

# GCSE Combined Science: Trilogy

## Worksheet: Hormones in human reproduction

|                       |                          |                              |                                   |
|-----------------------|--------------------------|------------------------------|-----------------------------------|
| TIME<br><b>25 min</b> | TOTAL<br><b>23 marks</b> | CALCULATOR<br><b>Allowed</b> | DIFFICULTY<br><b>Easy, Medium</b> |
|-----------------------|--------------------------|------------------------------|-----------------------------------|

**Topics:** Hormones in human reproduction

**NAME** \_\_\_\_\_ **CLASS** \_\_\_\_\_ **DATE** \_\_\_\_\_

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Answer all questions in the spaces provided.
- In all calculations, show clearly how you work out your answer.
- The marks for questions are shown in brackets.

0 1

During puberty, reproductive hormones cause changes in the body.

0 1 . 1

Changes such as the growth of pubic hair begin at puberty.  
What name is given to these changes?

.....

.....

**[1 mark]**

0 1 . 2

After puberty, how often is an egg usually released from an ovary?

Tick (✓) **one** box.

About every 7 days

☐

About every 14 days

☐

About every 28 days

☐

About every 56 days

☐

**[1 mark]**

0 1 . 3

What is the release of an egg from an ovary called?

.....

.....

.....

[1 mark]

0 1 . 4

Name **two** hormones that are involved in maintaining the lining of the uterus.

.....

.....

.....

.....

[2 marks]

0 2

Several hormones are involved in human reproduction.

0 2 . 1

Which hormone is the main female reproductive hormone produced in the ovary?

Tick (✓) **one** box.

FSH

☐

Insulin

☐

Oestrogen

☐

Testosterone

☐

[1 mark]

0 2 . 2

Name the main male reproductive hormone and the organ that produces it.

.....

.....

.....

.....

[2 marks]

0 2 . 3

What does the main male reproductive hormone stimulate?

.....

.....

[1 mark]

0 2 . 4

Give the function of FSH and the function of LH in the menstrual cycle.

.....

.....

.....

.....

[2 marks]

0 3

The events of one menstrual cycle are listed below, but they are in the wrong order.

- A A surge of LH causes an egg to be released from the ovary (ovulation).
- B Progesterone maintains the thickened lining of the uterus.
- C The lining of the uterus breaks down (menstruation).
- D FSH causes an egg to mature in the ovary.

0 3 . 1

Write the letters in the correct order, starting with the first day of the cycle.

.....

.....

[2 marks]

0 4

Several hormones control the menstrual cycle.

0 4 . 1

Which **two** hormones are released by the pituitary gland during the menstrual cycle?

Tick (✓) **two** boxes.

FSH

☐

LH

☐

Oestrogen

☐

Progesterone

☐

Testosterone

☐

[2 marks]

0 4 . 2

Give the main effect of oestrogen on the uterus during the menstrual cycle.

.....

.....

[1 mark]

0 4 . 3

Which hormone causes an egg to mature in the ovary?

Tick (✓) **one** box.

FSH

☐

LH

☐

Oestrogen

☐

Progesterone

☐

[1 mark]

0 4 . 4

Name the hormone that maintains the lining of the uterus after ovulation.

.....

.....

.....

[1 mark]

0 5

Some women track their fertility by measuring their basal body temperature (their body temperature at rest, measured every morning before getting up) on each day of their menstrual cycle. Progesterone raises body temperature slightly. Table 1 shows one woman's basal body temperature on four days of her cycle.

Table 1

| Day of cycle                 | 10   | 14   | 16   | 24   |
|------------------------------|------|------|------|------|
| Basal body temperature in °C | 36.4 | 36.5 | 36.9 | 36.9 |

0 5 . 1

Between which two days shown in Table 1 did ovulation most likely occur? Explain your answer.

.....

.....

.....

.....

[2 marks]

0 5 . 2

Suggest why basal body temperature charting is not a reliable way to know **in advance** exactly when to have, or avoid, intercourse in order to affect the chance of pregnancy.

.....

.....

.....

.....

[2 marks]

0 5 . 3

Give **one** advantage of using basal body temperature charting, rather than hormonal contraception, to avoid pregnancy.

.....

.....

[1 mark]

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END OF QUESTIONS

Original practice questions written to match the specification. Not produced by, affiliated with or endorsed by AQA.

# Mark scheme

## GCSE Combined Science: Trilogy · Worksheet: Hormones in human reproduction · 23 marks

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### Question 1 (5 marks)

#### 01.1 [1 mark]

**Answer:** Secondary sex characteristics

- secondary sex(ual) characteristics (1)
- 

#### 01.2 [1 mark]

**Correct:** About every 28 days

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#### 01.3 [1 mark]

**Answer:** Ovulation

- ovulation (1)
- 

#### 01.4 [2 marks]

**Answer:** Oestrogen and progesterone

- oestrogen (1)
  - progesterone (1)
-

---

## Question 2 (6 marks)

02.1 [1 mark]

**Correct:** Oestrogen

---

02.2 [2 marks]

**Answer:** Testosterone, produced by the testes

- testosterone (1)
  - testes / testis (1)
- 

02.3 [1 mark]

**Answer:** Sperm production

- sperm production (1)

**Notes:** Allow 'secondary sexual characteristics in males'.

---

02.4 [2 marks]

**Answer:** FSH causes an egg to mature in the ovary; LH stimulates the release of the egg

- FSH: causes (an) egg to mature (in the ovary) (1)
  - LH: stimulates the release of an egg / ovulation (1)
- 

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## Question 3 (2 marks)

03.1 [2 marks]

**Answer:** C, D, A, B

- C first and B last (1)
  - D before A (1)
-

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## Question 4 (5 marks)

### 04.1 [2 marks]

**Correct:** FSH; LH

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### 04.2 [1 mark]

**Answer:** It causes the lining of the uterus to build up (thicken)

- causes the lining of the uterus to build up / thicken / repair (1)
- 

### 04.3 [1 mark]

**Correct:** FSH

---

### 04.4 [1 mark]

**Answer:** Progesterone

- progesterone (1)
- 

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## Question 5 (5 marks)

### 05.1 [2 marks]

**Answer:** Between day 14 and day 16, because body temperature rose noticeably between these days; progesterone, released after ovulation, raises body temperature

- between day 14 and day 16 (1)
  - body temperature rose (noticeably) between these days, and progesterone (released after ovulation) raises body temperature (1)
- 

### 05.2 [2 marks]

**Answer:** The temperature rise only happens after ovulation has already occurred, so it cannot predict ovulation in advance; the day of ovulation also varies from cycle to cycle

- the temperature rise happens only *after* ovulation, so it cannot predict ovulation in advance (1)
  - by the time the rise is detected the egg may no longer be able to be fertilised, and the day of ovulation can vary between cycles (1)
- 

### 05.3 [1 mark]

**Answer:** It involves no hormones, so there are no hormonal side effects

- no hormones / no hormonal side effects / free / no prescription needed (1)
-