

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1. Which hormone supports lining rebuilding?

2. Which supports lining maintenance?

3. What is ovulation?

4. Why can the lining be shed?

5. Biology: what does FSH support?

6. Biology: which surge triggers ovulation?