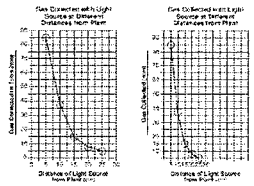
Answer Key
3rd Quarter Review (1/2018)

1. B
2. B
3. D
4. D
5. B
6. C
7. A
8. A
9. D
10. C
11. D
12. B
13. B
14. D
15. C
16. B
17. C
18. C
19. B
20. A
21. A
22. D
23. C
24. A
25. A
26. C
27. Providing an appropriate label on the *y*-axis and including the units.
28. Marking an appropriate scale, without any breaks in the data, on each labeled axis.
29. Correctly plotting the data and connecting the points.



30. C
31. — Oxygen/O_2
32. C
33. A
34. — insulin or glucagon
35. — Each hormone has a different shape and attaches to a specific receptor. — Hormones differ in their shapes. If this shape were changed, the molecule would not send the necessary message to the cell. — Different sequences of amino acids make different hormones, giving them a unique shape. — Cell receptors are specific for certain hormones.
36. — They would eat different foods. — They eat at different times. — One species might be active at night; one might be active during the day. — There is plenty of food for both to survive. — They occupy different niches. — They may have a mutualistic/symbiotic relationship.
37. — The saliva slows down fungus growth. — The saliva helps detoxify the grass. — The saliva helps detoxify the fungus/poison.
38. — The two species have a common ancestor that had the adaptation. — The same genetic mutation occurred independently in each species. — The ancestors of the two animals may have each had a different mutation that happened to protect them against the fungus toxin. — The two species are related. — It is the result of convergent evolution.
39. — No eggs would be produced/sterility. — A female might not produce estrogen/progesterone. — An egg would not be released by the ovary. — A woman might have difficulty becoming pregnant. — Female characteristics would be influenced. — disrupts the female's menstrual cycle
40. — The bacteria in the student's throat were resistant/immune to the antibiotic. — The bacteria had a mutation that made them resistant to the medication. — The student had a more severe infection, and it took longer for the antibiotic to work. — The student had a weaker immune system.
41. — It increases genetic diversity/biodiversity. — It increases species variation. — makes the elephant population more diverse — Captive elephants produce lower-quality sperm.

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42. — habitat destruction/loss of food — lack of reproductive success — illness/disease — Breeding programs were not successful. — climate change — natural predators — lack of genetic diversity

43. — With genetic modification, specific traits can be changed. — Direct gene modification can be quicker while selective breeding can take many generations. — It can take many generations to modify animals or plants with selective breeding.

44. — It is more expensive to repeatedly inject them with the hormone. — They produce the hormone constantly due to the modified switch. — The offspring of the salmon will inherit the trait for rapid growth.

45. — They could outcompete the wild salmon for resources. — They could negatively interact with native salmon. — They could disrupt the food web. — The new gene could get into the wild salmon and harm the wild salmon population.

46. — The transgenic Atlantic salmon grow faster. — Salmon farming could be more profitable. — Transgenic salmon can be brought to market sooner, so people would have more food. — Farming transgenic salmon could help conserve the wild salmon populations.

47. **A**

48. **C**

49. **C**

50. **B**

51. — Molecule A is smaller than molecule B. — Molecule B has an electrical charge. — They could be different sizes. — size of the molecule — One is a sugar/mono-saccharide and the other is a starch/poly-saccharide.

52. — Compare the structure of the leaves/flowers/seeds of the plant to a hogweed plant. — Examine the arrangement of the conducting tubes in the stems. — Carefully take DNA samples from the plants and compare them using gel electrophoresis. — The chromatography results of the plant pigments could be compared. — Compare the leaf cells of the plants using a microscope. — Classify using a dichotomou-s/taxonomic key.

53. recording in the table the mRNA codons coded for by the mutated DNA sequence as shown in the table below.

54.

Mutated Gene DNA Base Sequence	AGG	GGG	AGG	TTA
mRNA codons	UGC	GCG	UCG	AAU
Amino acid sequence	CYS	ALA	TRP	ASN

55. **D**

56. **A**

57. — better eyesight to locate food — ability to produce more offspring — ability to fly faster — resistance to diseases in the area — ability to tolerate hot/cold temperatures

58. — Increase the sample size of both groups. — Keep the exercise/time of exercise for each group the same. — A control group that does not exercise should be included in the design of the investigation. — Have equal numbers of males in both groups. — Both groups should include equal numbers of males and females. — Repeat the experiment. — Take a resting pulse rate.

59. — The cells of the plant would lose water and shrink. — Water would leave the cells of the plant, and they would shrink. — The contents of the plant's cells would shrink. — The plant's cells would lose most of their water/become dehydrated. — plasmolysis