

Combined Science Higher - Biology - KS4
Homeostasis and Response

Hormones in reproduction - Higher

Miss Ray



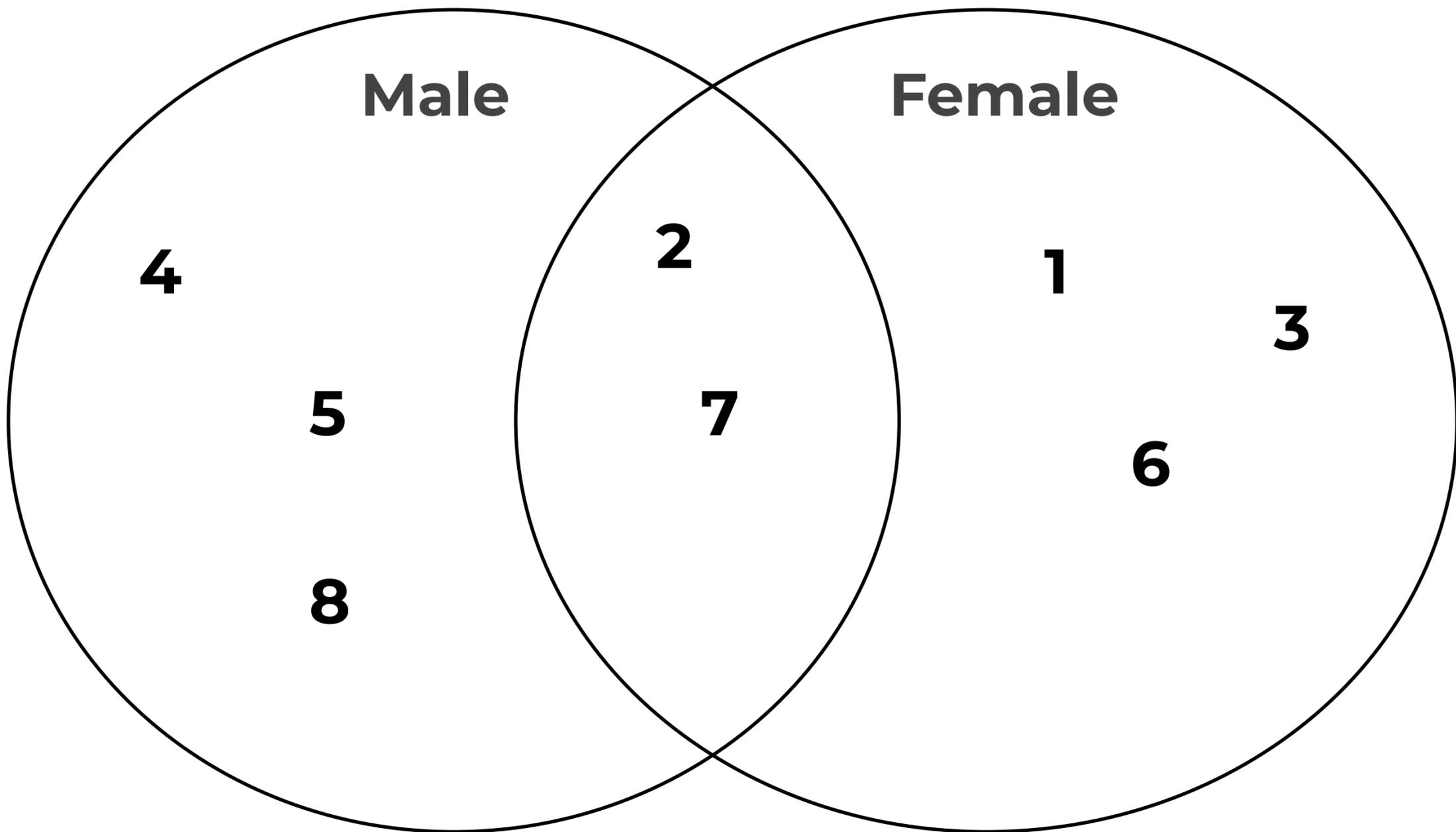
OAK
NATIONAL
ACADEMY

Male

Female

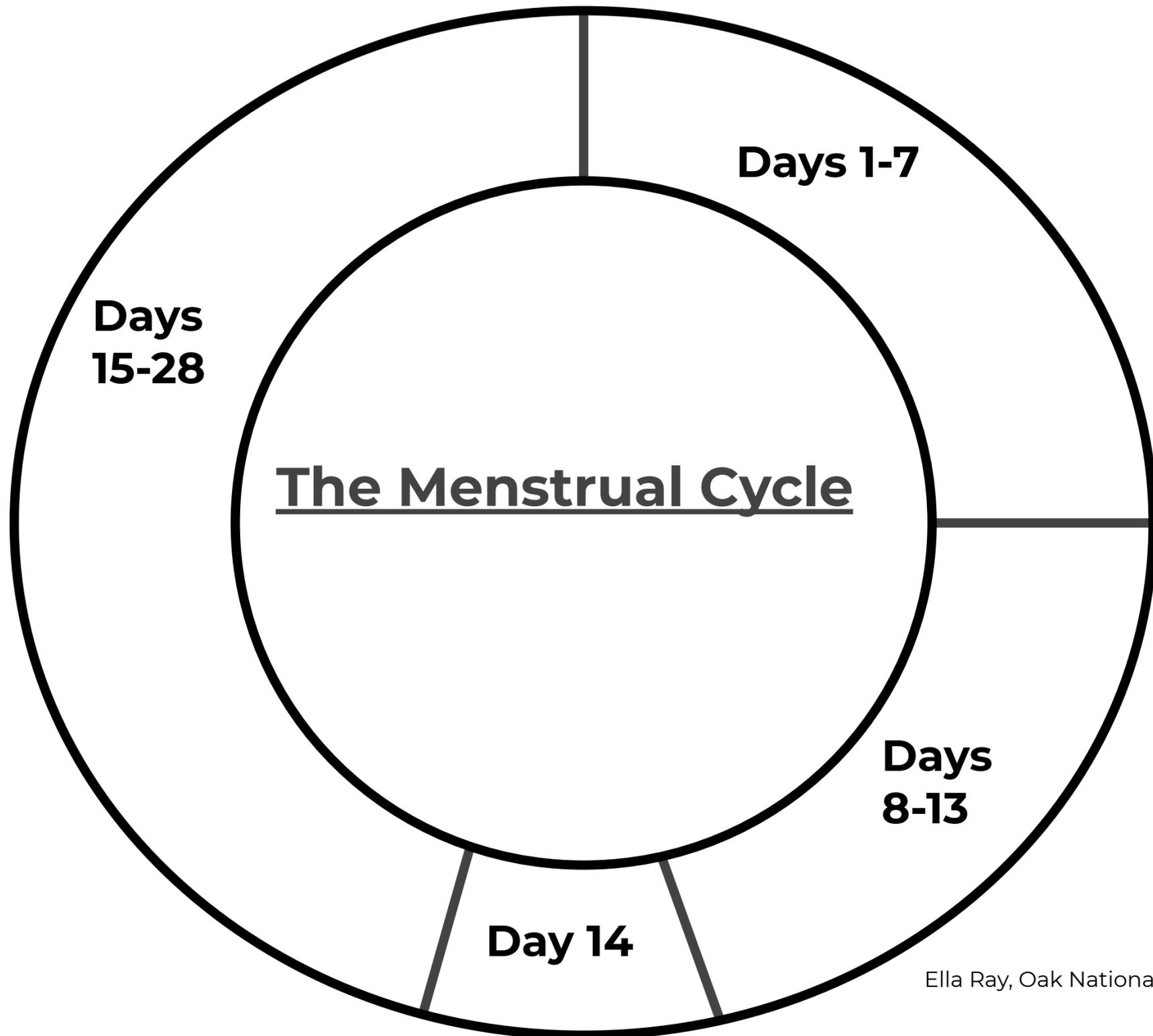
1. Hips broaden
2. Voice deepens
3. Breasts develop
4. Sperm is produced
5. Facial hair grows
6. Menstruation starts
7. Pubic hair grows
8. Shoulders broaden





1. Hips broaden
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Ella Ray, Oak National Academy



List the four hormones involved in the menstrual cycle.

Hint - fish only like happy people!



Hormones of the menstrual cycle

FiSH

Only

Like **H**appy

People



FSH

Oestrogen

LH

Progesterone





Copy and complete

Hormone	Gland	Role in the menstrual cycle
Oestrogen	o_____	
FSH	p_____	
LH	p_____	
Progesterone	o_____	

thickens the uterus lining

causes ovulation (release of egg)

Maintains the uterus lining

matures the egg

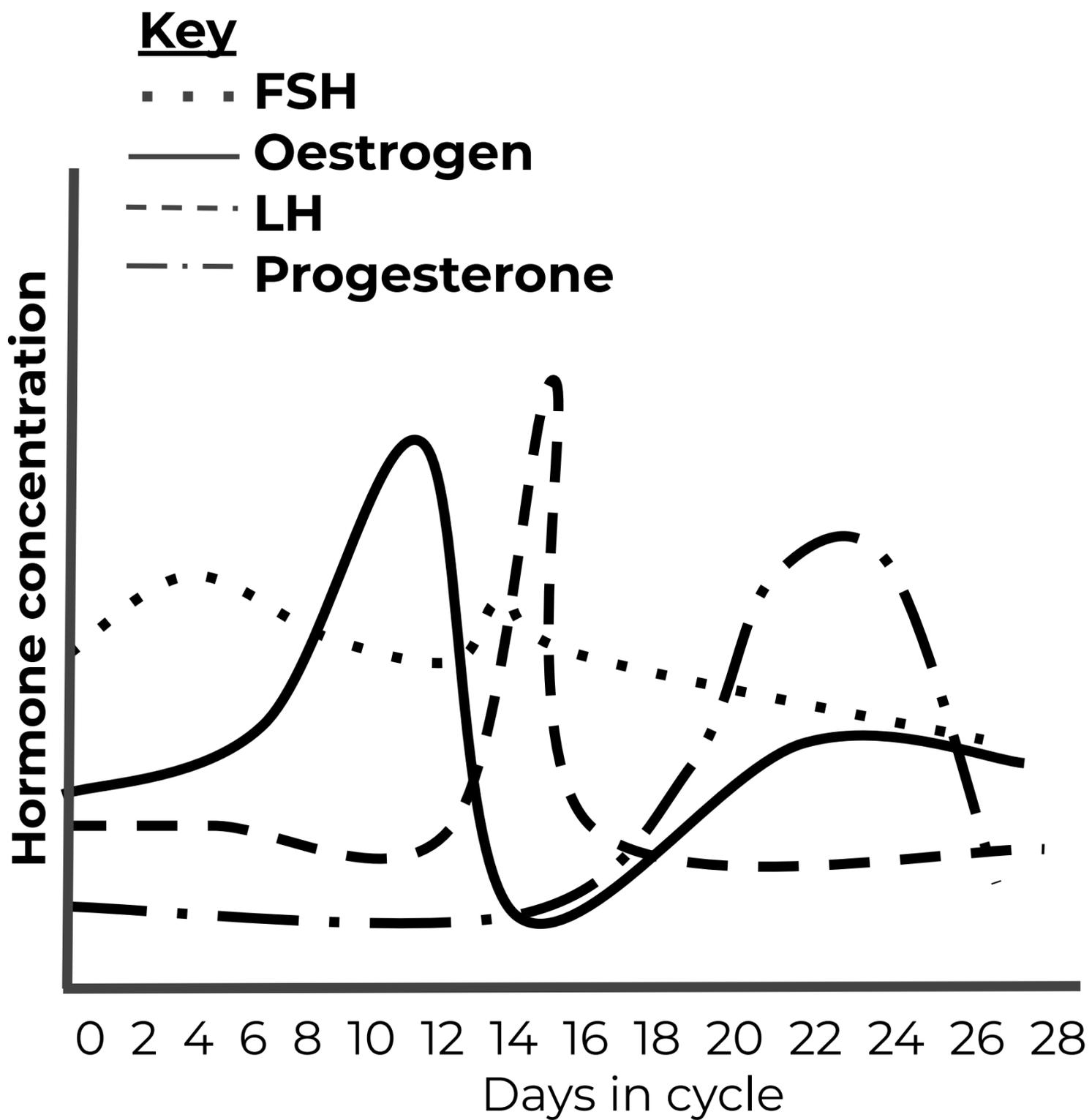


Answers

Hormone	Gland	Role in the menstrual cycle
Oestrogen	<u>ovaries</u>	Thickens the uterus lining
FSH	<u>pituitary</u>	Matures the egg
LH	<u>pituitary</u>	Causes ovulation (release of egg)
Progesterone	<u>ovaries</u>	Maintains the uterus lining

thickens the uterus lining causes ovulation (release of egg)
matures the egg
maintains the uterus lining





Days 1-5 - _____ is at the highest concentration within the blood. _____ matures the egg. This stimulates the release of _____.

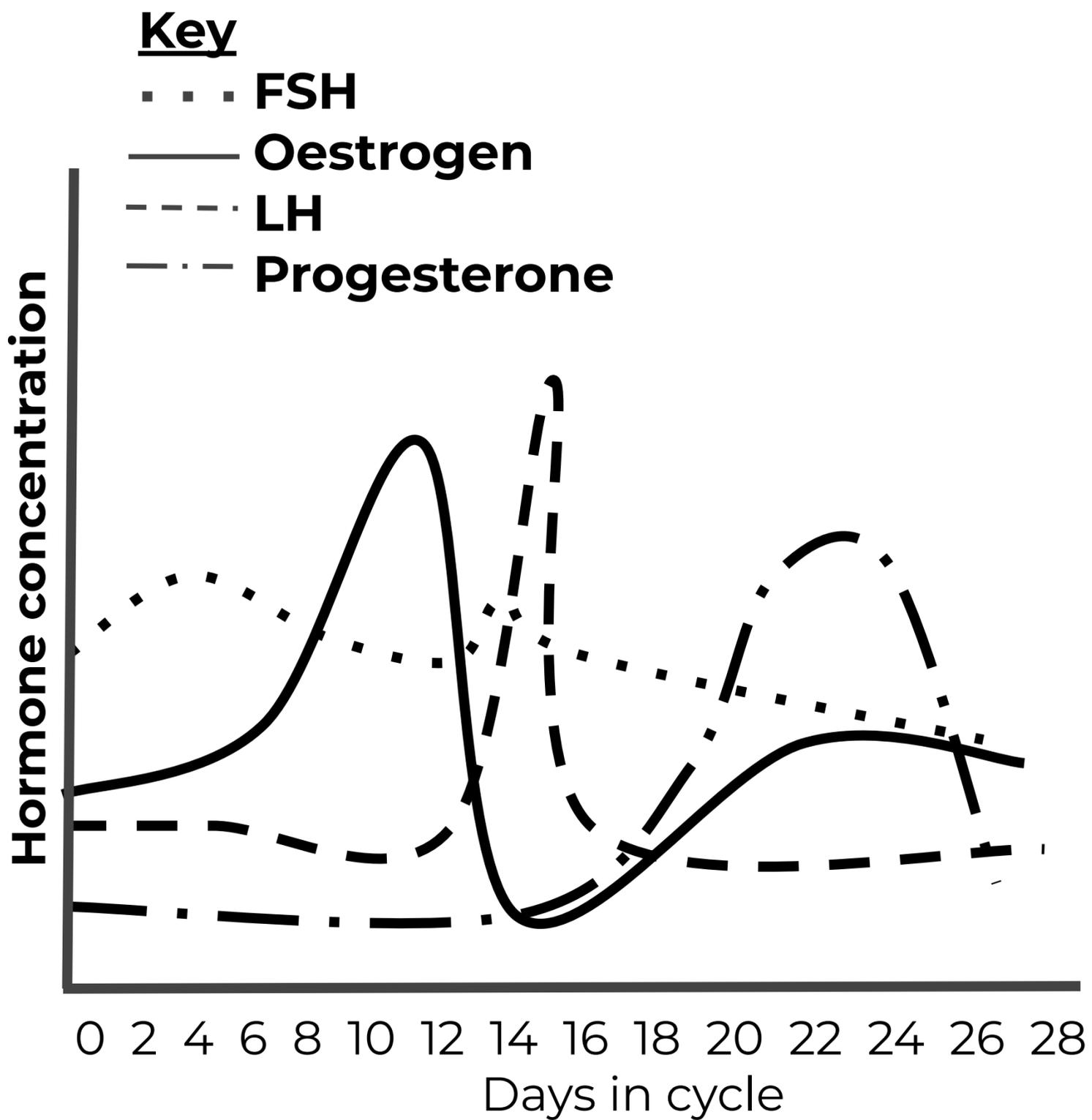
Days 6-12 - _____ increases in concentration and the uterus lining thickens. This inhibits the release of _____ and stimulates the release of _____.

Day 14 - _____ rapidly increases in concentration which stimulates ovulation.

Day 16 - _____ and _____ concentrations increase as the uterus lining is maintained. _____ inhibits the release of _____.

Day 22 - _____ and _____ concentrations decrease when the egg is not fertilised.





Days 1-5 - FSH is at the highest concentration within the blood. FSH matures the egg. This stimulates the release of oestrogen.

Days 6-12 - Oestrogen increases in concentration and the uterus lining thickens. This inhibits the release of FSH and stimulates the release of LH.

Day 14 - LH rapidly increases in concentration which stimulates ovulation.

Day 16 - Oestrogen and progesterone concentrations increase as the uterus lining is maintained. Progesterone inhibits the release of LH.

Day 22 - Oestrogen and progesterone concentrations decrease when the egg is not fertilised.





1. Describe how hormones are involved in the control of the menstrual cycle. [4]

- Name each hormone
- State their role in the menstrual cycle

2. Describe how changes in hormone concentration control the thickness of the uterus lining. [2]

- Which hormones control the uterus lining?
- Which hormone does what?



1. Describe how hormones are involved in the control of the menstrual cycle. [4]

- **FSH - matures the egg.**
- **Oestrogen - causes the uterus lining to thicken.**
- **LH - stimulates ovulation.**
- **Progesterone - maintains the uterus lining.**

2. Describe how changes in hormone concentration control the thickness of the uterus lining. [2]

- **Oestrogen - causes the uterus lining to thicken.**
- **Progesterone - maintains the uterus lining.**





Describe the sequence of hormonal interactions in the menstrual cycle. [6]

- Name each hormone
- State the roles that they play
- Link the hormones together with the key words 'stimulate' and 'inhibit'





Describe the sequence of hormonal interactions in the menstrual cycle. [6]

FSH matures the **egg** in the ovaries. **FSH** stimulates the release of **oestrogen**.

Increased **oestrogen** concentrations cause the **uterus lining to thicken**. Oestrogen **inhibits** the release of **FSH** and **stimulates LH** release.

On day 14, **LH** levels rapidly increase and **ovulation** occurs.

From day 16, **progesterone** and **oestrogen** levels increase to **maintain the uterus lining** in case the egg is fertilised. **Progesterone inhibits** the release of **LH**.

From day 21 **progesterone** and **oestrogen** levels drop and the uterus lining begins to **break down**.

