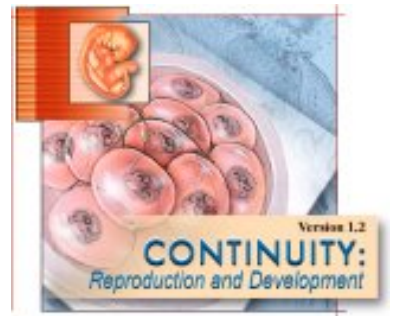


Fertilization and Development

Directions:

- Click the "Contents" button.
- Open the *Reproductive System* File.
- Click *Animations*.
- Click *Fertilization and Development*.



Fertilization

1. Define *fertilization*. _____

2. Where does fertilization occur? _____

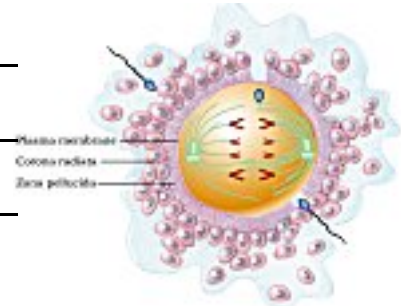
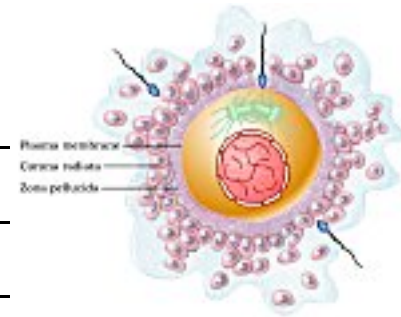
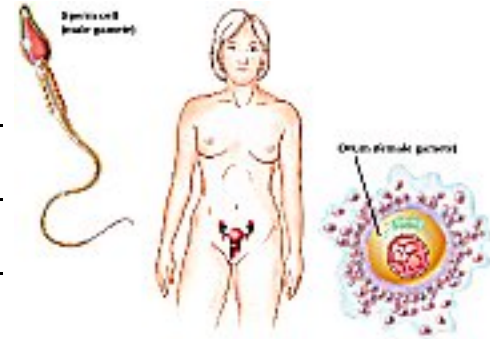
3. a. Describe sperm movement relative to the *corona radiata* and the *zona pellucida*.

b. What role do digestive enzymes have in this process? _____

c. How is *polyspermy* prevented? _____

4. a. When is meiosis II completed? _____

b. What is the purpose of the polar body? _____



Embryonic Development

5. Define the *embryonic period*. _____

6. a. Define each of the following:

cleavage - _____

blastomeres - _____

morula - _____



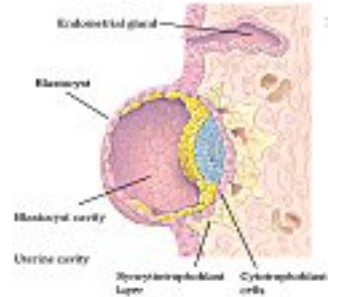
blastocyst - _____

b. How long does it take for the morula to reach the uterus? _____

7. Contrast the function of the *inner cell mass* and the *trophoblast cells*. _____

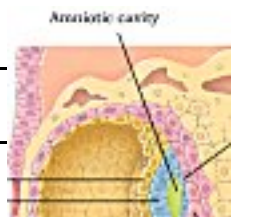
8. When does the blastocyst implant into the endometrium? _____

9. Describe formation of the *bilaminar embryonic disc*. Identify the *hypoblast* and *epiblast* layers.

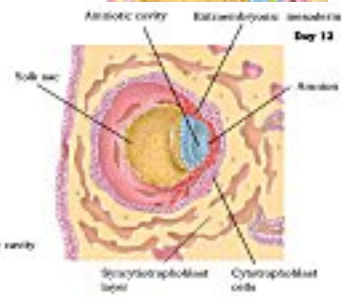


10. a. Identify and describe the fluid filled *amniotic cavity*. _____

b. Identify the *yolk sac*. Note the bilaminar embryonic disc location immediately between the yolk sac and the amniotic cavity.

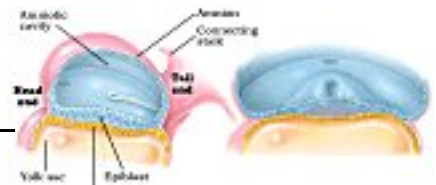


11. a. Describe *chorion formation* from the *extraembryonic mesoderm*. _____



b. Describe the importance of the chorion. _____

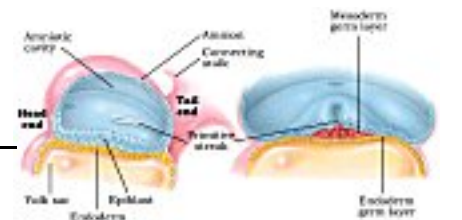
12. What is the importance of the three *germ layers* formed during the third week?



13. Describe formation of:

endoderm germ layer - _____

mesoderm germ layer - _____



ectoderm germ layer - _____

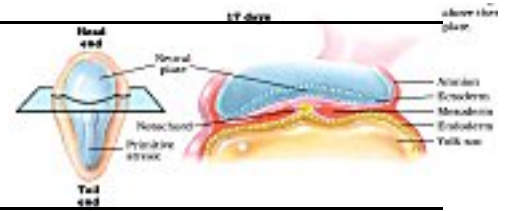
14. Describe the organs that develop from each part of the *trilaminar embryonic disc*:

ectoderm - _____

mesoderm - _____

endoderm - _____

15. Describe the developmental importance of the *neural fold*, which ultimately becomes the *neural tube*, and the *somites*.



16. a. Describe primitive blood vessel and heart formation. _____



b. Describe the function of the *intervillous space*. _____

17. Describe organ development during the fourth week. _____

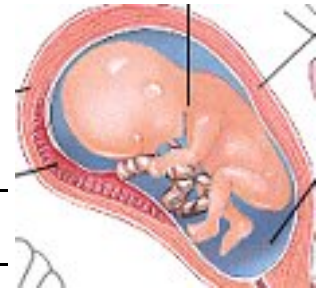


18. Describe development during the second month. _____



At the end of the second month of development the embryo is now referred to as a *fetus*.

Fetal Development



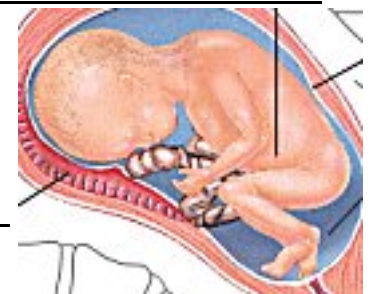
21. Describe development and activity during weeks 9-12. _____

22. Describe development and activity during the fourth month (Weeks 13-16). _____

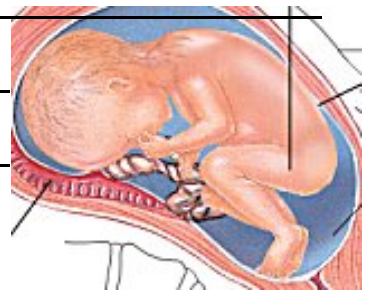
23. a. Describe development and activity during the fifth month. _____

b. What is *lanugo*?

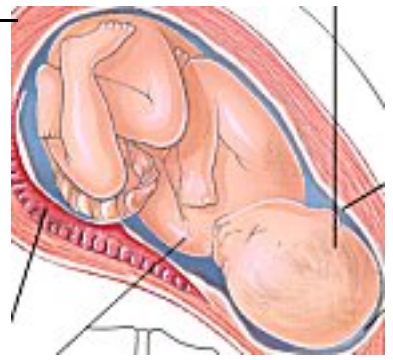
24. Describe development and activity during the sixth month. _____



25. Describe development and activity during the seventh month. _____



27. Describe the development and activity during the eighth month. _____



28. Describe the development and activity during the ninth month. _____
