

Prenatal Development

CHAPTER 4

Study Guide

Directions: Answer the following questions as you read the chapter. They will help you focus on the main points. Later, you can use this guide to review and study the chapter information.

Section 4–1: The Developing Baby

1. Briefly summarize the process of *conception*. Use the following terms in your summary: *Fallopian tube, uterus, sperm, ovum*.

2. Complete the following chart about the stages of *prenatal development*.

Stage	Time Span	Development That Occurs
	Conception to two weeks	
	Third through eighth week	
	Eighth or ninth week through birth	

3. Explain what each of the following is and describe the functions each performs.

A. *Amniotic fluid*: _____

B. *Placenta*: _____

C. *Umbilical cord*: _____

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4. Briefly summarize the changes that commonly occur in a woman during the first two months of pregnancy.

5. What is "lightening" and when does it occur? _____

Section 4-2: A Closer Look at Conception

6. What is heredity? Name three characteristics that can be hereditary. _____

7. Summarize the relationship between *chromosomes*, *genes*, *genomes*, and *DNA*. _____

8. Explain the difference between *dominant genes* and *recessive genes*. _____

9. Which parent can provide either an X or Y chromosome to the baby? Which chromosome must come from this parent for the child to be female?

10. Explain how each of the following occurs:

A. Identical twins: _____

B. Fraternal twins: _____

11. What is the only guaranteed way to avoid pregnancy? _____

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12. Complete the following chart about options for *infertility*.

Options	Description
Adoption	
	Sperm is injected into a woman's uterus.
	An egg from the woman is removed and fertilized with sperm from the man and then placed in the woman's uterus.
Ovum transfer	
Surrogate mother	

13. What are two reasons a couple who want children might not use these options? _____

Section 4–3: Problems in Prenatal Development

14. Explain the difference between a *miscarriage* and a *stillbirth*. _____

15. Identify each *birth defect* described below.

- A. Inability of body to process a common protein: _____
- B. Malformed red blood cells interfere with oxygen supply: _____
- C. Lack of a certain blood chemical makes body unable to process certain fats in the brain and nerve cells:

- D. Extra chromosome 21 typically results in mental retardation: _____

16. Describe the causes of birth defects within each category listed below.

- A. Environment: _____

- B. Heredity: _____

- C. Errors in chromosomes: _____

- D. Interaction of heredity and environment: _____

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17. What does a genetic counselor do? _____
18. Complete the following chart about prenatal tests.

Prenatal Test	Description	Risk
Alpha-fetoprotein (AFP)		No known risk
	Sound waves are used to make a video image of the unborn baby.	
Amniocentesis		
Chorionic villi sampling		

Section 4-4: Avoiding Dangers to the Baby

19. Compare fetal alcohol syndrome (FAS) and fetal alcohol effects. How are they similar? How are they different?

20. Why is it critical to avoid taking medications in the first three months of pregnancy unless specifically prescribed?

21. Describe the possible effects on a baby of each hazard listed below.

A. Caffeine: _____

B. Tobacco: _____

C. Cocaine: _____

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22. What is SIDS? _____

23. If an expectant mother needs X rays because of an accident, why should she tell the doctors that she is pregnant?

24. Give three examples of hazardous substances pregnant women should avoid. _____

25. Complete the following chart about infections during pregnancy.

Infection	Possible Effects on Baby	Prevention
Rubella		
Toxoplasmosis		
Chicken pox		
STDs	Serious illnesses, physical disabilities, death	
AIDS		