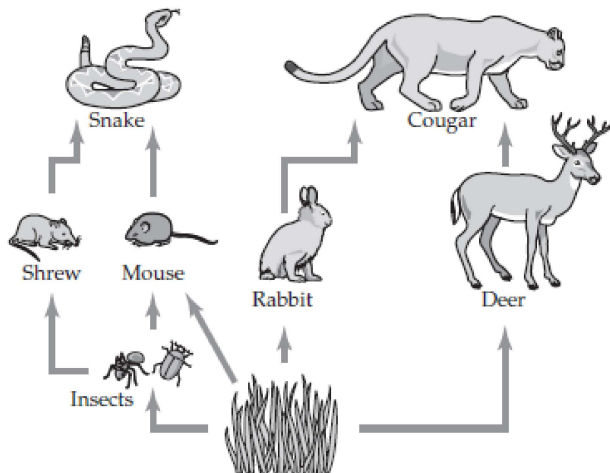


BIOLOGY Final Exam REVIEW

Use the relationships in the food web below to answer the following questions.

TERRESTRIAL FOOD WEB



- Which of these lists all of the predators shown in the food web?

A) cougars and snakes	C) cougars only
B) cougars, snakes, and shrews	D) cougars, snakes, shrews, and mice
- The relationship between the mice and the insects is an example of

A) parasite – host	C) predator – prey
B) mutualism	D) commensalism
- According to the food web, which of these supply energy for all the other organisms?

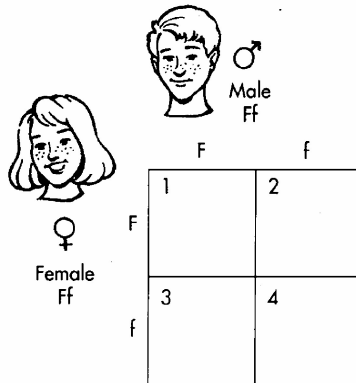
A) insects	C) cougars
B) grasses	D) snakes
- Which of these statements best explains how genes and proteins are related?

A) Genes are the building blocks of proteins.
B) Proteins are segments of DNA that code for genes.
C) Proteins are the building blocks of genes.
D) Genes are segments of DNA that code for proteins.
- In the fall, the leaves of many plants change color. Which of the following abiotic factors is primarily responsible for causing this change?

A) increased water	C) decreased acidity
B) increased pH	D) decreased light

Biology Semester 1 Final Exam REVIEW

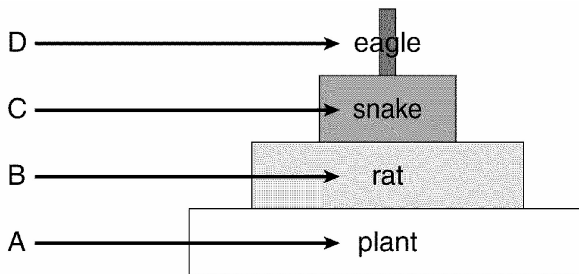
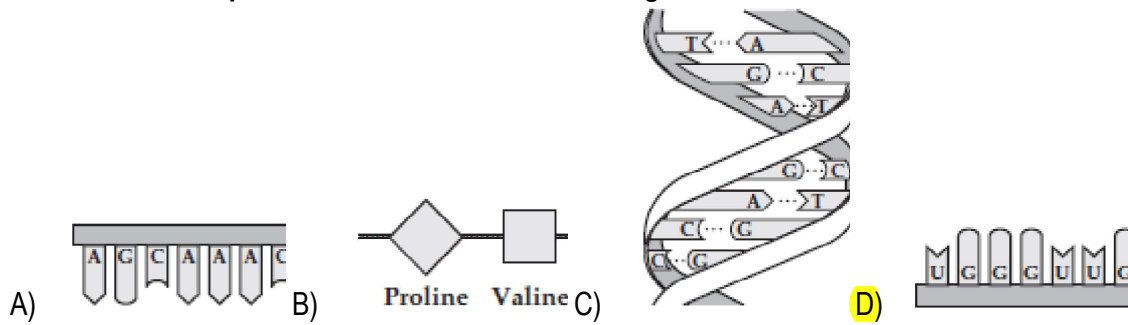
In humans, having freckles (F) is dominant to not having freckles (f). The inheritance of these traits can be studied using a Punnett square similar to the one shown below.



6. Refer to the illustration above. Which box in the Punnett square represents a child who does *not* have freckles?
- A) box 1
B) **box 4**
C) box 3
D) box 2
7. Refer to the illustration above. The child represented in box 1 in the Punnett square would
- A) be heterozygous for freckles.
B) **be homozygous for freckles.**
C) have an extra freckles chromosome.
D) not have freckles.
8. Refer to the illustration above. The child in box 3 of the Punnett square has the genotype
- A) ff .
B) **Ff .**
C) Fff .
D) FF .
9. Refer to the illustration above. The parents shown in the Punnett square could have children with a phenotype ratio of
- A) 1:2:1.
B) 2:2.
C) **3:1.**
D) 4:0.
10. Students are conducting an experiment to determine if sugars are present in foods. They heat a test tube containing a sugar solution in a beaker of water.
- Which of these is an unsafe laboratory practice in this experiment?
- A) wearing safety goggles while heating the sugar solution
B) **heating the sugar solution in a closed test tube**
C) rinsing hands with water after handling the materials
D) using a test tube clamp to hold the test tube

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11. Which of these represents the structure of messenger RNA?



12. Refer to the illustration above. On the diagram, animals that feed on plant eaters are no lower than

- A) level C.
- B) level D.
- C) level B.
- D) level A.

13. Refer to the illustration above. How much energy is available to the organisms in level C?

- A) 10 percent of the energy in level B
- B) all of the energy in level A minus the energy in level B
- C) 90 percent of the energy in level B
- D) all of the energy in level A plus the energy in level B

14. Refer to the illustration above. Level A is composed of

- A) carnivores.
- B) omnivores.
- C) producers.
- D) herbivores.

15. Refer to the illustration above. The diagram shows a(n)

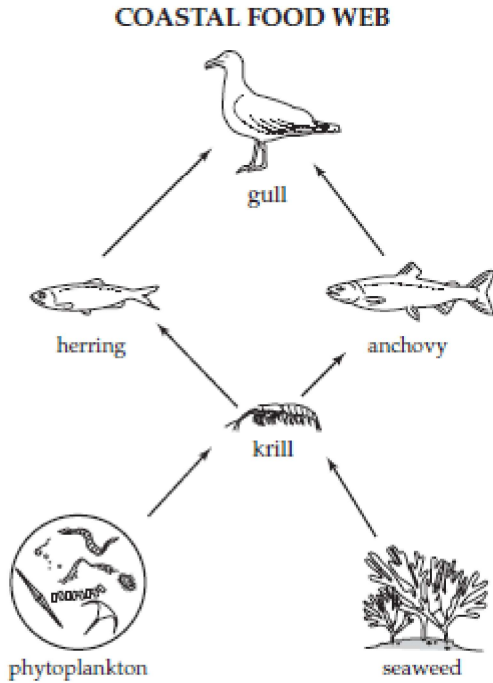
- A) community.
- B) food web.
- C) energy pyramid.
- D) population.

16. Which of the following statements is true of homozygous alleles?

- A) They are identical forms of the same gene.
- B) They are always inherited together.
- C) They are different forms of the same trait.
- D) They are identical forms of two different genes.

Biology Semester 1 Final Exam REVIEW

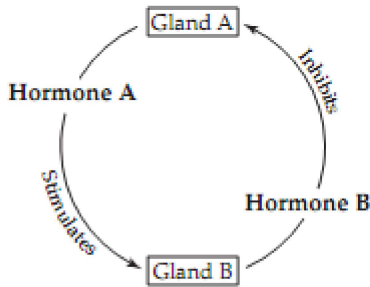
17. The diagram below represents a coastal food web.



Global warming causes an increase in coastal water temperatures. Increased coastal water temperature causes a decrease in reproduction of krill. Which of these would most likely experience an increase in population?

- A) phytoplankton
- B) herring
- C) anchovy
- D) gull

18. Below is a diagram that represents the relationship between two glands.



This is an example of

- A) anaerobic respiration
- B) natural selection
- C) polarity
- D) feedback

19. A strand of DNA has a nucleotide base sequence of TAC-CGG-AGT. Which of the following is the complementary mRNA nucleotide sequence produced from the strand of DNA?

- A) ACU-GAA-CGA
- B) AGU-UCC-UAC
- C) AUG-GCC-UCA
- D) UAC-CGG-AGU

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Black skimmers are water birds that live along coastal beaches, bays, estuaries, and marshes. They fly just above the surface of the water using their lower jaw to catch small fish, shrimp, and other small crustaceans.



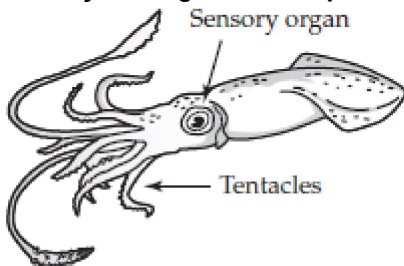
These birds nest in simple, unlined depressions in the sand. Scientists have observed a decline in the number of nests. Some causes of this decline include a lack of suitable nesting sites, beach erosion, and human disturbances.

When people approach their nests, the birds become aggressive and chase away intruders. Other animals, like crows, will take advantage of the unprotected nests and feed on the eggs.

20. A continued decrease in black skimmer's population will most likely lead to
- A) **an increase in prey animal populations** C) a decrease in decomposer populations
B) an increase in producer populations D) a decrease in scavenger populations
21. Which of these terms best describes the relationship between the crows and the black skimmers?
- A) parasite-host C) commensalism
B) **predator-prey** D) mutualism
22. Which of these best describes the effects of human disturbance on the black skimmer's eggs?
- A) **a biotic factor** C) an abiotic factor
B) a niche D) an allele
23. The nucleotide base sequence of a strand of DNA is TAC-CGG-AGT. What is the sequence of the complementary DNA strand?
- A) AGT-TCC-TAC C) TAC-CGG-AGT
B) **ATG-GCC-TCA** D) ACT-GAA-CGA

Use the information and the diagram below to answer the following questions.

Squid are marine animals that have a complete circulatory system and reproduce sexually. A diagram of a squid is shown below.



24. Which of these is **not** a purpose of a squid's sensory organs?
- A) locating prey C) finding mates
B) **excreting waste** D) avoiding predators

Biology Semester 1 Final Exam REVIEW

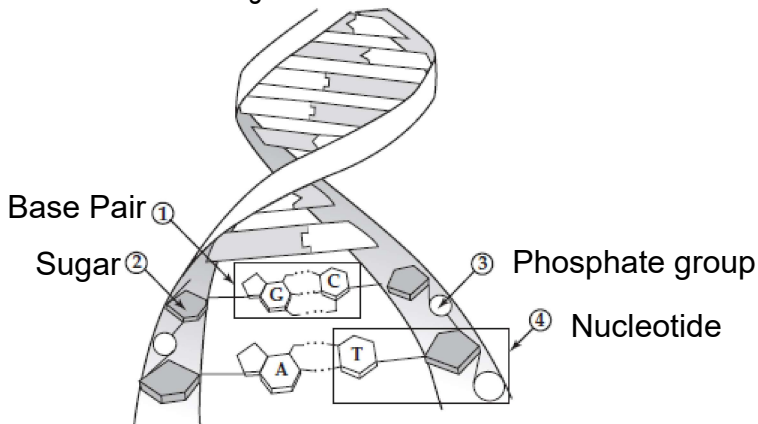
25. What organ system controls the movement of the squid's tentacles?

- A) excretory system
 B) circulatory system
 C) nervous system
 D) respiratory system

26. Which of these transports nutrients to the cells of a squid?

- A) nerves
 B) gametes
 C) sea water
 D) blood

Use the diagram below to answer the next two numbers.



27. Which of these is a nucleotide?

- A) 2
 B) 3
 C) 1
 D) 4

28. Which of these is a sugar?

- A) 1
 B) 3
 C) 2
 D) 4

Use the information and the Punnett square below to answer the next two (2) numbers.

	B	b
B	1	2
B	3	4

In guinea pigs, the allele for black fur (B) is dominant. The allele for brown fur (b) is recessive. Two guinea pigs were crossed as shown in the Punnett square below. Numbers 1, 2, 3, and 4 represent the types of offspring produced from the cross.

29. Which of these describes the phenotypes of the parent guinea pigs?

- A) One parent has a mixture of black and brown fur, and the other has black fur.
 B) One parent has black fur, and the other has brown fur.
 C) Both parents have black fur.
 D) Both parents have brown fur.

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30. What is the probability that an offspring from this cross would have brown fur?
A) 0% C) 75%
B) 50% D) 25%

Use the information and the table below to answer the following.

Mammals, birds, modern reptiles, and theropod dinosaurs are vertebrates. The table below shows some of the differences and similarities among these groups of vertebrates.

CHARACTERISTICS OF VERTEBRATE GROUPS				
	Mammals	Birds	Modern Reptiles	Theropod Dinosaurs
Number of ear bones	3	1	1	1
Legs directly under body	yes	yes	no	yes
Produce milk	yes	no	no	no
Constant body temperature	yes	yes	no	yes
Live birth	yes	no	some	no
Skin covering	hair	feathers/scales	scales	feathers/scales

31. Birds, mammals, and theropod dinosaurs can maintain a constant body temperature. The ability to maintain a constant body temperature is an example of -
A) homeostasis C) a reptilian trait
B) an acquired trait D) respiration
32. In a recent experiment, scientists studied the effects of increased carbon dioxide levels on the growth of pine trees. The scientists observed that increased levels of carbon dioxide resulted in an increase in the average circumference of the tree trunks. The change in circumference is a result of the process of
A) osmosis C) transpiration
B) photosynthesis D) adaptation
33. Deep sea bacteria live at ocean depths too great for light to reach. These bacteria make their own food. Which of these is the source of energy for the bacteria?
A) nucleic acids C) inorganic compounds
B) binary fission D) DNA replication
34. Which of these is an example of homeostasis in a multicellular organism?
A) regulating body temperature C) inheriting a trait
B) growing larger and stronger D) building a nest

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35. Researchers are studying slider turtles. Slider turtles hatch on the beach. The researchers discovered that larger baby turtles were more likely to survive than smaller baby turtles. They hypothesized that the larger turtles could move more quickly toward the water than the smaller turtles, reducing their exposure to predators.

The survival advantage for the larger baby turtles is a result of -

- A) mutualism
B) natural selection
C) commensalism
D) gene splicing

Use the information below to answer the following item.

The water quality of the Chesapeake Bay is measured by the Chesapeake Bay Water Quality Monitoring Program. Scientists measure the salinity, temperature, pH, and oxygen levels to help determine the health of the Bay. Healthy water also contains appropriate amounts of nutrients. Monitoring water quality helps communities make decisions about the Bay.

36. Which of these would likely be the most immediate result if oxygen levels in the Bay decreased by 90%?
- A) decrease in salinity levels
B) increase in producer populations
C) decrease in fish populations
D) increase in water temperature

Use the information and the table below to answer the following.

Elodea, a freshwater plant, releases gas bubbles when it is placed in direct light. In an investigation, a student placed a lamp at different distances from an aquarium containing *Elodea*. The student counted the number of bubbles produced by the *Elodea* plant. His data are shown in the table below.

Distance of Plant From Light (cm)	Production of Gas Bubbles/Minute
10	40
20	20
30	10
40	5

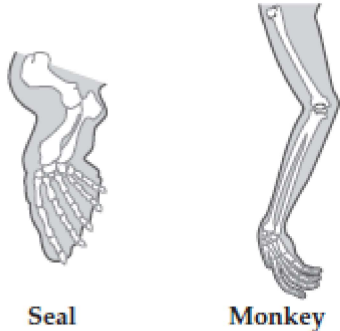
37. The bubbles released by *Elodea* contain mostly
- A) nitrogen
B) carbon dioxide
C) oxygen
D) water vapor
38. What energy source is used by *Elodea*?
- A) heat
B) oxygen
C) light
D) carbon dioxide

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Use the information and the figure below to answer the following question.

The figure below shows the skeletal structure of a seal's flipper and a monkey's arm.

SKELETAL STRUCTURE OF SEAL FLIPPER AND MONKEY ARM



The skeletal structures of the flipper and the arm are similar, even though they have different functions. Seals use their flippers for swimming, while monkeys use their arms primarily for grasping and lifting.

39. Which of these explains why the skeletal structures of the seal's flipper and the monkey's arm are similar?
- A) Seals and monkeys have a common ancestor.
 - B) Seals and monkeys have identical DNA sequences.
 - C) All of the same genetic mutations occurred in seals and monkeys.
 - D) All of the same vitamins are used for bone formation in seals and monkeys
40. The seal's flipper and the monkey's arm differ in appearance. This difference is the result of
- A) migration
 - B) succession
 - C) genetic engineering
 - D) natural selection

Use the information below to answer the next two (2) numbers.

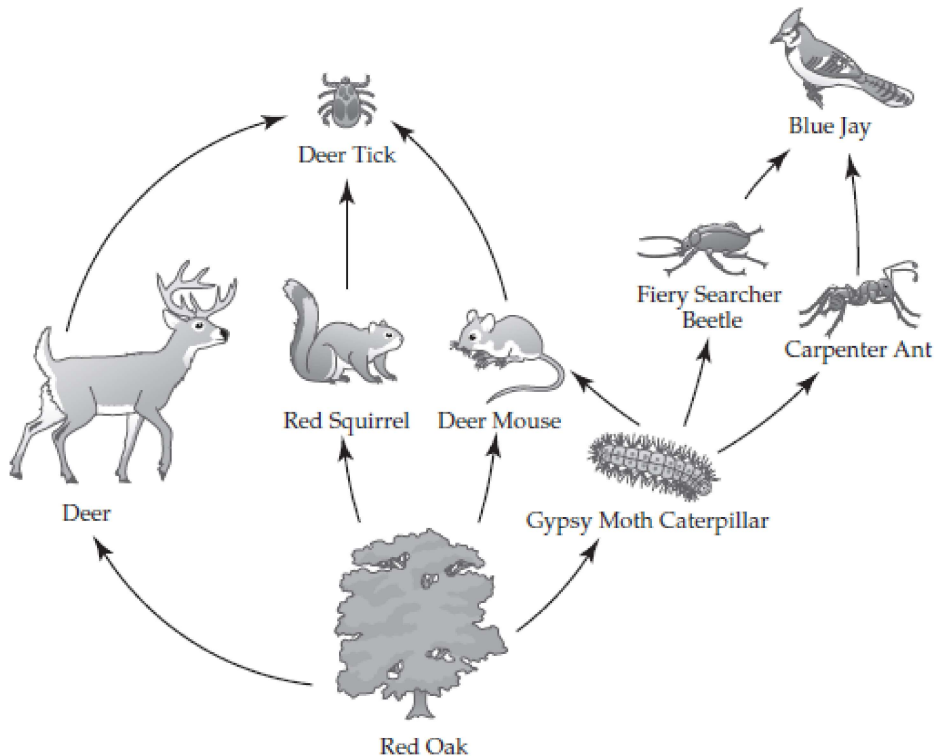
In an ocean environment, marine life is most abundant in the euphotic zone. This zone extends from the surface waters to a depth of 200 meters, the deepest depth that sunlight can reach. It is in this range that phytoplankton capture energy from the sun. Although they are microscopic organisms, phytoplankton are the foundation that supports the marine food web.

41. Which trophic level is most likely missing from an ocean floor food web at a depth of 800 meters?
- A) decomposers
 - B) carnivores
 - C) scavengers
 - D) producers
42. A sperm cell of a moth has 112 chromosomes. How many chromosomes are in the moth's wing cells?
- A) 224
 - B) 112
 - C) 448
 - D) 66

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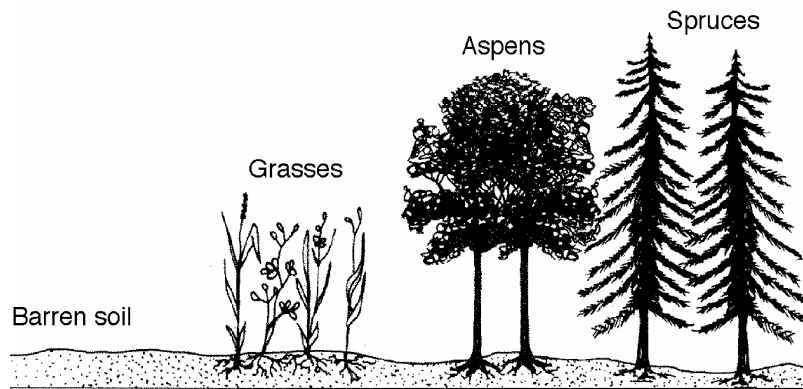
Use the forest food web below to answer the next three (3) numbers.

FOREST FOOD WEB



43. Which of these describes the role of the red oak in the forest food web?
- A) herbivore
B) **producer**
C) parasite
D) omnivore
44. The deer tick feeds on the blood of the red squirrel, deer, and deer mouse. Which of these best describes the role of the deer tick in the forest food web?
- A) producer
B) carnivore
C) omnivore
D) **parasite**
45. When gypsy moth caterpillars hatch, which of these populations benefits first?
- A) blue jay
B) deer tick
C) **carpenter ant**
D) red oak
46. What process produces male and female reproductive cells in plants?
- A) fertilization
B) replication
C) **meiosis**
D) mitosis
47. The kinds of species that live in certain areas are determined largely by
- A) plants.
B) weather.
C) soil.
D) **climate.**

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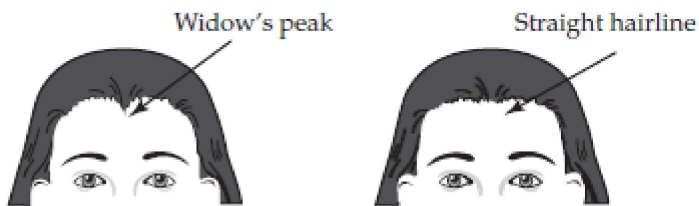
48. Refer to the illustration above. The process shown in the diagram is known as
- A) **succession.**
 - B) oligotrophy.
 - C) competitive exclusion.
 - D) symbiosis.
49. Tallness (T) is dominant to shortness (t) in pea plants. Which of the following represents a genotype of a pea plant that is heterozygous for tallness?
- A) TT
 - B) T
 - C) tt
 - D) **Tt**
50. If you spill a chemical, you should
- A) tell your lab partner to clean up the spill.
 - B) soak up the spill with paper towels and throw them in the wastebasket.
 - C) clean up the spill with a sponge.
 - D) **tell the teacher.**
51. You should not mix chemicals together unless told to do so. Which choice is **NOT** a reason for this rule?
- A) The mixture could be poisonous.
 - B) The mixture could explode.
 - C) The mixture could produce a toxic gas.
 - D) **The mixture could splash out of the container.**
52. **Sea grasses grow on the ocean floor in shallow areas. Runoff from the land into the ocean can cause the waters to become cloudy. Cloudy water affects the sea grasses' ability to make their own food because there is not enough**
- A) water
 - B) **light**
 - C) oxygen
 - D) carbon
53. The method for safely determining the odor of a chemical is called
- A) **wafting.**
 - B) stirring.
 - C) decanting.
 - D) inhaling.

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Use the information below to answer the following item.

Hummingbirds need large amounts of energy to flap their wings between 60 and 200 times per second. Their wings beat so rapidly that it is difficult to see them move. They often appear suspended in air for extended periods of time without changing their location. Hummingbirds have long bills and grooved tongues to reach into flowers to feed on flower nectar. They also feed on insects.

54. Which term best describes the ecological relationship between hummingbirds and insects?
A) predator–prey
B) parasite–host
C) mutualism
D) commensalism
55. The body system most directly interacting with the skeletal system to enable hummingbirds to beat their wings between 60 and 200 times per second is the -
A) muscular system
B) digestive system
C) endocrine system
D) circulatory system
56. In humans, the allele for having a hairline with a widow's peak (H) is dominant to having a straight hairline (h).

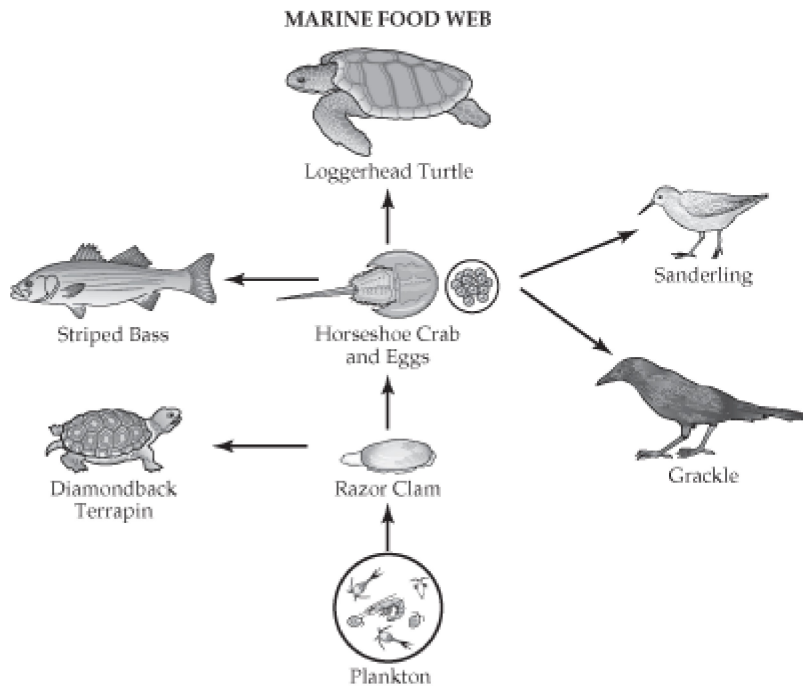


A woman that is homozygous dominant for having a widow's peak and a man that is heterozygous for having a widow's peak have a child. What is the probability that their child will have a widow's peak?

- A) 0%
B) 75%
C) 100%
D) 50%
57. Cheryl wants to perform an investigation that requires using hazardous chemicals. The following steps of the investigation are not in the correct order.
1. Perform the investigation.
 2. Design the investigation.
 3. Put on gloves, goggles, and an apron.
 4. Dispose of waste materials.
- Which of these is the correct sequence of steps to safely complete the investigation?
- A) 1-3-4-2
B) 2-3-1-4
C) 4-1-3-2
D) 3-2-1-4
58. Red-green color blindness affects about 7.0% of the human male population. It affects approximately 0.4% of the human female population. These data suggest that red-green color blindness is a -
A) recessive trait carried on the X chromosome
B) dominant trait carried on the Y chromosome
C) dominant trait carried on the X chromosome
D) recessive trait carried on the Y chromosome

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A marine environment provides a habitat for a variety of plants and animals. A small part of a marine food web is shown below.



59. Horseshoe crabs are used by fisherman for bait. If the horseshoe crab population were reduced by **overfishing**, which of these groups of organisms would **most likely** decrease in number?
- A) **sanderlings, loggerhead turtles, and striped bass**
B) plankton, razor clams, and loggerhead turtles
C) grackles, plankton, and diamondback terrapin
D) striped bass, sanderlings, and razor clams
60. **Which of these describes the role of the sanderling in the marine food web?**
- A) producer
B) omnivore
C) herbivore
D) **carnivore**
61. The presence or absence of freckles is determined by one gene. The allele for freckle (**F**) is dominant and the allele for the absence of freckle (**f**) is recessive.

A couple has several children. All of the children have freckles because their parents' genotypes can only produce children with freckles. Which of these are **most likely** the genotypes of the two parents?

- A) **FF and ff**
B) Ff and Ff
C) Ff and ff
D) ff and ff
62. You should wear goggles in the lab when you are working with.
- A) chemicals.
B) objects that could become airborne.
C) flames.
D) **all of the above.**

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63. Which of these combinations results in the expression of a **recessive** trait?
 A) **two recessive alleles**
 B) a dominant sex-linked allele and a Y chromosome
 C) a dominant allele and a recessive allele
 D) two dominant alleles

64. Below are parts of the mitochondrial DNA codes for the American black bear, the giant panda, the red panda, and the raccoon.

MITOCHONDRIAL DNA CODES

Organism	DNA Codes
American black bear	ATT GGA GCA GAC TTA
Giant panda	ATT GGC ACT AAT CTA
Red panda	ATT GGA ACT AAC CTT
Raccoon	ATC GGA TCT AAC CTT

Based on this information, which two species are **most closely** related?

- A) the American black bear and the giant panda
 B) **the red panda and the raccoon**
 C) the red panda and the giant panda
 D) the American black bear and the raccoon
65. The Punnett square in Figure 7.1 shows a cross between two parents who have the genotype Ss for a genetic **disorder caused by a recessive allele**. Which of the following will have the genetic disorder?

	S	s
S	SS	Ss
s	Ss	ss

FIG. 7.1

- A) Ss parent
 B) SS offspring
 C) **ss offspring**
 D) Ss offspring
66. **Most organisms need oxygen for their cells to function normally. In mammals, two organ systems work together to move oxygen throughout the body.**

The respiratory system brings oxygen into the body from the environment. Which of these body systems is **directly** involved in the delivery of oxygen to the major organs of the human body?

- A) the endocrine system
 B) the digestive system
 C) **the circulatory system**
 D) the nervous system

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67. Students will conduct a laboratory experiment using the following materials: a Bunsen burner, a beaker of water, glass tubing, four test tubes containing different chemicals, and rubber stoppers. Which of these steps is most critical for students to follow when using these materials in the lab?
- A) washing hands before starting the experiment
 - B) wearing eye protection at all times
 - C) writing the lab procedure in a notebook
 - D) placing a stopper on all test tubes before heating them
68. Which of the following precautions should you follow in the laboratory if you have long hair?
- A) Tie your hair back from your face.
 - B) Be sure your hair is clean.
 - C) Long hair is not allowed in the laboratory under any circumstances.
 - D) No precautions are necessary with long hair.
69. **A protozoan lives inside a rat and takes its nourishment from the rat's body. Because the protozoan damages the rat's brain, the rat loses its fear of cats. A cat attacks an infected rat; the protozoan enters the cat's body and completes its life cycle.**

Which of these describes the relationship between the protozoan and the rat?

- A) parasite–host
 - B) commensalism
 - C) predator–prey
 - D) mutualism
70. Before starting an investigation, you should
- A) try out the equipment so you know how it works.
 - B) read all the instructions and start the lab even if you have questions.
 - C) try a procedure you think will work better.
 - D) read all the instructions and ask your teacher if you have any questions.
71. The hind leg bones shown in the whale in Figure 10.2 are examples of

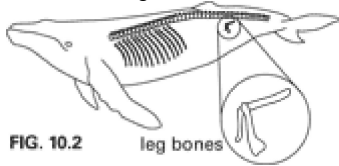


FIG. 10.2

leg bones

- A) fossil structures.
 - B) vestigial structures.
 - C) homologous structures.
 - D) analogous structures.
72. An ecosystem contains organisms interacting with each other and their physical environment. Which of these is the best indicator of a healthy ecosystem?
- A) There are few herbivores.
 - B) There are few decomposers.
 - C) There is a large population of only one species.
 - D) There are many different species.

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73. Depending on the environmental conditions, *Euglena*, a unicellular protist, can act as either a producer or a consumer. *Euglena* will **most likely** act as a consumer when placed in which of these environments?

- A) cool
- B) low-oxygen
- C) acidic
- D) no-light

74. Horses have 64 chromosomes in each body cell. If a horse cell undergoes meiosis, how many chromosomes should be in each gamete?

- A) 16
- B) 32
- C) 64
- D) 128

75. In humans, the allele for long eyelashes is dominant (L) and the allele for short eyelashes is recessive (l). A female who is heterozygous for long eyelashes and a male with short eyelashes have a child.

What is the probability that their offspring will have short eyelashes?

- A) 0%
- B) 25%
- C) 50%
- D) 75%

76. The human body functions properly when organ systems work together. Which organ system works with the muscular system to control muscle contraction?

- A) circulatory
- B) reproductive
- C) nervous
- D) excretory

77. If a liquid is inflammable, you should be sure to keep it

- A) next to sources of heat.
- B) in the fume hood.
- C) away from heat or flames
- D) near the sink.

78. The ears of foxes help to regulate body heat. The fennec fox lives in the North African desert and has large ears that release body heat. The Arctic fox lives in cold climates and has small ears that conserve body heat.



Fennec Fox



Arctic Fox

Which of these processes led to the development of different ear sizes in foxes?

- A) succession
- B) natural selection
- C) mutualism
- D) selective breeding

79. Which RNA sequence is produced using the DNA sequence AGC-TAC-ACT?

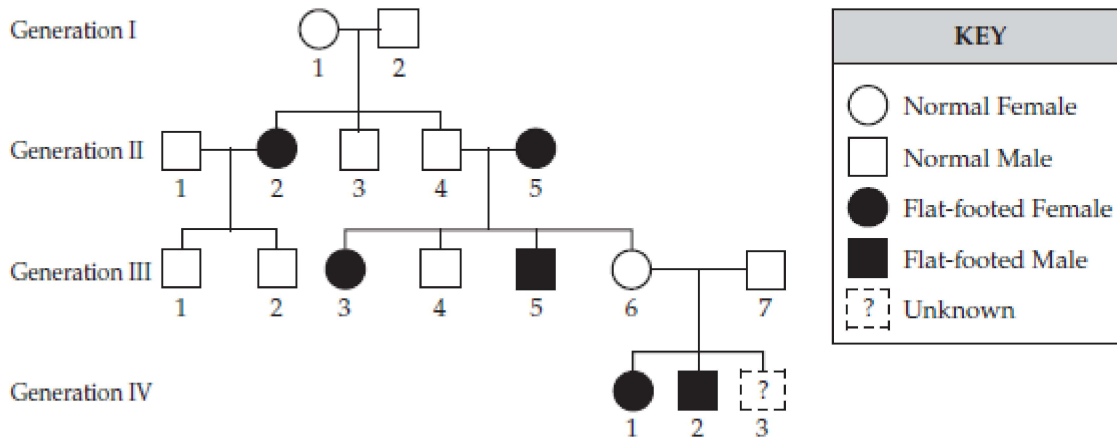
- A) TCG-ATG-TGA
- B) UCG-UAC-ACU
- C) UCG-AUG-UGA
- D) AGC-UAC-ACU

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Use the the information and the pedigree below to answer the next three (3) questions.

In humans, the allele for having feet with normal arches is dominant (A). The allele for flat feet is recessive (a). The pedigree below shows the occurrence of normal arches and flat feet in four generations of a family. In the pedigree, individuals are identified by the generation and individual numbers. For example, Individual 2 in Generation I is identified as I-2.

PEDIGREE FOR INHERITANCE OF NORMAL ARCHES



80. Individuals III-6 and III-7 have two children and are expecting a third child. Their two children have flat feet. What is the chance that the third child will have normal arches?
 A) **75%** C) 50%
 B) 25% D) 100%
81. Which of these individuals in the pedigree is a male with the genotype aa?
 A) **Individual III-5** C) Individual III-2
 B) Individual I-1 D) Individual II-2
82. Which of these Punnett squares shows the cross between Individual II-4 and Individual II-5?

A)

	A	a
A		
a		

B)

	A	A
a		
a		

C)

	A	A
A		
a		

D)

	A	a
a		
a		

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83. In humans the trait of having freckles (F) is dominant to not having freckles (f). Which genotype and phenotype are correctly paired?

- A) Ff? –freckles
B) Ff? –no freckles
C) ff? –freckles
D) FF? –no freckles

84. Some bacteria live in habitats without light. They produce their own food using inorganic substances from the environment.

Which of these terms best describes this process?

- A) photosynthesis
B) chemosynthesis
C) cellular respiration
D) binary fission

85. A scientist is trying to discover a new treatment to stop cancer cells from dividing. In the cancer cells, which of these processes will stop if the treatment is successful?

- A) binary fission
B) genetic recombination
C) chemosynthesis
D) mitosis

86. The chart below is the nutrition facts found on a bag of pretzels.

PRETZEL NUTRITION FACTS

Nutrition Facts	
Serving Size 25 Pretzels (30g)	
Servings Per Bag 10	
Amount Per Serving	
Calories 120	
	% Daily Value*
Fat 1 g	1%
Sodium 120 mg	5%
Potassium 50 mg	1%
Total Carbohydrate 23 g	8%
Dietary fiber 7 g	30%
Soluble fiber 5 g	
Insoluble fiber 2 g	
Sugars 11 g	
Other carbohydrates 5 g	
Protein 3 g	6%
*based on a 2000 Calorie diet	

Which of the following equations could be used to determine the number of pretzels in a 100-Calorie serving?

- A) $\frac{X}{100} = \frac{30}{120}$
B) $\frac{25}{100} = \frac{120}{X}$
C) $\frac{30}{100} = \frac{120}{X}$
D) $\frac{X}{100} = \frac{25}{120}$

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87. Most carbohydrates in the human body are -
- A) used as catalysts for reactions in cells
 - B) not easily absorbed into the bloodstream
 - C) used as building blocks for proteins
 - D) consumed as a source of energy

Corals are marine animals that often live in tropical seas. Many types of corals have unicellular algae living in their tissues. The algae provide up to 98 percent of the corals' food. The corals provide protection and inorganic nutrients for the algae.

88. **Algae leave the coral when the water is too warm. What kind of factor is temperature on this relationship?**
- A) abiotic
 - B) biotic
 - C) parasitic
 - D) commensalistic
89. Which of these is an example of a heterozygous genotype?
- A) RR
 - B) Rr
 - C) round
 - D) wrinkled

Many bird species in the forests of eastern North America have very large geographic ranges. Bird species in tropical forests have very small geographic ranges. Many forest areas within the ranges of these birds are being destroyed. Scientists believe that the destruction of forests affects birds with small ranges more than birds with large ranges.

90. Which of these is an abiotic factor in both North American and tropical forest ecosystems?
- A) number of producers
 - B) age of trees
 - C) intensity of light
 - D) number of consumers
91. As a result of the destruction of forests, birds with a small geographic range are most likely to
- A) lose their ability to navigate
 - B) adapt to a new environment
 - C) become less susceptible to disease
 - D) lose their specific niche
92. When the settlers arrived in New England, many forests were turned into fields. Eventually, some fields were abandoned and then grew back into forests. This is best described as
- A) succession.
 - B) coevolution.
 - C) pioneer species.
 - D) niche realization.
93. After an egg cell containing 16 chromosomes is fertilized, how many chromosomes will be present in the zygote?
- A) 32
 - B) 8
 - C) 16
 - D) 64
94. Which of these should be done before beginning a laboratory investigation?
- A) draw conclusions
 - B) record data on table
 - C) review the procedure
 - D) collect data
95. A new species is introduced into an area. This can have harmful effects on species already inhabiting the area. The harmful effects are most likely a result of
- A) competition
 - B) succession
 - C) commensalism
 - D) mutualism

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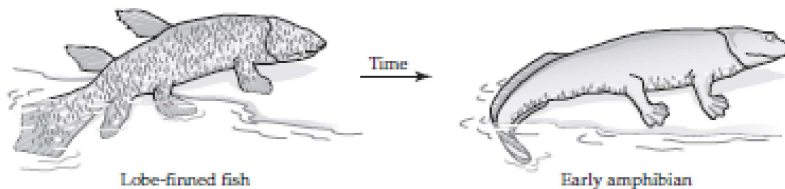
96. A student designed the chart below to classify different organisms into four groups.

CLASSIFICATION CHART

I. Wings	Go to II
No wings.....	Group A
II. Feathers	Group B
No feathers	Go to III
III. Two legs.....	Group C
Six legs	Group D

According to the student's classification chart, an organism with no wings and four legs would belong to which group?

- A) Group D B) Group C C) Group B D) **Group A**
97. Some types of bacteria live deep in the ocean where sunlight cannot reach. These bacteria use the energy stored in inorganic molecules to make sugars. Which of these processes do the bacteria use to produce sugars?
- A) photosynthesis C) nitrogen fixation
B) **chemosynthesis** D) aerobic respiration
98. Aphids are insects that feed on fluids from the stems of plants. After the aphids ingest the plant fluids, they excrete a liquid called honeydew.
- Ladybugs eat aphids, which are a source of protein for the ladybugs. Which of these terms best describes the relationship between the ladybugs and the aphids?
- A) parasite-host C) **predator-prey**
B) commensalism D) mutualism
99. One kind of chromosomal **mutation** can occur during meiosis when a pair of chromosomes that carry genes for the same **trait fail to separate**. Which of these represents the sex chromosomes of a male organism when this type of chromosomal mutation has occurred?
- A) **XXY** B) XXX C) XX D) XY
100. Amphibians were the first vertebrates to live on land. The ancestors of amphibians were probably lobe-finned fish. The diagram below shows this development of amphibians over time.



Which of these terms best describes how amphibians could have developed from lobe-finned fish?

- A) migration C) cloning
B) selective breeding D) **natural selection**