USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY

Tennessee Science Curriculum Standards– Biology

Lesson	Standard	Learning Expectation
3	1.1	Compare and contrast the chemistry of biomolecules and investigate their roles in cell structure and metabolism.
3	1.4	Analyze cell processes.

Tennessee Science Curriculum Standards– Biomedical Applications

Lesson	Standard	Learning Expectation
4	1.1	Evaluate the history of biomedical research in respect to time, culture, religion, and regions.
All lessons	1.3	Develop the foundation in scientific knowledge and skills necessary for a successful career in biomedical research.
All lessons	1.4	See the integration of various science disciplines with biomedical research.
4	1.5	Discuss the benefits and risk of biomedical research.
2, 3, 4	1.6	Use knowledge gained to demonstrate proficiency in reading and interpreting biomedical research.
2, 3	2.1	Read, interpret, verbalize, and apply policies and procedures appropriate to the biomedical research setting.
All lessons	2.2	Demonstrate the safe and appropriate use of equipment and supplies; utilize proper communication, critical thinking and problem solving techniques.
3	2.3	Demonstrate proficiency with basic microbiology laboratory skills.
3	5.1	Describe the composition of blood and various cell types.
3	6.3	Research proper methods of documenting scientific research in the laboratory.

Tennessee Mathematics Curriculum Standards – Algebra I

Lesson	Standard	Learning Expectation
1, 2, 3	1.2	Demonstrate an understanding of the relative size of rational and irrational numbers.
1, 2, 3	1.7	Use real numbers to represent real-world applications (e.g., slope, rate of change, probability, and proportionality).

1, 2	1.8	Use a variety of notations appropriately (e.g. exponential, functional, square root).
1, 2	1.9	Select and apply an appropriate method (i.e., mental mathematics, paper and pencil, or technology) for computing with real numbers, and evaluate the reasonableness of results.
1	1.10	Perform operations on algebraic expressions and informally justify the procedures chosen.
1	2.8	Interpret results of algebraic procedures.
1	2.11	Model real-world phenomena using functions and graphs.
1	4.1	Use concepts of length, area, and volume to estimate and solve real-world problems.
1, 2, 3	4.4	Make decisions about units, scales, and measurement tools that are appropriate for problem situations involving measurement.
1, 2	4.5	Analyze precision, accuracy, tolerance, and approximate error in measurement situations.
2	5.4	Choose, construct, and analyze appropriate graphical representations for a data set.

Tennessee English/Language Arts Curriculum Standards – English I		
Lesson	**Standard**	**Learning Expectation**
3	2.2.A	Draw inferences from selected passages.
3, 4	2.2.B	Determine the meaning of a word in context.
3	2.2.F	Discern an implied main idea from a passage.
3	3.1.A	Draw an inference from a non-print medium.
3, 4	4.2.A	Determine the appropriate preparation (e.g., length and timing, rate of speech, visual aids, diction) for an oral presentation to a specified audience or a special interest group.

Tennessee Health Lifetime Wellness Standards – Grades 9 - 12		
Lesson	**Standard**	**Learning Expectation**
3	1.1	Differentiate between communicable and non-communicable diseases.
3	1.3	Describe different types of pathogens and how they affect health.
3	1.4	Explain transmission, prevention, warning signs, and treatment of communicable diseases.