2006 Biology Assessment

Answer Key

HSA Item Number	Answer	Indicators Assessed
1	B	**3.5.2** The student will analyze the interrelationships and interdependencies among different organisms and explain how these relationships contribute to the stabilty of the ecosystem.
2	J	**1.3.2** The student will recognize safe laboratory procedures.
3	C	**3.3.2** The student will illustrate and explain how expressed traits are passed from parent to offspring.
4	J	**3.3.3** The student will explain how a genetic trait is determined by the code in a DNA molecule.
5	BCR	**3.4.1** The student will explain how new traits may result from new combinations of existing genes or from mutations of genes in reproductive cells within a population.
6	G	**3.1.3** The student will be able to compare the transfer and use of matter and energy in photosynthetic and non-photosynthetic organisms.
7	D	**3.1.3** The student will be able to compare the transfer and use of matter and energy in photosynthetic and non-photosynthetic organisms.
8	F	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular organisms.
9	B	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular organisms.
10	H	**1.4.4** The student will determine the relationships between quantities and develop the mathematical model that describes these relationships.
11	B	**3.4.2** The student will estimate degrees of relatedness among organisms or species.
12	H	**1.2.6** The student will identify appropriate methods for conducting an investigation, including independent and dependent variables, and affirm the need for proper controls in an experiment.
13	C	**1.4.3** The student will use experimental data from various investigators to validate results.
14	G	**3.3.4** The student will interpret how the effects of DNA alteration can be beneficial or harmful to the individual, society, and/or the environment.

15	BCR	**3.1.2** The student will be able to discuss factors involved in the regulation of chemical activity as part of a homeostatic mechanism.
16	H	**3.1.1** The student will be able to describe the unique characteristics of chemical substances and macromolecules utilized by living systems.
17	B	**3.3.2** The student will illustrate and explain how expressed traits are passed from parent to offspring.
18	H	**1.6.1** The student will use ratio and proportion in appropriate situations to solve problems.
19	C	**3.1.3** The student will be able to compare the transfer and use of matter and energy in photosynthetic and non-photosynthetic organisms.
20	J	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular organisms.
21	D	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular organisms.
22	BCR	**3.5.2** The student will analyze the interrelationships and interdependencies among different organisms and explain how these relationships contribute to the stabilty of the ecosystem.
23	D	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular organisms.
24	J	**3.4.2** The student will estimate degrees of relatedness among organisms or species.
25	C	**3.1.1** The student will be able to describe the unique characteristics of chemical substances and macromolecules utilized by living systems.
26	H	**3.1.2** The student will be able to discuss factors involved in the regulation of chemical activity as part of a homeostatic mechanism.
27	A	**3.3.3** The student will explain how a genetic trait is determined by the code in a DNA molecule.
28	G	**3.5.1** The student will analyze the relationships between biotic diversity and abiotic factors in environments and the resulting influence on ecosystems.
29	A	**3.3.1** The student will demonstrate that the sorting and recombination of genes during sexual reproduction has an effect on variation in offspring.
30	G	**1.4.5** The student will check graphs to determine that they do not misrepresent results.
31	BCR	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular

		organisms.
32	F	**3.4.1** The student will explain how new traits may result from new combinations of existing genes or from mutations of genes in reproductive cells within a population.
33	C	**3.2.2** The student will conclude that cells exist within a narrow range of environmental conditions and changes to that environment, either naturally occurring or induced, may cause changes in the metabolic activity of the cell or organism.
34	H	**3.3.4** The student will interpret how the effects of DNA alteration can be beneficial or harmful to the individual, society, and/or the environment.
35	A	**3.5.1** The student will analyze the relationships between biotic diversity and abiotic factors in environments and the resulting influence on ecosystems.
36	J	**3.5.1** The student will analyze the relationships between biotic diversity and abiotic factors in environments and the resulting influence on ecosystems.
37	D	**3.5.2** The student will analyze the interrelationships and interdependencies among different organisms and explain how these relationships contribute to the stabilty of the ecosystem.
38	BCR	**3.3.2** The student will illustrate and explain how expressed traits are passed from parent to offspring.
39	A	**3.1.1** The student will be able to describe the unique characteristics of chemical substances and macromolecules utilized by living systems.
40	J	**3.5.3** The student will investigate how natural and man-made changes in environmental conditions will affect individual organisms and the dynamics of populations.
41	A	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular organisms.
42	F	**3.2.1** The student will explain processes and the function of related structures found in unicellular and multicellular organisms.
43	D	**3.3.3** The student will explain how a genetic trait is determined by the code in a DNA molecule.
44	F	**3.5.1** The student will analyze the relationships between biotic diversity and abiotic factors in environments and the resulting influence on ecosystems.
45	D	**3.5.1** The student will analyze the relationships between biotic diversity and abiotic factors in environments and the resulting influence on ecosystems.
46	J	**3.5.3** The student will investigate how natural and man-made changes in environmental conditions will affect individual organisms and the dynamics of populations.

47	C	**1.4.2** The student will analyze data to make predictions, decisions, or draw conclusions.
48	H	**3.3.1** The student will demonstrate that the sorting and recombination of genes during sexual reproduction has an effect on variation in offspring.
49	BCR	**1.1.3** The student will critique arguments that are based on faulty, misleading data or on the incomplete use of numbers.
50	J	**3.4.1** The student will explain how new traits may result from new combinations of existing genes or from mutations of genes in reproductive cells within a population.
51	A	**3.4.2** The student will estimate degrees of relatedness among organisms or species.
52	J	**3.2.2** The student will conclude that cells exist within a narrow range of environmental conditions and changes to that environment, either naturally occurring or induced, may cause changes in the metabolic activity of the cell or organism.

Student responses to Constructed Response items can be found in the scoring section of the mdk12.org site.

How do we test what students have learned in grades 9-12? **Other assessments**