

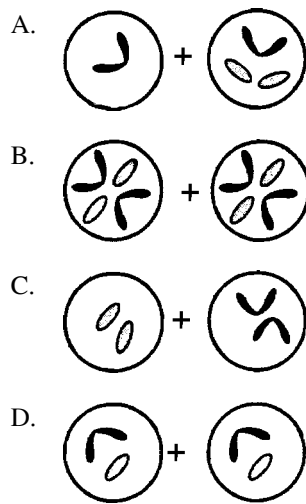
Name: _____

Date: _____

1. The accompanying diagram represents chromosomes in a zygote.



Which diagrams best illustrate the daughter cells that result from normal mitotic cell division of this zygote?



2. A human zygote is produced from gametes that are usually identical in
- A. the expression of encoded information
 - B. the number of altered genes present
 - C. chromosome number
 - D. cell size

3. Human egg cells are most similar to human sperm cells in their
- A. degree of motility
 - B. amount of stored food
 - C. chromosome number
 - D. shape and size

4. One function of the placenta in a human is to
- A. surround the embryo and protect it from shock
 - B. allow for mixing of maternal blood with fetal blood
 - C. act as the heart of the fetus, pumping blood until the fetus is born
 - D. permit passage of nutrients and oxygen from the mother to the fetus

5. Heavy cigarette smoking and the use of alcohol throughout pregnancy usually increase the likelihood of
- A. the birth of twins
 - B. the birth of a male baby
 - C. a baby being born with a viral infection
 - D. a baby being born with medical problems

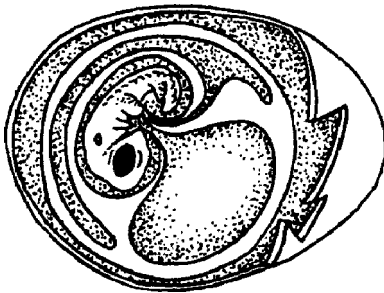
6. Some stages in the development of an individual are listed below.

- (A) differentiation of cells into tissues
- (B) fertilization of egg by sperm
- (C) organ development
- (D) mitotic cell division of zygote

Which sequence represents the correct order of these stages?

- A. A-B-C-D
- B. B-C-A-D
- C. D-B-C-A
- D. B-D-A-C

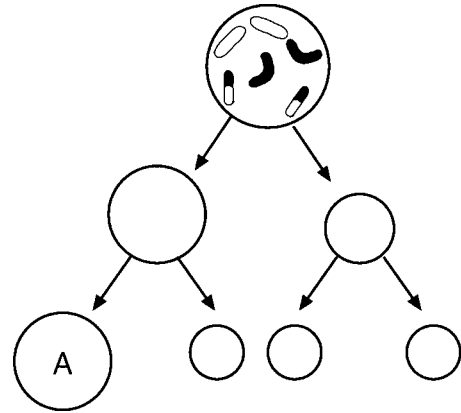
7. The accompanying diagram represents a developing bird egg.



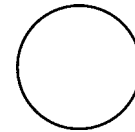
What is the primary function of this egg?

- A. food supply for predators to preserve predator populations
- B. adaptation to allow maximum freedom for parent birds
- C. continuation of the species through reproduction
- D. preservation of the exact genetic code of the parent birds

8. An incomplete diagram of meiosis in the ovary of an animal is shown.



On the diagram below, draw in the chromosomes of cell A. Your drawing should show the usual result of the process of meiosis.



9. 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 reproductive hormone and state the role it plays in reproduction.

10. 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.

1.
Answer: B

2.
Answer: C

3.
Answer: C

4.
Answer: D

5.
Answer: D

6.
Answer: D

7.
Answer: C

8.
Answer:



9.
Answer: Testosterone influences the formation of sperm cells. OR Testosterone influences the formation of gametes. OR estrogen—regulates female reproductive cycles OR Estrogen builds up the uterine lining for implantation and development of the embryo. OR progesterone—maintains uterine lining during pregnancy

10.
Answer: Alcohol is a poison, and it could interfere with cell division as the fetus is developing.