USING TECHNOLOGY TO STUDY CELLULAR AND MOLECULAR BIOLOGY		
Rhode Island Grade Span Expectations: Life Science		
Lesson	**Standard**	**GSEs**
3	**LS4 (9-11) SAE+FAF -10a**	Students demonstrate an understanding of human body systems by explaining how the roles of the immune, endocrine, and nervous systems work together to maintain homeostasis.
3	**LS4 (9-11) SAE+FAF -10b**	Students demonstrate an understanding of human body systems by investigating the factors that affect homeostasis (e.g. positive and negative feedback).
Rhode Island Grade Span Expectations: Engineering and Technology – Grades 9 – 12 (Draft Version)		
Lesson	**Standard**	**GSEs**
4	**ET1.1 (9 – 12) 1a**	Students demonstrate an understanding of the influences of technology by analyzing factors related to the development of technology and is effects on the rate of change.
4	**ET2.1 (9 – 12) 1a**	Students demonstrate an understanding of the attributes of the design process by identifying in depth criteria and constraints by developing a concise problem statement.
4	**ET2.1 (9 – 12) 1b**	Students demonstrate an understanding of the attributes of the design process by evaluating and finalizing the most appropriate design solutions for a given scenario or task.
4	**ET2.1 (9 – 12) 1c**	Students demonstrate an understanding of the attributes of the design process by creating a team and assigning roles to team members for the purpose of achieving an overall desired result.
2, 3	**ET2.2 (9 – 12) 2a**	Students demonstrate an understanding of technological products and systems by selecting independently the proper tools or information resources used in completing a task.
4	**ET2.2 (9 – 12) 2d**	Students demonstrate an understanding of the attributes of the technological products and systems by synthesizing information to develop possible solutions and evaluate the designs.
4	**ET2.3 (9 – 12) 3a**	Students demonstrate an understanding of what is an optimal design solution by formulating a process to solve a real world problem and justifying the selection.
2, 3	**ET3.2 (9 – 12) 2a**	Students demonstrate an understanding of selecting appropriate tools by evaluating the effectiveness of various tool(s) used in specific technologies.
4	**ET3.2 (9 – 12) 2a**	Students demonstrate an understanding of selecting appropriate tools by developing or improving a tool for a specific technology.
Rhode Island Grade Span Expectations: Mathematics – Grades 9 & 10		
Lesson	**Standard**	**GSEs**
1	**M(N&O)–10–2**	Demonstrates understanding of the relative magnitude of real numbers by solving problems involving ordering or comparing rational numbers, common irrational numbers (e.g., 2 , π), rational bases with integer exponents,

		square roots, absolute values, integers, or numbers represented in scientific notation using number lines or equality and inequality symbols.
1	**M(N&O)–10–6**	Uses a variety of mental computation strategies to solve problems.
1	**M(N&O)–10–8**	Applies properties of numbers to solve problems, to simplify computations, or to compare and contrast the properties of numbers and number systems.
1	**M(G&M)–10–7**	Uses units of measure appropriately and consistently when solving problems across content strands; makes conversions within or across systems and makes decisions concerning an appropriate degree of accuracy in problem situations involving measurement in other GSEs.
1, 2	**M(F&A)–10–1**	Identifies, extends, and generalizes a variety of patterns (linear and nonlinear) represented by models, tables, sequences, or graphs to solve problems.
2, 3	**M(DSP)–10–1**	Interprets a given representation (e.g., box-and-whisker plots, scatter plots, bar graphs, line graphs, circle graphs, histograms, frequency charts) to make observations, to answer questions, to analyze the data to formulate or justify conclusions, critique conclusions, make predictions, or to solve problems within mathematics or across disciplines or contexts (e.g. media, workplace, social and environmental situations).
2	**M(DSP)–10–3**	Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M(DSP)–10–1.
3	**M(DSP)–10–6**	In response to a teacher or student generated question or hypothesis decides the most effective method (e.g., survey, observation, research, experimentation) and sampling techniques (e.g., random sample, stratified random sample) to collect the data necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the questions or hypotheses being tested while considering the limitations of the data that could effect interpretations; and when appropriate makes predications, asks new questions, or makes connections to real-world situations.
Rhode Island Grade Span Expectations: Reading – Grade 10		
Lesson	**Standard**	**GSEs**
2, 3, 4	**R—10—2.1a**	Students identify the meaning of unfamiliar vocabulary by using strategies to unlock meaning (e.g., knowledge of word structure) including prefixes/suffixes, common roots, or word origins; or context clues; or resources including dictionaries, glossaries, or thesauruses to determine definition, pronunciation, etymology, or usage of words; or prior knowledge).
2, 3, 4	**R—10—3.2**	Select appropriate words or explaining the use of words in context, including connotation or denotation, shades of meanings of words/nuances, or idioms; or use of content-specific vocabulary, words with multiple meanings, precise language, or technical vocabulary.
2, 3, 4	**R—10—7.2**	Demonstrate initial understanding of informational texts (expository and practical texts) by using information from the text to answer questions; to state the main/central ideas; to provide supporting details; to explain visual components supporting the text; or, to interpret maps, charts, timelines, tables, or diagrams.
2, 3, 4	**R—10—7.3**	Demonstrate initial understanding of informational texts (expository and practical texts) by organizing information to show understanding or relationships among facts, ideas, and events (e.g., representing main/central ideas or

		details within text through charting, mapping, paraphrasing, summarizing, comparing/contrasting, outlining).
2, 3, 4	**R—10—7.4**	Demonstrate initial understanding of informational texts (expository and practical texts) by generating questions before, during, and after reading to enhance understanding and recall; expand understanding and/or gain new information.
2, 3, 4	**R—10—8.1**	Analyze and interpret informational text, citing evidence as appropriate by explaining connections about information *within* a text, *across* texts, or to related ideas.
2, 3, 4	**R—10—8.4**	Analyze and interpret informational text, citing evidence as appropriate by distinguishing fact from opinion, and evaluating possible bias/propaganda or conflicting information within or across texts.
2, 3, 4	**R—10—8.5**	Analyze and interpret informational text, citing evidence as appropriate by making inferences about causes and/or effects.
2, 3, 4	**R —10—13**	Uses comprehension strategies (flexibly and as needed) before, during, and after reading literary and informational text.
2, 3, 4	**R—10—17.2**	Demonstrates participation in a literate community by participating in in-depth discussions about text, ideas, and student writing by offering comments and supporting evidence, recommending books and other materials, and responding to the comments and recommendations of peers, librarians, teachers, and others.
3, 4	**R—10—15.1**	Research by reading multiple sources (including print and non-print texts) to solve a problem, or to make a decision, or to formulate a judgment, or to support a thesis by identifying and evaluating potential sources of information.
3, 4	**R—10—15.3**	Research by reading multiple sources (including print and non-print texts) to solve a problem, or to make a decision, or to formulate a judgment, or to support a thesis by organizing, analyzing, and interpreting the information.
3, 4	**R—10—15.4**	Research by reading multiple sources (including print and non-print texts) to solve a problem, or to make a decision, or to formulate a judgment, or to support a thesis by drawing conclusions/judgments and supporting them with evidence.
Rhode Island Grade Span Expectations: Writing – Grade 10		
Lesson	**Standard**	**GSEs**
3, 4	**W—10—1.1**	Students demonstrate command of the structures of sentences, paragraphs, and text by using varied sentence length and structure to enhance meaning (e.g., including phrases and clauses).
3, 4	**W—10—1.4**	Students demonstrate command of the structures of sentences, paragraphs, and text by applying a format and text structure appropriate to purpose, audience, and context.
3, 4	**W—10—2.1**	In response to literary or informational text, students show understanding of plot /ideas/concepts by selecting and summarizing key ideas to set context, appropriate to audience.
3, 4	**W—10—2.3**	In response to literary or informational text, students show understanding of plot /ideas/concepts by connecting what has been read (plot/ideas/concepts) to prior knowledge, other texts, or the broader world of ideas, by referring to and explaining relevant ideas or themes.
3, 4	**W—10—3.4**	In response to literary or informational text, students make and support analytical judgments about text by

		organizing ideas or using transitional words/phrases and drawing a conclusion by synthesizing information (e.g., demonstrate a connection to the broader world of ideas).
3, 4	**W—10—6.1**	In informational writing, students organize ideas/concepts by using a text structure appropriate to focus/controlling idea or thesis (e.g., purpose, audience, and context).
3, 4	**W—10—6.2**	In informational writing, students organize ideas/concepts by selecting appropriate and relevant information (excluding extraneous details) to set context.
3, 4	**W—10—7.2**	In informational writing, students effectively convey purpose by stating and maintaining a focus/controlling idea/thesis.
3, 4	**W—10—7.3**	In informational writing, students effectively convey purpose by writing with a sense of audience, when appropriate.
3, 4	**W—10—7.5**	In informational writing, students effectively convey purpose by using precise and descriptive language that clarifies and supports intent.
3, 4	**W—10—8.1**	In informational writing, students demonstrate use of a range of elaboration strategies by including facts and details relevant to focus/controlling idea or thesis, and excluding extraneous information.
3, 4	**W—10—8.2**	In informational writing, students demonstrate use of a range of elaboration strategies by including sufficient details or facts for appropriate depth of information: naming, describing, explaining, comparing, contrasting, or using visual images to support intended purpose.
3, 4	**W—10—8.4**	In informational writing, students demonstrate use of a range of elaboration strategies by commenting on the significance of the information (in reports, throughout the piece; in procedural or persuasive writing, as appropriate).
3, 4	**W—10—9.1**	In independent writing, students demonstrate command of appropriate English conventions by applying rules of standard English usage to correct grammatical errors.
3, 4	**W—10—9.5**	In independent writing, students demonstrate command of appropriate English conventions by applying conventional and word derivative spelling patterns/rules.
3, 4	**W—10—11.2**	Demonstrates the habit of writing extensively by sharing thoughts, observations, or impressions.
All lessons	**OC—10—1.1**	In oral communication, students demonstrate interactive listening by following verbal instructions, to perform specific tasks, to answer questions, or to solve problems.
All lessons	**OC—10—1.2**	In oral communication, students demonstrate interactive listening by summarizing, paraphrasing, questioning, or contributing to information presented.
All lessons	**OC—10—1.4**	In oral communication, students demonstrate interactive listening by participating in large and small group discussions showing respect for a range of individual ideas.
2, 3, 4	**OC—10—1.5**	In oral communication, students demonstrate interactive listening by reaching consensus to solve a problem, make a decision, or achieve a goal.
1, 2, 4	**OC—10—2.1**	In oral communication, students make oral presentations by exhibiting logical organization and language use, appropriate to audience, context, and purpose.

Rhode Island Instructional Outcomes: Health Education – Grades 9 & 10		
Lesson	**Standard**	**Instructional Goal**
3	**DCP—1.2** **SAP—1.3**	Analyze the impact of communicable and non-communicable (infectious and chronic) diseases/substance abuse on the functioning of body systems.
All lessons	**PSL—5.1** **INJ—5.1** **SAP—5.1**	Apply effective skills for communicating effectively with the family, peers and others about personal, family, community and environmental health. Use effective communication skills with family, peers and others.