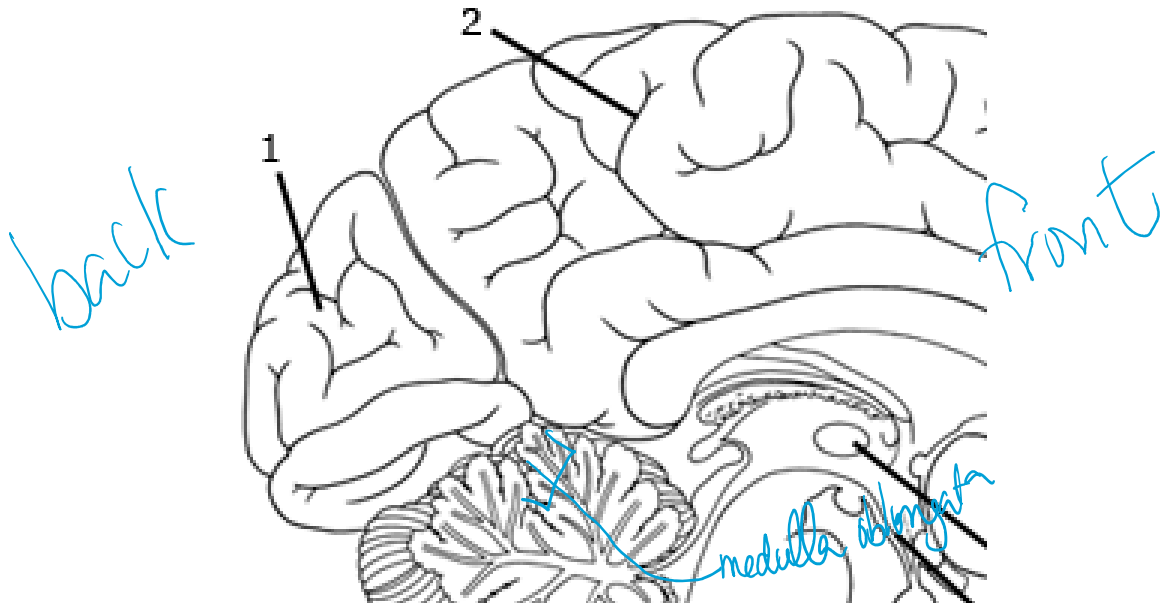


NERVOUS & REPRODUCTIVE SYSTEM PRACTICE TEST

Name: Key *

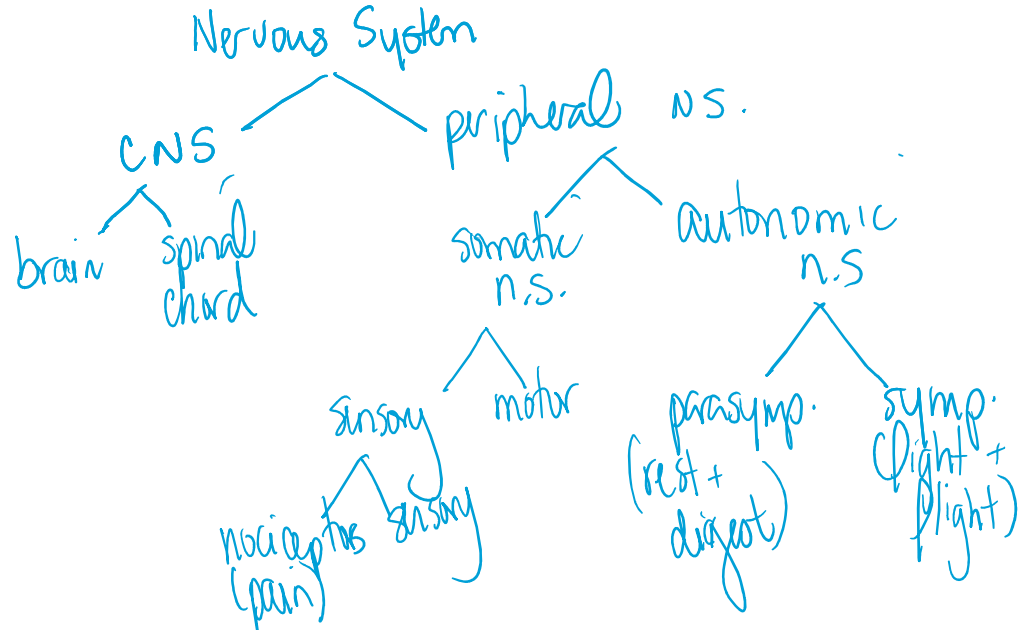
Learning Goal #1 → I can explain the various parts of the nervous system

- Label the parts of the brain and state the function of each structure



| Diagram # | Structure | Function |
|-----------|-----------------|---|
| 1 | occipital lobe | vision |
| 2 | parietal lobe | emotion |
| 3 | frontal lobe | rational thought / logic |
| 4 | corpus callosum | connection of right + left hemisphere. |
| 5 | thalamus | sleep |
| 6 | hypothalamus | homeostasis |
| 7 | pituitary | secrete ADH and FSH/LH |
| 8 | pms | bridge connecting cerebellum + cerebrum |
| 9 | brainstem | incoming messages. |
| 10 | cerebellum | balance |

2. Draw a flow chart that includes all the different parts of the nervous system:



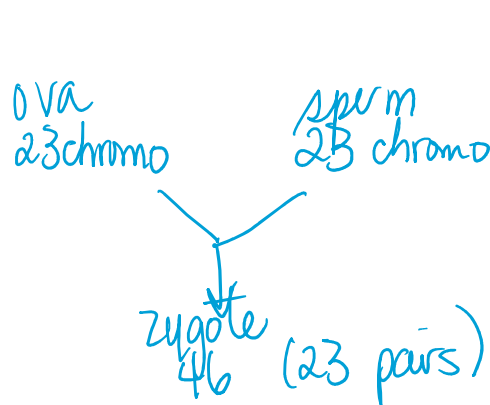
3. Mrs. Becker is attempting to hike up Giants Head Mountain. How does her respiratory system and her nervous system help her do so? Be specific.

- hypothalamus will regulate H^+ in blood. If too acidic then hypothalamus have medulla oblongata to \uparrow rate of breathing.

- \uparrow rate of breathing causes \uparrow neutralization of H^+ and blood pH \uparrow .

Learning Goal #2 → I will be able to explain the structures and functions of the male and female reproductive system and hormones

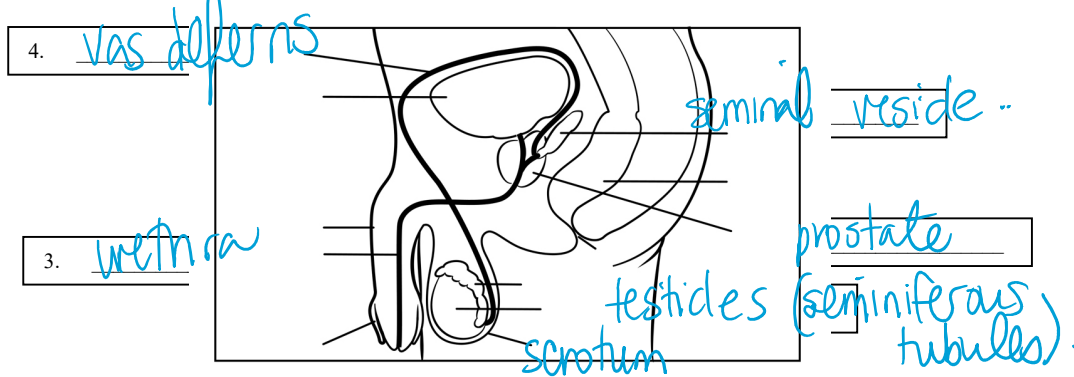
1. Once meiosis is completed, a egg cell will have
- 23 pairs of chromosomes.
 - 46 pairs chromosomes.
 - 23 chromosomes.
 - 46 chromosomes.
2. Sperm cells will mature in the
- seminiferous tubules.
 - vas deferens.
 - seminal vesicles.
 - epididymis.
3. The function of the testes is the production of
- eggs and the hormone estrogen.
 - sperm and the hormone testosterone.
 - sperm and the hormones estrogen and testosterone.
 - sperm and the hormone testosterone and FSH



4. Which of the following secretes zinc to help stabilize the DNA in the sperm?
- a. Prostate gland
 - b. Epididymis.
 - c. Cowper's gland.
 - d. Seminal vesicle.

A

5. Label the below diagram:



6. In the human male, hormones from the _____ stimulate production of testosterone in the _____.
- a. testes; seminiferous tubules
 - b. testes; seminal vesicles
 - c. anterior pituitary gland; leydig cells
 - d. hypothalamus; leydig cells

C

7. Testosterone is
- a. a steroid hormone ✓
 - b. made by the interstitial cells of the testes. ✓
 - c. causes secondary sex characteristics in males ✓
 - d. controlled by a negative feedback system ✓

all

8. In the human female, the uterine cycle is on the average _____
- a. 20 days.
 - b. 24 days.
 - c. 28 days.
 - d. 32 days.

C

9. Days 6 – 13 of the uterine cycle is called the _____
- a. follicular phase.
 - b. proliferative phase.
 - c. menses.
 - d. secretory phase.

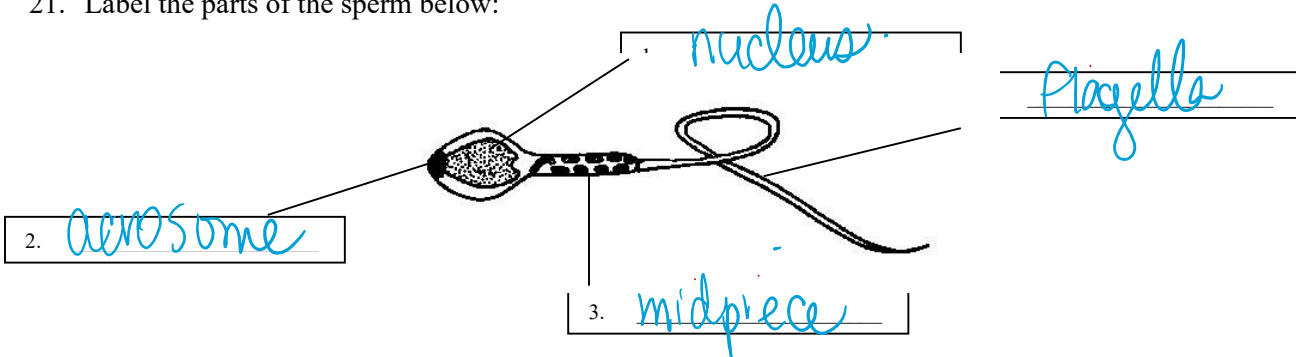
B

- 1. mense
- 2. proliferation
- 3. secretory

20. The hormone FSH _____
- a. is produced by the anterior pituitary and acts directly on the ovary.
 - b. is produced in the ovary and acts directly on the pituitary.
 - c. is produced in the ovary and acts directly on the uterus.
 - d. is produced in the anterior pituitary and acts directly on the uterus.

A

21. Label the parts of the sperm below:



22. Describe what is happening in each of the below phases. In addition, add what hormones are impacting each phase

| Phase | What is happening... | Hormones involved... |
|----------------|--------------------------------------|------------------------|
| Menstrual Flow | - endometrial lining sloughs off | ↓ drop in progesterone |
| Proliferation | - building of new endometrial lining | - estrogen ↑ |
| Secretory | - maturing of endometrial lining | - progesterone ↑ |

Learning Goal #2 → I will be able to explain the process of fertilization and pregnancy

1. A couple is having trouble trying to conceive and it was shown that the female had lower than normal estrogen levels. Explain how this could affect her ability to get pregnant. Give 2 possibilities

- low estrogen could prevent ovulation
- in addition, low estrogen will cause a thin endometrial lining.

2. What are the 4 stages of fertilization?

1. sperm binding (sperm bind to zona pellucida)
2. acrosome reaction (sperm enzymes released)
3. cortical reaction (prevents polysperm)
4. genetic transpire (haploid → diploid)

3. What are the similarities and differences in monozygotic and dizygotic twin development?

- (Identical) Monozygotic → one ova + one sperm. Separate during gastrula cleavage. Identical twins.
- (Fraternal) Dizygotic → 2 ova + 2 sperm. Fraternal twins.

4. What is the hormone involved in labour? How does this work?

- Oxytocin made in hypothalamus + released by pituitary
 - causes contraction of fundus of uterus.
 - fetus' head hit cervix → causing release of more oxytocin
- ★ Positive feedback loop ★