

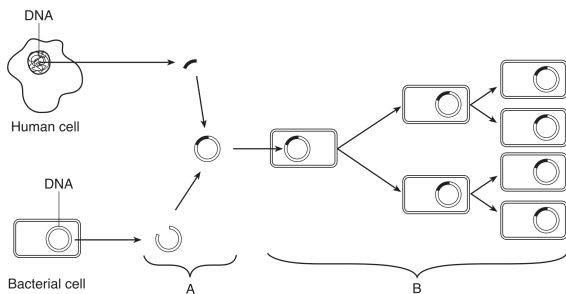
1 Star reproduction

Name: _____

Date: _____

- Which process normally occurs at the placenta?
 - Oxygen diffuses from fetal blood to maternal blood.
 - Materials are exchanged between fetal and maternal blood.
 - Maternal blood is converted into fetal blood.
 - Digestive enzymes pass from maternal blood to fetal blood.

- Base your answer(s) to the following question(s) on the diagram below and on your knowledge of biology.



Which process is indicated by letter *B*?

- natural selection
- asexual reproduction
- sexual reproduction
- gene deletion

- Which hormone does *not* directly regulate human reproductive cycles?

- testosterone
- estrogen
- insulin
- progesterone

- Which structure is correctly paired with its function?

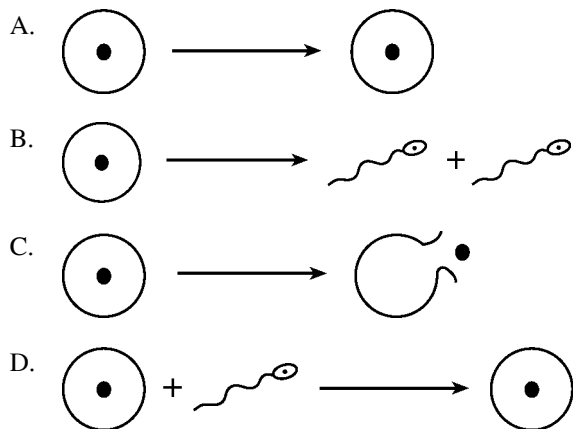
- ovary — provides milk for newborns
- testis — development of sperm
- placenta — storage of released eggs
- uterus — produces estrogen

- Human egg cells are most similar to human sperm cells in their

- degree of motility
- amount of stored food
- chromosome number
- shape and size

6. The human reproductive system is regulated by
- A. restriction enzymes
 - B. antigens
 - C. complex carbohydrates
 - D. hormones

7. Which diagram best illustrates an event in sexual reproduction that would most directly lead to the formation of a human embryo?



8. Base your answer(s) to the following question(s) on the information and data tables below and on your knowledge of biology. Use one or more complete sentences to answer each question.

Drinking alcohol during pregnancy can cause the class of birth defect known as fetal alcohol syndrome (FAS). Scientists do not yet understand the process by which alcohol causes damage to the fetus. There is evidence, however, that the more a pregnant woman drinks, the greater the chances that the child will be affected and the birth defects will be serious. Some evidence indicated that even low levels of alcohol consumption can cause intellectual and behavioral problems.

Infant Characteristics

Characteristics (Average)	Alcohol Use During Pregnancy	
	Drinker	Nondrinker
Weeks of development before birth	36.9	38.7
Birth weight (g)	2,555	3,094
Birth length (cm)	46.8	50.1
Head circumference (cm)	32.1	34.5

Physical Abnormalities Detected in Infants at Birth

Physical Abnormalities	Alcohol Use During Pregnancy	
	Drinker (Percentage of 40 Infants)	Nondrinker (Percentage of 80 Infants)
Low birth weight	73	12
Small brain	33	0
Flattened nasal bridge	8	0
Abnormal facial features	15	0
Spinal defects	8	0
Heart defects	8	0

Explain why alcohol consumption by the mother is especially harmful during the early stages of pregnancy.

9. Using one specific example, identify one action taken by a mother that could have a negative effect on the embryonic development of her baby.

10. Base your answer(s) to the following question(s) on the information below and on your knowledge of biology.

Human reproduction is influenced by many different factors.

Identify one harmful substance that can pass through this structure and describe the *negative* effect it can have on the fetus.

1.
Answer: B
2.
Answer: B
3.
Answer: C
4.
Answer: B
5.
Answer: C
6.
Answer: D
7.
Answer: D
8.
Answer: Alcohol is a poison, and it could interfere with cell division as the fetus is developing.
9.
Answer: failing to maintain proper nutrition OR using alcohol/drugs OR exposing her body to extremes in temperature due to overuse of sauna, hot tub
10.
Answer: drugs—fetal addiction
alcohol—low birth weight or premature birth or brain damage or fetal alcohol syndrome
nicotine—brain damage or low birth weight
Viruses, such as HIV, can cross the placenta putting the fetus at risk of disease or defects.