



Take \$15 off

your AP* curriculum order of \$50 or more

with promo code **APSI2016**

Hurry! Code expires 09.30.16

Teach biology while you tackle the test!

Each **AP* Biology** resource guide includes:

- 50 multiple-choice questions covering five subtopics – 10 questions per subtopic
- 4 free-response questions replicating the types of questions found on the AP Biology exam
- Questions that deal with the AP-recommended labs incorporated into MC and FR sections
- Strategies for teaching
- Answer keys and detailed answer explanations for each multiple-choice question
- Detailed answer explanation with scoring guidance for each free-response question

Visit www.appliedpractice.com to order any of the following AP* Biology resource guides.

Vol 1: Chemical Connections

Vol 2: Cells

Vol 3: Cellular Energetics

Vol 4: Heredity

Vol 5: Molecular Genetics

Vol 6: Evolutionary Biology

Vol 7: Diversity of Organisms

Vol 8: Reproduction, Growth, and Development

Vol 9: Plant Form and Function

Vol 10: Animal Form and Function

Vol 11: Ecology

Genetics of Organisms Laboratory

Question 41 refers to the illustration of the tortoiseshell cat below and the information that follows.



A gene for coat color is present on the X chromosome in cats. The allele for orange color (*o*) shows codominance to the allele for black color (*b*), so that a heterozygote cat is a mixture of both colors called the tortoiseshell coat color as pictured above.

41. If an orange female cat were mated to a black male, which of the following would be expected of the resulting offspring?
- (A) Half of the females would be tortoiseshell.
 - (B) Half of the kittens would be tortoiseshell.
 - (C) All of the males would be tortoiseshell.
 - (D) Half of the kittens would be orange and the other half would be black.

Questions 42-44 refer to the following figure of a Punnett square.

The Punnett square shows a cross between a male and female human for the characteristic of color vision. The allele for color blindness (c) is recessive to the allele for normal color vision (C).

			♂
		X^c	5
♀	X^C	1	3
	X^c	2	4

42. What genotype would present in position 3 of the Punnett square?
- (A) Y^C
 - (B) X^C
 - (C) $X^C Y$
 - (D) $X^C Y^c$
43. What would be the phenotype of the individual in position 4?
- (A) A carrier with normal vision
 - (B) A color blind female
 - (C) A female with normal vision
 - (D) A color blind male
44. All of the following are true of the offspring of this cross EXCEPT
- (A) only males will be color blind
 - (B) there will be a 3:1 ratio of normal to color blind individuals
 - (C) only males will have the color blind allele
 - (D) half of the females will be carriers of the allele for color blindness

2. Mitosis and meiosis have specific functions in different types of organisms.

Discuss the advantages and disadvantages of sexual reproduction as compared to asexual reproduction.