EMERGING AND RE-EMERGING INFECTIOUS DISEASES		
Illinois Learning Standards Science – Stage I – Grades 8, 9, 10		
Activity	**Standard**	**Performance Descriptor**
2, 3, 4, 5	**11A.1**	Formulate independent content-specific hypothesis referencing pertinent reliable prior research, or proposing options for appropriate questions, procedural steps, and necessary resources.
2, 3, 4	**11A.2**	Design an inquiry investigation which addresses proposed hypothesis, determining variables and control groups, incorporating all procedural and safety precautions, materials and equipment handling directions and data-collection formatting preparations, or securing approval for all procedures, equipment use and safety concerns.
2, 3, 4	**11A.3**	Conduct inquiry investigation, using technologies for observing and measuring directly, indirectly, or remotely, completing multiple, statistically-valid trials, or accurately and precisely recording all data.
2, 3, 4, 5	**11A.4**	Interpret and represent analysis of results to produce findings that support or refute inquiry hypothesis, evaluating data sets to explore explanations of outliers or sources of error and trends, or applying statistical methods to compare mode, mean, percent error and frequency functions.
2, 3, 4, 5	**11A.5**	Present and defend process and findings in open forum, generating further questions, explaining impact of possible sources of error, or reflecting on and evaluating peer critiques and comparable inquiry investigations for consolidation or refinement of procedures.
3, 4	**12A.1**	Apply scientific inquiries or technological designs to explain metabolic processes within cells and between organisms and their environment, explaining gas exchange, food processing, transport, excretion, locomotion, body regulation, and nervous control, investigating enzyme actions in various reactions, or describing the applications of the polar nature of water and the pH index in biochemical reactions.
2, 3, 4	**12A.3**	Apply scientific inquiries or technological designs to explain the molecular nature of the genetic code, explaining the function, chemical reactions, and schematic diagrams of the molecular components of DNA, RNA and simple proteins, exploring the processes of recombinant DNA research, describing the role of chromosomes in the normal and aberrant display of hereditary traits, mutations and disease.
2, 3, 4	**12B.1**	Apply scientific inquiries or technological design to explain population growth, density factors in ecosystem change and stability and biodiversity: researching population model studies to determine limiting factors and mathematical patterns of population growth in real-world situations, investigating biotic and abiotic factors of ecosystems, or identifying the roles and relationships of organisms in their community in terms of impact on populations and the ecosystem.

2, 3, 4	**13A.2**	Apply scientific habits of mind to curricular investigations in life, environmental, physical, earth, and space sciences, identifying instances of how scientific reasoning, insight, creativity, skill, intellectual honesty, tolerance of ambiguity, skepticism, persistence, openness to new ideas, and sheer luck have been integral to discoveries, identifying specific studies which demonstrate how scientific conclusions are open to modification as new data are collected, or researching classroom and real-world standards for peer review.
3, 4, 5	**13B.1**	Analyze the pure and applied research nature of science, evaluating public perceptions of value of scientific research, or assessing short- and long-term risks/benefits of specific pure research which directly led, or may lead, to direct applications.
3	**13B.4**	Analyze claims used in advertising and marketing strategies for scientific validity, collecting statements of purported scientific studies to evaluate mathematical validity, or researching scientific foundations use (or manipulation) in marketing and advertising strategies for target populations.
Illinois Learning Standards Science – Stage J – Grades 11 & 12		
Activity	**Standard**	**Performance Descriptor**
2, 3, 4, 5	**11A.1**	Formulate issue- hypothesis, reviewing literature as primary reading sources, differentiating between subjective/objective data and their usefulness to the issue, or examining applicable existent surveys, impact studies, or models.
2, 3, 4	**11A.2**	Design an issue investigation, proposing applicable survey and interview instruments and methodologies, selecting appropriate simulations, or projecting possible viewpoints, variables, applicable data sets and formats for consideration.
2, 3, 4	**11A.3**	Conduct issue investigation (following all procedural and safety precautions), using appropriate technologies, interviewing associated entities or experts, testing applicable simulation models, or completing all data collection requirements.
2, 3, 4, 5	**11A.4**	Interpret and analyze results to produce findings and issue resolution options, evaluating data sets and trends to explore unexpected responses and data distracters, evaluating validity and reliability, or substantiating basis of inferences, deductions, and perceptions.
2, 3, 4, 5	**11A.5**	Report, display and defend the process and findings of issue investigation, critiquing findings by self and peer review, generating further questions or issues for consideration, evaluating comparable issue resolutions or responses for action, or generalizing public opinion responses.

4	**11B.3**	Collect and record data accurately, using consistent metric measuring and recording techniques and media with necessary precision, documenting data from instruments accurately in selected format, or graphing data appropriately to show relation to variables in design solution proposal.
2, 3, 4, 5	**12A.1**	Apply scientific inquiries or technological designs to explain biochemical reactions, diagramming metabolic, hormonal, regulatory, feedback or transport molecular models in and between organ systems, explaining homeostasis, or tracing the balance of cellular ATP.
2, 4, 5	**12A.2**	Apply scientific inquiries or technological designs to explain new biological technologies, projecting possible implications of current research (e.g., Human Genome Project, immune system responses).
2, 4, 5	**12A.3**	Apply scientific inquiries or technological designs to synthesize the principles of genetic studies, examining phenotypic and genotypic displays, modeling predictable dominance outcomes and probabilities, or making connections to early and current research in agriculture, forensics, medicine, etc.
2, 3, 4, 5	**12A.5**	Apply scientific inquiries or technological designs to explain disease from the organelle-to-population levels, explaining body defenses to infectious disease in various organisms, or researching historic and on-going efforts to prevent, cure or treat diseases.
2, 3, 4, 5	**13B.2**	Analyze scientific breakthroughs in terms of societal and technological effects, citing how beliefs and attitudes influence advances, examining global distribution of energy, natural or fiscal resources, or evaluating how scientific advances from different cultures are received.
2, 3, 4, 5	**13B.4**	Analyze local, state, national, global scientific policies in terms of costs, benefits, and effects, identifying policies which have affected local needs, costs, or products, assessing national or global costs of policies from American or non-American perspectives, or evaluating data used in media explanations of resource, technology, or policy impact.
Illinois Learning Standards Mathematics – Stage I – Grades 8, 9, 10		
Activity	**Standard**	**Performance Descriptor**
3, 4	**6B.2**	Determine an appropriate numerical representation of a problem situation, including roots and powers, if applicable.
3, 4	**6B.5**	Develop fluency in operations with real numbers using mental computation or paper-and-pencil calculations for simple cases and technology for more-complicated cases.
3, 4	**6B.6**	Judge the reasonableness of numerical computations and their results.
3, 4	**6C.2**	Determine and explain whether exact values or approximations are needed in a variety of situations.

4	**8B.1**	Describe the relationships of the independent and dependent variables from a graph.
4	**8B.4**	Create and connect representations that are tabular, graphical, numeric, and algebraic from a set of data.
4	**8D.1**	Solve equivalent forms of equations, inequalities, and systems of equations with fluency-mentally or with paper-and-pencil in simple cases and using technology in all cases.
4	**10A.1**	Describe the meaning of measurement data and categorical data, of univariate and bivariate data, and of the term variable.
2, 3, 4, 5	**10A.5**	Make decisions based on data, including the relationships of correlation and causation.
2, 4	**10B.2**	Discuss informally different populations and sampling techniques.
Illinois Learning Standards English Language Arts – Stage I – Grades 8, 9, 10		
Activity	**Standard**	**Performance Descriptor**
2, 3, 4, 5	**1A.4**	Identify and analyze the meanings of specialized vocabulary/terminology.
2, 3, 4, 5	**1B.2**	Relate reading with information from other sources (e.g., prior knowledge, personal experience, other reading) using a variety of strategies.
2, 3, 4, 5	**1B.6**	Clarify meaning of text by focusing on the key ideas presented explicitly or implicitly.
2, 3, 4, 5	**1C.3**	Interpret concepts or make connections through analysis, evaluation, inference, and/or comparisons.
2, 3, 4, 5	**1C.6**	Summarize and make generalizations from content and relate them to the purpose of the material.
2, 3, 4, 5	**1C.10**	Interpret tables, graphs, diagrams, and maps in conjunction with related text by drawing conclusions to support text.
2, 3, 4, 5	**3B.2**	Compose a clear thesis/claim that contains the main idea in an essay.
2, 3, 4, 5	**3B.3**	Defend word and/or technique choice appropriate for specific audiences.
2, 3, 4, 5	**3C.1**	Compose informational writing (e.g., narrative, expository, persuasive, argumentative) that supports a topic or thesis statement with well-articulated evidence.
2, 5	**3C.2**	Compose an argumentative paper that objectively evaluates 2 or more positions on an issue and selects the best position, based on the evidence presented.
2, 3, 4, 5	**4A.1**	Demonstrate understanding of material, concepts, and ideas in formal/informal presentations.
2, 3, 4, 5	**4A.2**	Analyze, synthesize, and evaluate information from recorded materials and live presentations.

2, 3, 4, 5	**4B.10**	Discuss a problem within a group setting, list and evaluate possible solutions to attempt consensus.
2, 3, 4, 5	**5B.1**	Analyze and evaluate information.
2, 3, 4, 5	**5C.1**	Match the method of inquiry to the question or problem.
Illinois Learning Standards Health – Stage I – Grades 8, 9, 10		
Activity	**Standard**	**Performance Descriptor**
2, 3, 4, 5	**22A.4**	Recognize the differences between communicable and non-communicable diseases.
2, 3, 4, 5	**22A.10**	Investigate ways that effective health promotion and illness prevention can maintain and/or improve health.
5	**22B.1**	Discuss laws that have been written to govern the production and dissemination of health information and products (e.g., food labels).
3	**22B.6**	Discuss the role that the media has had and should have in the dissemination of health information and in the promotion of health-related products.
2	**23A.1**	Recognize that all of the body's systems interrelate and impact each other.
2, 3	**23A.2**	Describe the effects of nutrition, stress, substances, and disease on the body's systems.
3, 4, 5	**23A.4**	Investigate ways and behaviors that can improve or maintain the functioning of the body's systems.
3, 4, 5	**23A.5**	Recognize personal health behaviors and choices that help or hinder the functioning of the body's systems.
2, 3, 4, 5	**23B.2**	Analyze how behaviors can impact the maintenance of health and/or the prevention of disease.
2, 3, 4	**23B.5**	Know the effects that disease can have on the body's systems (e.g., diabetes, cancer).
3, 4, 5	**23B.8**	List choices that have a positive influence on health.
3, 4, 5	**23B.9**	List choices that have a negative influence on health.
2, 3, 4, 5	**23C.4**	List interventions and strategies that can be utilized in a variety on health-related situations.
2, 3, 4, 5	**23C.11**	Discuss how health-related choices made today can affect a person's physical, mental, emotional, and social growth and development in the future.
2, 3, 4, 5	**24B.3**	Analyze the options to solve a health-related problem.
2, 3, 4, 5	**24B.4**	Determine which option best solves the health-related problem.
2, 3, 4, 5	**24B.5**	Analyze option choices and determine the impact each could have on successfully solving a health-related problem or making a health-related decision.