

BIOLOGY

Question Bank Enhancement

Lesson	Serial Number	What Changed
12.3	17	Added one low-level question that supports students in applying the forked-line method and probability rules to determine genotype and phenotype outcomes from multi-gene crosses.
14.4	13	Added one low-level question that reinforces the student's ability to identify the function of enzymes during eukaryotic DNA replication.
15.3	13, 14, 15	Added three low-level questions to guide students in identifying the roles of RNA polymerases in transcription and distinguishing between RNA polymerase types.
16.3	21, 22, 23, 24, 25	Added five low-level questions that support student understanding of epigenetic gene regulation, covering DNA methylation, transcription factor activity, histone roles, and post-translational control mechanisms.
16.4	14, 15, 16, 17, 18	Added five new questions that help students explore gene expression regulation in relation to disease, with an emphasis on cancer biology, proto-oncogenes, tumor suppressors, and implications for drug development.
17.1	14	Added one new question which helps students apply their knowledge of biotechnology by identifying real-world applications in agriculture and medicine.
17.2	14, 15, 16, 17, 18	Added five questions of mixed difficulty which introduce genomics concepts, including whole-genome sequencing, mapping techniques, and sequencing types, balancing foundational knowledge with high-level definitions.
17.3	15, 16, 17, 18, 19	Added five new questions which support understanding of proteomics and systems biology, with a mix of high and low-level items that define key terms and encourage connections to medical applications like pharmacogenomics.
18.1	15, 16, 17, 18, 19	Added five questions which reinforce evolution concepts, including adaptation, homologous and vestigial structures, theory development, and correcting common misconceptions about evolutionary theory.
19.2	13, 14	Added two low-level questions which address population genetics, helping students differentiate types of variation and understand natural selection's focus on heritable traits.

20.1	14, 15	Added two new questions that allow students to connect systematics and taxonomy to phylogeny and explore the rationale behind comprehensive classification systems.
21.1	14, 15, 16, 17, 18	Added five low-level questions which strengthen understanding of viruses, including their discovery, structural forms, classification systems, and competing hypotheses about their origins.
22.1	14, 15, 16, 17, 18	Added five questions, ranging in difficulty, which focus on prokaryotic biology, including extremophiles, Koch's postulates, biofilm formation, and the challenges of culturing certain bacteria.
22.2	14	Added one low-level question that helps students describe the structural features of prokaryotic cells and relate them to function.
22.4	13, 14	Added two low-level questions that link microbial biology to public health, focusing on biofilms and antibiotic resistance (specifically MRSA).
22.5	13, 14	Added two low-level questions which emphasize how prokaryotes play a role in environmental clean-up through bioremediation.
23.1	13	Added one question that reinforces understanding of the endosymbiotic theory and its relevance to organelle evolution.
23.2	18, 19, 20, 21, 22	Added five low-level questions help students explore the diversity of protists, focusing on structure, life cycles, metabolism, and classification among eukaryotic supergroups.
24.3	17, 18, 19, 20, 21	Added five new questions that address the ecological and medical importance of fungi, covering mutualism with plants, human infections, industrial uses, and fungi as model organisms.
25.1	15, 16, 17, 18, 19	Added five questions which explore plant evolution and adaptations, ranging from green algae relationships to land colonization and environmental challenges.
25.2	15, 16	Added two low-level questions which focus on bryophytes, including life cycle stages and their evolutionary adaptations to land environments.