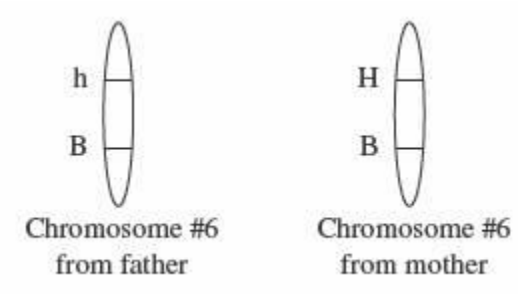
S7L3-1

1. The figures below represent two chromosomes from an animal.



Using the table below that describes the traits carried on Chromosome #6, which trait can the animal inherit **only** from its mother?

Genes on Chromosome #6	Trait
H	long hair
h	short hair
B	black hair
b	white hair

A. long hair

B. black hair

C. white hair

D. short hair

2. ALL living things are made of

A. fibers.
B. tissues.
C. cells.
D. organs.

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3. How could crossing a white flower and a red flower produce plants with pink flowers?

A. The pink flower has incomplete dominant red and white genes.
B. The genes for red color and white color do not affect each other.
C. The pink flower only gets the genes for color from one of the parent plants.
D. The gene for pink color is in all flowers, but the genes for red and white color are only in some of the flowers.

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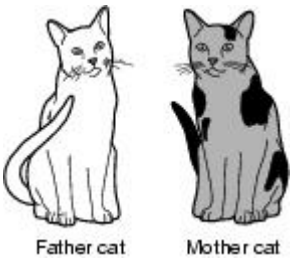
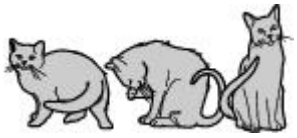
4. Selina's cat has three kittens. Look at the pictures below of the father cat and the mother cat.



Which set of kittens probably belongs with the father cat and mother cat?

A. 

B. 

C. 

D. 

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5. In humans, having bushy eyebrows is a trait that is dominant over having thin eyebrows. Two parents with bushy eyebrows are going to have a baby. What can be predicted about how the baby's eyebrows will develop?

A. The baby definitely will have bushy eyebrows.
B. The baby most likely will have bushy eyebrows.
C. The baby will not have bushy eyebrows.
D. There is not enough information given.

6.

Brown eyes are dominant to blue eyes. Both of Donna's parents have brown eyes, but Donna has blue eyes. What is the BEST explanation for why Donna has blue eyes?

A. All of Donna's grandparents must have had blue eyes.
B. Both of Donna's parents carry a gene for blue eyes.
C. Donna's mother probably carries the gene for blue eyes.
D. Donna's father probably carries the gene for blue eyes.

7.

Mike and his three brothers all have brown hair. Mike's father has brown hair, too. Mike's mother, however, is the only family member that has red hair color. What conclusion can you draw about the gene for hair color?

A. The gene for red hair is dominant over the gene for brown hair.
B. The gene for brown hair is dominant over the gene for red hair.
C. Neither brown nor red are dominant since they both occur in the same family.
D. Red and brown genes are co-dominant.

8.

Rudy has blue eyes, while Gertrude has brown eyes. What causes them to have different eye colors?

A. They have different chromosomes for the two eye colors.
B. Rudy has a different number of chromosomes than Gertrude.
C. They have different combinations of the genes for eye color.
D. Rudy's mother must have had blue eyes, because you only get blue eyes from your mother.

9.

In pea plants, purple flowers are dominant to white flowers. Suppose a purple-flowered plant with genotype Pp is crossed with another purple-flowered plant with the same Pp genotype. What percentage of offspring will also have purple flowers?

A. 25%
B. 50%
C. 75%
D. 100%

10.

The allele for black hair, B, is dominant to orange tabby color, b, in cats. Based upon the Punnett square shown above, what did the parents look like in this genetic cross?

A. two tabby parents
B. two black parents
C. one black parent, one tabby parent
D. both parents were a mix of black and tabby

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11. Single-celled organisms can reproduce and create cells exactly like themselves without combining genes from two different parent cells. When they do this, they use a type of

A. asexual reproduction.

B. gamete formation.

C. natural selection.

D. sexual reproduction.

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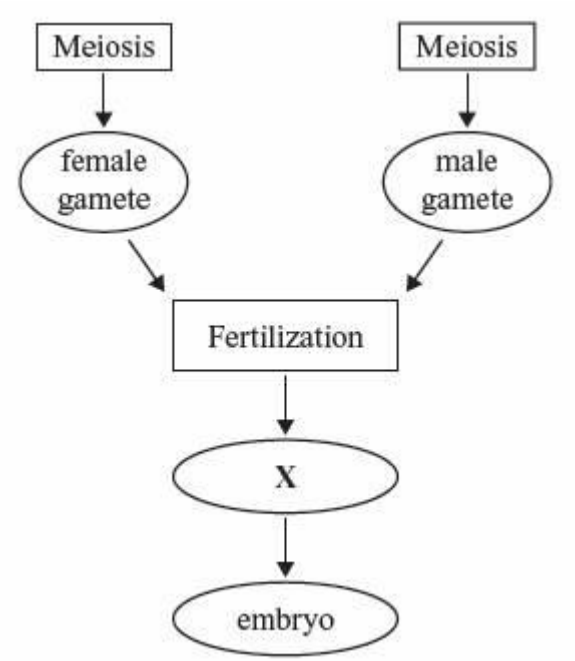
12. A partial diagram of a reproductive process is shown below.



Which of the following labels belongs in the oval marked **X**?

A. egg

B. fetus

C. sperm

D. zygote

13. *Spirogyra* are green algae that can reproduce sexually. Which of the following features identifies reproduction in *Spirogyra* as sexual reproduction?

A. The cells of parent algae have nuclei.

B. Each offspring contains chloroplasts.

C. Several offspring may be produced at once.

D. Genetic material is contributed by two parent cells.

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14. When a cell of a plant stem divides, each new cell has

A. half the number of chromosomes as the parent cell.
B. the same number of chromosomes as the parent cell.
C. twice the number of chromosomes as the parent cell.
D. four times the number of chromosomes as the parent cell.

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15. Which animal embryo grows inside a shell?

A. whale
B. rabbit
C. mouse
D. bird

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16. All living organisms are created through the process of

A. growth.
B. metabolism.
C. respiration.
D. reproduction.

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17. Which part of a plant cell controls the activities of all other cell parts?

A. cell membrane
B. cell wall
C. vacuole
D. nucleus

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18. Which BEST describes a bird laying eggs?

A. breathing
B. reproducing
C. digesting food
D. excreting waste

19.

The picture above shows a starfish common to the Mediterranean Sea. They are a problem because they tangle fishing nets and eat shellfish, such as oysters. Frustrated fishermen would pick starfish out of their nets and cut them into little pieces. Unfortunately, this only helped the starfish to reproduce and make more starfish. This type of reproduction is

A. sexual reproduction by regeneration.
B. sexual reproduction through gamete production.
C. asexual reproduction by budding.
D. asexual reproduction by fragmentation.

20.

The picture above shows a bacteria colony under a microscope. How do these bacteria normally reproduce?

A. asexually, by dividing single bacteria cells into two
B. asexually, by breaking off of larger multicelled bacterium
C. sexually, by mating with other bacteria like themselves
D. sexually, by mating with other bacteria different from themselves

Answer Key

1. A) long hair

2. C) cells.

3. A) The pink flower has incomplete dominant red and white genes.

4. A) 

5. B) The baby most likely will have bushy eyebrows.

6. B) Both of Donna's parents carry a gene for blue eyes.

7. B) The gene for brown hair is dominant over the gene for red hair.

8. C) They have different combinations of the genes for eye color.

9. C) 75%

10. C) one black parent, one tabby parent

11. A) asexual reproduction.

12. D) zygote

13. D) Genetic material is contributed by two parent cells.

14. B) the same number of chromosomes as the parent cell.

15. D) bird

16. D) reproduction.

17. D) nucleus

18. B) reproducing

19. D) asexual reproduction by fragmentation.

20. A) asexually, by dividing single bacteria cells into two