



Biology RELEASED Form – Online Version 2012–2013 Answer Key

Item Number	Item Type	Key	Unifying Concept
S1	TE	Screenshot	
S2	MC	C	
S3	TE	Screenshot	
1	MC	A	1 — Structure and Functions of Living Organisms
2	MC	A	1 — Structure and Functions of Living Organisms
3	MC	C	1 — Structure and Functions of Living Organisms
4	MC	B	1 — Structure and Functions of Living Organisms
5	MC	C	2 — Ecosystems
6	MC	A	2 — Ecosystems
7	MC	A	2 — Ecosystems
8	MC	A	2 — Ecosystems
9	MC	B	3 — Evolution and Genetics
10	MC	D	3 — Evolution and Genetics
11	MC	C	3 — Evolution and Genetics
12	MC	B	3 — Evolution and Genetics
13	MC	C	3 — Evolution and Genetics
14	MC	D	3 — Evolution and Genetics
15	TE	Screenshot	3 — Evolution and Genetics
16	MC	B	3 — Evolution and Genetics
17	MC	C	3 — Evolution and Genetics
18	MC	D	4 — Molecular Biology
19	MC	A	4 — Molecular Biology
20	MC	B	4 — Molecular Biology
21	MC	D	1 — Structure and Functions of Living Organisms
22	MC	B	1 — Structure and Functions of Living Organisms



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Item Number	Item Type	Key	Unifying Concept
23	MC	C	1 — Structure and Functions of Living Organisms
24	MC	D	1 — Structure and Functions of Living Organisms
25	MC	D	2 — Ecosystems
26	MC	B	2 — Ecosystems
27	MC	A	2 — Ecosystems
28	MC	B	2 — Ecosystems
29	MC	C	3 — Evolution and Genetics
30	MC	C	3 — Evolution and Genetics
31	TE	Screenshot	3 — Evolution and Genetics
32	MC	B	3 — Evolution and Genetics
33	MC	D	3 — Evolution and Genetics
34	MC	C	3 — Evolution and Genetics
35	MC	B	3 — Evolution and Genetics
36	MC	D	3 — Evolution and Genetics
37	MC	D	3 — Evolution and Genetics
38	MC	C	4 — Molecular Biology
39	MC	A	4 — Molecular Biology
40	MC	A	4 — Molecular Biology
41	MC	B	1 — Structure and Functions of Living Organisms
42	MC	D	1 — Structure and Functions of Living Organisms
43	MC	A	1 — Structure and Functions of Living Organisms
44	MC	C	1 — Structure and Functions of Living Organisms
45	MC	C	2 — Ecosystems
46	MC	D	2 — Ecosystems
47	MC	D	2 — Ecosystems
48	MC	B	2 — Ecosystems
49	TE	Screenshot	3 — Evolution and Genetics
50	MC	B	3 — Evolution and Genetics



BIOLOGY RELEASED FORM



Item Number	Item Type	Key	Unifying Concept
51	MC	B	3 — Evolution and Genetics
52	MC	D	3 — Evolution and Genetics
53	MC	B	3 — Evolution and Genetics
54	MC	B	3 — Evolution and Genetics
55	MC	A	3 — Evolution and Genetics
56	MC	C	3 — Evolution and Genetics
57	MC	C	3 — Evolution and Genetics
58	MC	A	4 — Molecular Biology
59	MC	A	4 — Molecular Biology
60	MC	B	4 — Molecular Biology

Item Types:

MC = multiple choice

TE = technology enhanced

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Sample Item Number S1

[Back to Answer Key](#)

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Create an accurate sequence of protein synthesis by placing (click and drag) the steps into the chart.

Sequence of Protein Synthesis

Step 1	Step 2	Step 3	Step 4	Step 5
Transcription	mRNA travels to the ribosome.	Amino acids link by peptide bonds.	Polypeptide chain folds into a completed protein.	Translation

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Sample Item Number S3

[Back to Answer Key](#)



Select (click) the seven terms below that are associated with the sexual reproduction of organisms.

Meiosis Gametes Fertilization Mammals Egg Sperm **Mitosis** Genetic diversity Bacteria Protists

Selected:

Meiosis Gametes Fertilization Mammals Egg Sperm Genetic diversity

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Item Number 15

[Back to Answer Key](#)

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The diagram below represents the most likely sequence for the biological evolution of cells. Complete the sequence by placing (click and drag) the missing terms into the correct order.

1	2	3	4
anaerobic prokaryotes	photosynthetic prokaryotes	eukaryotes	multicellular organisms

	viruses	

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Item Number 31

[Back to Answer Key](#)

"Meiosis creates genetic variation." Select (click) three statements below that support this assertion.

- Daughter cells formed during meiosis are not genetically identical to either mother or father.
- Meiosis results in mixing of maternal and paternal chromosomes and crossing over.
- During normal cell growth, meiosis produces daughter cells that are identical to parent cell.
- During sexual reproduction, fusion of the unique haploid gametes produces truly unique offspring.

Selected:

- Daughter cells formed during meiosis are not genetically identical to either mother or father.
- Meiosis results in mixing of maternal and paternal chromosomes and crossing over.
- During sexual reproduction, fusion of the unique haploid gametes produces truly unique offspring.



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Item Number 49

[Back to Answer Key](#)



This table highlights features specific to messenger RNA (mRNA). Complete the table by adding (drag and drop) the mRNA features.

Double/Single-Stranded	Function
single-stranded	takes the genetic information from DNA to the ribosomes in the cytoplasm

	double-stranded
carries amino acids to the ribosomes	
matches anticodons to the correct amino acids	



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