USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY

Kentucky Core Content for Science Assessment: Grades 8 through 11

Lesson	Standard	Description
3	SC-H-3.1.1	Cells have particular structures that underlie their function. Every cell is surrounded by a membrane that separates it from the outside world. Inside the cell is a concentrated mixture of thousands of different molecules that form a variety of specialized structures. These structures carry out specific cell functions.
3	SC-H-3.1.4	Cell functions are regulated. Regulation occurs both through changes in the activity of the functions performed by proteins and through selective expression of individual genes. This regulation allows cells to respond to their internal and external environments and to control and coordinate cell growth and division.
2, 3, 4	2.1 Scientific Ways of Thinking and Working	Students will formulate testable hypotheses and demonstrate the logical connections between the scientific concepts guiding a hypothesis and the design of an experiment; use equipment, tool, techniques, technology, and mathematics to improve scientific investigations and communications; use evidence, logic, and scientific knowledge to develop and revise scientific explanations and models; design and conduct different kinds of scientific investigations; communicate and defend the designs, procedures, observations, and results of scientific investigations; review and analyze scientific investigations and explanations of other investigators, including peers.
All lessons	2.1 Science and Technology	Students will apply scientific theory and conceptual understandings to solve problems of technological design and examine the interaction between science and technology.
All lessons	2.1 Personal and Social Perspectives	Students will explore the impact of scientific knowledge and discoveries on personal and community health.
All lessons	2.1 Nature of Science	Students will analyze the role science plays in everyday life and investigate advances in science and technology that have important and long lasting effects on science and society.

Kentucky Core Content for Reading Assessment: Grades 8 through 10

Lesson	Standard	Description
All lessons	RD-H-2.0.1	Locate, evaluate, and apply information for a realistic purpose.
All lessons	RD-H-2.0.12	Make predictions and draw conclusions based on what is read.

All lessons	RD-H-2.013	Analyze the content as it applies to students' lives and/or real world issues.
All lessons	RD-H-2.0.5	Make, confirm, and revise predictions.
3, 4	RD-H-2.0.7	Formulate opinions in response to a reading passage.
3, 4	RD-H-3.0.10	Recognize the appropriateness of an argument for an intended audience.
3, 4	RD-H-3.0.11	Accept or reject an argument, giving supporting evidence from the passage.
1, 2, 3	RD-H-4.0.12	Interpret the meaning of specialized vocabulary.
Kentucky Core Content for Mathematics Assessment: Grades 9 through 11		
Lesson	**Standard**	**Description**
1	MA-H-1.2.1	Students will perform addition, subtraction, multiplication, and division with real numbers in problem-solving situations to specified accuracy.
1	MA-H-1.3.4	Students will understand how ratio and proportion can be used in a variety of mathematical contexts and to solve real-world problems.
3	MA-H-3.1.5	Students will understand differences between theoretical and experimental probability.
1, 2, 3	MA-H-3.2.1	Students will analyze, interpret results, make decisions, and draw conclusions based on a set of data.
1	MA-H-3.2.3	Students will organize, display, and interpret statistical models (tables, graphs) of bivariate data.
2, 3	MA-H-3.2.4	Students will interpret the results of a probability simulation, draw conclusions, and make predictions.