USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY

Idaho Science Content Standards – Biology

Lesson	Standard	Descriptor
1, 2, 3	9-10.B.1.2.1	Use observations and data as evidence on which to base scientific explanations.
1, 2, 3	9-10.B.1.2.2	Develop models to explain concepts or systems.
2, 3	9-10.B.1.2.3	Develop scientific explanations based on knowledge, logic and analysis.
3	9-10.B.1.3.2	Analyze changes that can occur in and among systems.
1	9-10.B.1.3.3	Measure and calculate using the metric system.
3	9-10.B.1.6.1	Identify questions and concepts that guide scientific investigations.
2, 3	9-10.B.1.6.2	Utilize the components of scientific problem solving to design, conduct, and communicate results of investigations.
1, 2, 3	9-10.B.1.6.3	Use appropriate technology and mathematics to make investigations.
2, 3	9-10.B.1.6.4	Formulate scientific explanations and models using logic and evidence.
2, 3	9-10.B.1.6.5	Analyze alternative explanations and models.
2, 3	9-10.B.1.6.6	Communicate and defend a scientific argument.
2	9-10.B.1.8.1	Analyze technical writing, graphs, charts, and diagrams.
All lessons	9-10.B.5.2.1	Explain how science advances technology.
All lessons	9-10.B.5.2.2	Explain how technology advances science.
All lessons	9-10.B.5.2.3	Explain how science and technology are pursued for different purposes.

Idaho Mathematics Content Standards – Grades 9 - 10

Lesson	Standard	Descriptor
1	9.M.1.1.2 10.M.1.1.2	Use positive and negative numbers, absolute value, fractions, decimals, percentages, and scientific notation, including application in real world situations.
1	9.M.1.1.6 10.M.1.1.6	Use appropriate vocabulary.

1	9.M.1.2.1 10.M.1.2.1	Use the order of operations and perform operations with rational numbers.
1	9.M.1.3.1 10.M.1.3.1	Apply number sense to everyday situations and judge reasonableness of results.
1	9.M.2.2.1	Use rates, ratios, proportions, and map scales in problem-solving situations.
1	10.M.2.2.1	Use rates, ratios, proportions, map scales, and scale factors (one- and two-dimensional) in problem-solving situations.
1	9.M.2.2.2 10.M.2.2.2	Apply concepts of rates and direct and indirect measurements.
1	9.M.2.4.1 10.M.2.4.1	Determine and use appropriate units.
1	9.M.4.4.2 10.M.4.4.2	Represent linear relationships using tables, graphs, and mathematical symbols.
1	10.M.4.5.1	Use logic to make and evaluate mathematical arguments.
1	9.M.5.1.1 10.M.5.1.1	Analyze and interpret tables, charts, and graphs, including scatter plots, broken line graphs, and box-and-whisker plots.
1, 2	9.M.5.2.1 10.M.5.2.1	Collect, organize, and display data in tables, charts, and graphs.
2, 3	9.M.5.5.2 10.M.5.5.2	Use appropriate tools/technology to conduct simulations and employ graphical models to make predictions or decisions based on data.
Idaho Language Arts Content Standards – Grades 9 - 10		
Lesson	**Standard**	**Descriptor**
3, 4	9.LA.1.8.2 10.LA.1.8.2	Use context analysis to determine the meanings of unfamiliar words.
All lessons	9.LA.2.1.1	Synthesize the content from several sources on a single issue; paraphrase ideas to demonstrate comprehension.
All lessons	10.LA.2.1.1	Synthesize the content from several sources on a single issue; compare and contrast ideas to demonstrate comprehension.

3, 4	9.LA.2.2.2 10.LA.2.2.2	Define the purpose and audience of a variety of communication formats (e.g., essays, letters, user manuals, lab reports, websites).
3, 4	9.LA.3.1.2 10.LA.3.1.2	Generate a main idea or thesis appropriate to a type of writing.
3, 4	9.LA.3.1.4 10.LA.3.1.4	Match format to purpose and audience.
3, 4	9.LA.3.2.2 10.LA.3.2.2	Sequence ideas in a cohesive, meaningful order.
3, 4	9.LA.3.3.4 10.LA.3.3.4	Use a variety of sentence structures to improve sentence fluency and enhance style.
3, 4	9.LA.3.5.2 10.LA.3.5.2	Share writing with intended audience.
3, 4	9.LA.4.2.3	Write technical or scientific text that identifies a sequence of lessons or processes.

Idaho Speech Content Standards – Grades 9 - 12		
Lesson	**Standard**	**Descriptor**
All lessons	9-12.Spch.6.1.3	Draw conclusions about the ideas under discussion and support those conclusions with convincing evidence.
All lessons	9-12.Spch.6.2.5	Use effective and interesting language, including formal expressions for effect, standard English for clarity, and technical language for specificity.
3, 4	9-12.Spch.6.2.8	Deliver expository presentations that provide evidence in support of a thesis. Include related claims and include information on all relevant perspectives.
3, 4	9-12.Spch.6.2.10	Deliver persuasive arguments (e.g., evaluation and analysis of problems and solutions, causes and effects) that structure ideas and arguments in a coherent, logical fashion.

Idaho Health Content Standards – Grades 9 - 12		
Lesson	**Standard**	**Descriptor**
		There are no lessons in this supplement that meet Idaho Health Content Standards.