

## CHAPTERS 42-43: Animal Reproduction

### Chapter 42

1. List and describe three modes of asexual reproduction.

- \_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_  
\_\_\_\_\_
- \_\_\_\_\_  
\_\_\_\_\_

2. What is parthenogenesis and give an example of this process in nature.

\_\_\_\_\_  
\_\_\_\_\_

3. What are the three key processes in sexual reproduction?

\_\_\_\_\_ → \_\_\_\_\_ → \_\_\_\_\_

4. Explain how fertilization (sperm—egg interactions) is specific for each species.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. What are the pros and cons of:

a. external fertilization – \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

b. internal fertilization – \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

6. Describe how each plays a role in regulating the ovarian and uterine cycles:

a. GnRH – \_\_\_\_\_

\_\_\_\_\_

b. FSH – \_\_\_\_\_

\_\_\_\_\_

c. LH – \_\_\_\_\_

\_\_\_\_\_

d. estrogen – \_\_\_\_\_

\_\_\_\_\_

e. progesterone – \_\_\_\_\_

\_\_\_\_\_

### Chapter 43

7. What are the different regions of the egg cytoplasm? What is the significance of each?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. What is the significance of the gray crescent?

\_\_\_\_\_

\_\_\_\_\_

9. Define each of the following terms:

a. cleavage – \_\_\_\_\_

b. blastocoel – \_\_\_\_\_

c. blastula – \_\_\_\_\_

d. blastomeres – \_\_\_\_\_

e. complete cleavage – \_\_\_\_\_

Name: \_\_\_\_\_

- f. incomplete cleavage – \_\_\_\_\_
- g. superficial cleavage – \_\_\_\_\_
- h. trophoblast – \_\_\_\_\_
- i. blastocyst – \_\_\_\_\_
- j. endoderm – \_\_\_\_\_
- k. ectoderm – \_\_\_\_\_
- l. mesoderm – \_\_\_\_\_

10. Explain using **Figure 43.2** and the text how B-catenin becomes concentrated in only certain blastomeres.

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11. Describe the function of an embryonic organizer.

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12. Explain what Hox genes are and how they instruct patterns of differentiation along the body axis.

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