

PART Ed 306 MINIMUM STANDARDS FOR PUBLIC SCHOOL APPROVAL

...

Readopt Ed. 306.31, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.31 Arts Education Program.

(a) Pursuant to Ed 306.26 and Ed 306.27, the local school board shall require that an arts education program for grades K-12 provides:

(1) Systematic and sequential instruction in the arts disciplines of music and visual art, while developing opportunities for dance and theatre, where students will:

- a. Create, perform, and respond with understanding;
- b. Participate actively in at least one of the art forms of dance, music, theatre or visual art;
- c. Analyze and evaluate works of art from structural, historical, and cultural perspectives, including acquiring the ability to understand and evaluate works of art in various arts disciplines;
- d. Recognize exemplary works of art from a variety of historical periods and cultures, as well as understand historical development within and among the arts disciplines;
- e. Relate various types of arts knowledge and skills within and across the arts and other disciplines;
- f. Use technology as ways to create, perform, or respond in various arts disciplines; and
- g. Become familiar with career opportunities in the arts or with the impact of the arts on everyday life;

(2) Planned curriculum that is consistent with RSA 193-C:3, III; that will provide for:

- a. A variety of developmentally appropriate techniques and processes as well as learning materials such as tools, equipment, facilities and supplies, including but not limited to musical instruments, current recording devices, computers and software, and expendable art-making supplies, that meet the diverse needs, interests and capacities of each student;

- b. The best interests of students regarding safety and health issues associated with materials, tools, equipment, supplies and procedures;
 - c. The ability to guide student development in observing, imagining, visualizing, listening, transforming, and synthesizing their thoughts and ideas into artworks through traditional and nontraditional means such as, but not limited to, choreography, reading and writing music, improvisation, script-writing, set design, two and three-dimensional artworks, and media arts;
 - d. The ability to guide students in selecting and applying subject matter and movements, sounds, language, or symbols, or any combination of them, with ideas to express meaning in artwork;
 - e. Developing artistry and artistic skill sequentially over time;
 - f. Critical thinking skills and artistic choices in the creation and evaluation of artworks;
 - g. Addressing opportunities available beyond the regular classroom; and
 - h. Embedding in the students global arts-related history and culture; and
- (3) Sound assessment practices as stated in Ed 306.24.

Repeal Ed 306.311, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.311 Repealed

Readopt Ed. 306.37, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.37 English/Language Arts and Reading Program.

- (a) Pursuant to Ed 306.26, the local school board shall require that an English/language arts and reading program in each elementary school provides:
- (1) Systematic and continuous instruction which develops students' knowledge of language arts, including listening, speaking, reading, writing, and viewing;
 - (2) Instruction which emphasizes how to clarify, order, interpret, and communicate experiences through the skillful use of language;

- (3) Opportunities for each student to exercise, with fluency and ease, oral and written skills and to become acquainted with others' interpretations of experiences through fiction and informational materials, film, television, and other media;
 - (4) An environment which promotes the importance of reading;
 - (5) Opportunities for each child to become literate;
 - (6) Methods for assessing students for appropriate placement in the reading/language arts program, including diagnostic assessment for remediation;
 - (7) Support for teachers on interpreting test results;
 - (8) Continuous monitoring of each student's progress from grade to grade;
 - (9) Early intervention or remediation;
 - (10) Instruction for teachers in reading in the content areas; and
 - (11) Training for instructional staff on methods for effectively meeting the language arts/reading needs of all students and on current developments in language arts/reading.
- (b) Pursuant to Ed 306.26, the local school board shall require that an English/language arts and reading program in each middle school provides:
- (1) Instruction which emphasizes the use of language to clarify, order, interpret, and communicate experiences including instruction in listening, speaking, reading, writing, and viewing;
 - (2) Opportunities for each student to develop oral and written skills and to become acquainted with others' interpretations of experiences through fiction and informational materials, film, television, and other media; and
 - (3) Systematic instruction and activities designed to enable student to:
 - a. Comprehend and produce progressively more complex oral and written language using various patterns of organization, such as narration, description, enumeration, sequence, cause/effect, comparison/contrast, and problem/solution;
 - b. Recognize and create literary elements, such as plot, character, setting and point of view in a variety of genres;
 - c. Apply the writing process, including choosing a topic, generating ideas and locating information, drafting, revising, and editing;
 - d. Increase vocabulary through semantics, use of the dictionary, structural analysis, including prefixes and suffixes, and other strategies;

- e. Apply previously learned reading skills to content materials;
 - f. Acquire new reading skills and fluency through remedial, developmental, and enrichment programs;
 - g. Use appropriate reading techniques to acquire knowledge, including setting the purpose for reading, varying reading speed, and reading for comprehension at the literal, inferential, evaluative, critical, and analytical levels;
 - h. Read to satisfy personal interests and recognize that fiction and informational materials can offer insight into life; and
 - i. Employ appropriate study skills, including the ability to locate materials, take notes, organize information, and use a variety of sources.
- (c) Pursuant to Ed 306.27, the local school board shall require that an English/language arts program in each high school provides:
- (1) Opportunities for students to become familiar with the history, structure, and use of English as the basic medium of communication in our society;
 - (2) Opportunities for students to develop proficiency and control in the use of language, an appreciation of a variety of literary forms, an understanding and appreciation of various aspects of past and present cultures as expressed in literature, and interests for lifelong learning;
 - (3) Courses totaling at least 6 credits in English which shall be distributed as follows:
 - a. At least 4 credits required of all students and planned as a purposeful sequence of study which promotes:
 - 1. The development of the basic language skills of listening, speaking, reading, writing, and viewing;
 - 2. The acquisition of knowledge; and
 - 3. The understanding of literature and our literary heritage; and
 - b. At least 2 elective credits designed to provide increased proficiency in the basic language skills and/or an expanded knowledge and understanding of literature and which may be met by such courses as advanced writing, public speaking, debating, dramatics, humanities, and world literature; and
 - (4) Systematic instruction and activities designed to enable students to:
 - a. Develop effective listening and discussion techniques, distinguish fact from opinion, and identify the principle idea;

- b. Write and present speeches for a variety of purposes and audiences;
- c. Understand and apply the writing process by choosing a topic, generating ideas and locating information, drafting, revising, and editing in order to write well-organized, legible, well-supported papers;
- d. Use correctly the conventions of standard English, such as grammar, punctuation, spelling, capitalization, and word usage, in all written work;
- e. Increase reading speed and comprehension and develop thinking skills, such as inference, applying knowledge, and making judgments;
- f. Develop word recognition skills, such as context clues, prefixes, suffixes, and phonetic analysis, in order to develop an increased vocabulary;
- g. Understand ideas presented in a variety of visual formats such as television advertisements and political cartoons;
- h. Know and appreciate both traditional and contemporary literature, including English, American, and works in translation;
- i. Understand literary analysis through discussion and writing activities;
- j. Recognize how our literary heritage relates to the customs, ideas, and values of today's life and culture; and
- k. Develop study skills which contribute to academic success, such as using the dictionary, note taking, locating information, distinguishing good sources of information from bad sources, and applying information in solving of real-life problems.

Repeal Ed 306.371, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.371 Repealed

Readopt Ed. 306.40, effective 6/29/15 (Document # 10870, Emergency), to read as follows:
Ed 306.40 Health Education Program.

(a) Pursuant to Ed 306.26 and Ed 306.27, the local school board shall require that a school health education program for grades K-12 provides:

- (1) Health education;
- (2) School health services;

- (3) Food and nutrition services;
 - (4) A comprehensive guidance and counseling program;
 - (5) Healthy school facilities; and
 - (6) Family and community partnerships.
- (b) The local school board shall require that each school health education program provides:
- (1) Systematic instruction in grades K-12, designed to enable students to:
 - a. Comprehend concepts related to health promotion and disease prevention, linking to all content areas;
 - b. Demonstrate functional knowledge of the most important and enduring ideas, issues, and concepts related to achieving good health;
 - c. Demonstrate the ability to access valid health information and health-promoting products and services;
 - d. Demonstrate the ability to practice health enhancing behaviors and reduce health risks;
 - e. Analyze the effect of culture, media, technology, and other influences on health;
 - f. Demonstrate the ability to use interpersonal communications skills to enhance health;
 - g. Demonstrate the ability to use goal-setting and decision making skills to enhance health; and
 - h. Demonstrate the ability to advocate for personal, family, and community health;
 - (2) A planned K-12 curriculum in health education designed to teach the skills listed in (b)(1) above across the following content areas of health education:
 - a. Alcohol and other drug use prevention, in accordance with RSA 189:10;
 - b. Injury prevention;
 - c. Nutrition;
 - d. Physical activity;
 - e. Family life and comprehensive sexuality education, including instruction relative to abstinence and sexually transmitted infections in accordance with RSA 189:10;

- f. Tobacco use prevention;
 - g. Mental health;
 - h. Personal and consumer health; and
 - i. Community and environmental health; and
- (3) Sound assessment practices in health education that:
- a. Match goals and objectives;
 - b. Require evaluation and synthesis of knowledge and skills;
 - c. Emphasize higher order thinking skills;
 - d. Clearly indicate what the student is asked to do but not how to do it;
 - e. Are at the appropriate reading level;
 - f. Have criteria that are clear to students and teachers;
 - g. Are engaging and relevant to students;
 - h. Link to ongoing instruction;
 - i. Provide feedback to students;
 - j. Provide cost-effective benefits to students;
 - k. Reflect real world situations; and
 - l. Emphasize use of available knowledge and skills in relevant problem contexts.

Repeal Ed 306.401, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.401 Repealed

Readopt Ed. 306.41, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.41 Physical Education Program.

(a) Pursuant to Ed 306.26 and Ed 306.27, the local school board shall require that a school physical education program for grades K-12 provides:

- (1) Physical education as provided in (b) below; and
- (2) Family and community partnerships.

(b) In the area of physical education, the local school board shall require that each school physical education program provides:

- (1) Systematic instruction in grades K-12, designed to enable students to:
 - a. Demonstrate competency in motor skills and movement patterns needed to perform a variety of physical activities;
 - b. Demonstrate understanding of movement concepts, principles, and performance of physical activities;
 - c. Participate regularly in physical activity;
 - d. Achieve and maintain a health enhancing level of physical fitness;
 - e. Exhibit responsible personal and social behavior that respects self and others in physical activity settings; and
 - f. Value physical activity for health, enjoyment, challenge, self expression, and social interaction;
- (2) A planned K-12 curriculum in physical education that will provide for:
 - a. A variety of motor skills that are designed to enhance the physical, mental, social, and emotional development of every child;
 - b. Fitness education and assessment to help children understand and improve or maintain their physical well-being;
 - c. Development of cognitive concepts about motor skills and fitness;
 - d. Opportunities to improve children's emerging social and cooperative skills and to gain a multicultural perspective;
 - e. Promotion of regular amounts of appropriate physical activity now and throughout life; and
 - f. Utilization of technology in attaining instruction, curricular, and assessment goals; and
- (3) Sound assessment practices in physical education that:

- a. Match goals and objectives;
- b. Require evaluation and synthesis of knowledge and skills;
- c. Emphasize higher-order thinking skills;
- d. Clearly indicate what the student is asked to do;
- e. Are at an appropriate skill level according to:
 1. State standards; and
 2. The needs of the individual;
- f. Have criteria that are clear to students and teacher;
- g. Are engaging and relevant to students;
- h. Link to ongoing instruction;
- i. Provide feedback to students;
- j. Provide cost-effective benefits to students;
- k. Reflect real-world situations; and
- l. Emphasize use of available knowledge and skills in relevant problem contexts.

Repeal Ed 306.411, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.411 REPEALED

Readopt Ed. 306.42, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.42 Information and Communication Technologies Program.

(a) The local school board shall require an integrated approach to the use of 21st century tools, including, but not limited to technology and communication tools, within all curriculum areas through the adoption of an information and communication technologies literacy (ICT) program in grades K - 12 that provides opportunities at developmentally appropriate levels for students to:

- (1) Develop knowledge of ethical, responsible use of technology tools in a society that relies heavily on knowledge of information in its decision-making;
- (2) Become proficient in the use of 21st century tools to access, manage, integrate, evaluate, and create information within the context of the core subjects of:
 - a. Reading;
 - b. Mathematics;
 - c. English and language arts;
 - d. Science;
 - e. Social studies, including civics, government, economics, history, and geography;
 - f. Arts; and
 - g. World languages;
- (3) Use 21st century tools to develop cognitive proficiency in:
 - a. Literacy;
 - b. Numeracy;
 - c. Problem solving;
 - d. Decision making; and
 - e. Spatial / visual literacy;
- (4) Use 21st century tools to develop technical proficiency at a foundation knowledge level in:
 - a. Hardware;
 - b. Software applications;
 - c. Networks; and
 - d. Elements of digital technology; and
- (5) Create digital portfolios which:
 - a. Address the following components:

1. Basic operations and concepts;
 2. Social, ethical, and human issues;
 3. Technology productivity tools;
 4. Technology communications tools;
 5. Technology research tools; and
 6. Technology problem solving and decision-making tools;
- b. Represent proficient, ethical, responsible use of 21st century tools within the context of the core subjects; and
- c. Include, at a minimum, such digital artifacts as:
1. Standardized tests;
 2. Observation;
 3. Student work; and
 4. Comments describing a student's reflection on his/her work.

(b) The local school board shall provide opportunities for students to demonstrate ICT competency by the end of 8th grade using assessment rubrics applied to the contents of digital portfolios as required in (a)(5) above. Students who successfully demonstrate knowledge, skill, and understanding of these competencies shall have the opportunity, as high school students, to take a higher level computer course to meet the ½ credit requirement.

(c) The local school board shall provide opportunities for students to complete a ½ credit ICT course prior to high school graduation, including, but not limited to:

- (1) Use of common productivity and web based software;
- (2) Use of a variety of multimedia software and equipment;
- (3) Configuring computers and basic network configurations; and
- (4) Applying programming concepts used in software development.

Repeal Ed 306.421, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.421 REPEALED

Readopt Ed. 306.43, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.43 Mathematics Program.

(a) Pursuant to Ed 306.26, the local school board shall require that a mathematics program in each elementary grade provides:

- (1) Opportunities for all students to solve problems by:
 - a. Using multiple strategies;
 - b. Communicating mathematical ideas through speaking and writing; and
 - c. Making logical connections between different mathematical concepts;
- (2) Opportunities for all students to build and construct knowledge and understanding of mathematical concepts through developmentally appropriate activities that include concrete experiences and interactions with manipulatives, technology, and their environment;
- (3) Opportunities for authentic tasks that:
 - a. Promote student decision making and questioning;
 - b. Encourage students to develop unique problem solving strategies while allowing students to defend their strategies and results;
- (4) Planned activities that promote developing mathematical concepts from the concrete to the representational and finally to the abstract level;
- (5) Opportunities for all students to develop positive attitudes such as inquisitiveness and appreciation of the multiple ways to approach and solve mathematical situations;
- (6) Interactive instruction and sustained activities designed to enable all students to demonstrate proficiency using the concepts and skills articulated in any grade level expectations that are adopted at the state level; and
- (7) A developed curriculum incorporating number and operations, geometry and measurement, data, statistic and probability, and functions and algebra consistent with RSA 193-C:3, III.

(b) Pursuant to Ed 306.26, the local school board shall require that a mathematics program in each middle school grade provides:

- (1) Opportunities for all students to solve problems by:
 - a. Using multiple strategies;
 - b. Reading and interpreting mathematics;
 - c. Communicating mathematical ideas through speaking and writing; and
 - d. Making connections within and among mathematical ideas and across disciplines;
- (2) Opportunities for all students to build and construct knowledge and understanding of mathematical concepts through developmentally appropriate activities that include concrete experiences and interactions with manipulative, technology, and their environment;
- (3) Opportunities for authentic tasks that:
 - a. Promote student decision making and questioning; and
 - b. Encourage students to develop unique problem solving strategies while allowing students to defend their strategies and results through inductive and deductive reasoning;
- (4) Opportunities for all students to explore the historical and cultural development of mathematics;
- (5) Opportunities for all students to:
 - a. Explore mathematically-related careers; and
 - b. Have direct interaction with the mathematics involved in various careers;
- (6) Planned activities that promote developing mathematical concepts from the concrete to the representational and finally to the abstract level;
- (7) Opportunities for all students to develop positive attitudes such as inquisitiveness, appreciation of the multiple ways to approach and solve mathematical situations, and an appreciation of mathematical patterns;
- (8) Sustained projects and labs that are designed to:
 - a. Incorporate multiple mathematical ideas, research, technology, mathematical communication, and interdisciplinary interaction; and

- b. Encourage students to solve problems that are meaningful and unique to their lives;
 - (9) Interactive instruction and sustained activities designed to enable all students to demonstrate proficiency using the concepts and skills articulated in any grade level expectations that are adopted at the state level; and
 - (10) A developed curriculum incorporating number and operations, geometry and measurement, data, statistic and probability, and functions and algebra consistent with RSA 193-C:3, III.
- (c) Pursuant to Ed 306.27, the local school board shall require that a mathematics program in each high school provides:
 - (1) Opportunities for all students to solve problems by:
 - a. Using multiple strategies;
 - b. Reading and interpreting mathematics;
 - c. Communicating mathematical ideas through speaking and writing; and
 - d. Making connections within and among mathematical ideas and across disciplines;
 - (2) Opportunities for all students to build and construct knowledge and understanding of mathematical concepts through developmentally appropriate activities that include concrete experiences and interactions with manipulatives, technology, and their environment;
 - (3) Opportunities for authentic tasks that:
 - a. Promote student decision making and questioning; and
 - b. Encourage students to develop unique problem-solving strategies while allowing students to defend their strategies and results through inductive and deductive reasoning and proof;
 - (4) Opportunities for all students to explore the historical and cultural development of mathematics;
 - (5) Opportunities for all students to:
 - a. Research mathematically-related careers;
 - b. Have direct interaction with the mathematics involved in various careers; and

- c. Research the mathematical requirements of various college majors;
- (6) Planned activities that promote developing mathematical concepts from the concrete to the representational and finally to the abstract level;
- (7) Opportunities for all students to develop positive attitudes such as inquisitiveness, appreciation of the multiple ways to approach and solve mathematical situations, appreciation of mathematical patterns, and the ability to make predictions from patterns;
- (8) Sustained projects and labs designed to incorporate multiple mathematical ideas, research, technology, mathematical communication, and interdisciplinary interaction, and to encourage students to solve problems that are meaningful and unique to their lives;
- (9) Interactive instruction and sustained activities developed to increase mathematical maturity and allow students to be successful in solving problems outside of the classroom;
- (10) Opportunities for all students to attain competency in mathematics for each year in which he or she is in high school, through graduation, to ensure career and college readiness.
- (11) Such competency may be met by satisfactorily completing:
- a. A minimum of 4 courses in mathematics; or
 - b. A minimum of 3 mathematics courses and one non-mathematics content area course in which mathematics knowledge and skills are embedded and applied, as may be approved by the school board.
- (12) Interactive instruction and sustained activities designed to enable all students to demonstrate proficiency on the state assessment; and
- (13) A developed curriculum incorporating number and operations, geometry and measurement, data, statistic and probability, and functions and algebra consistent with RSA 193-C:3, III.

Repeal Ed 306.431, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.431 Repealed

Readopt Ed. 306.45, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.45 Science Education Program.

(a) Pursuant to Ed 306.26, the local school board shall require that a science education program in each school with the grades K-4 provides:

(1) Planned activities designed to:

- a. Develop students' critical thinking skills;
- b. Promote the acquisition of positive attitudes, including, but not limited to, curiosity, initiative, self-reliance, and persistence; and
- c. Develop an awareness of and involvement with the natural world;

(2) Planned activities designed to increase students' factual knowledge and conceptual understanding of the nature of science, unifying themes of science, and physical, biological, and earth space sciences; and

(3) Opportunities for students to develop a knowledge and understanding of process skills such as observing, classifying, measuring, and inferring through activities that allow each student to:

- a. Explore, collect, handle, sort, and classify natural objects;
- b. Use strategies to organize and identify the questions children ask from natural world observations;
- c. Use tools, including, but not limited to, nonstandard measures, rulers, and magnifiers, to enhance observations and collect represent and interpret data;
- d. Organize data in multiple ways using tools of technology, including calculators, computers, and handheld electronic devices;
- e. Communicate through reading, writing, speaking, listening, creating, and viewing to describe their observations of the natural world; and
- f. Model and communicate safety and health related issues relating to exploration, activities, and inquiry associated with materials, tools, and procedures.

(b) Each district shall establish a comprehensive curriculum that meets the needs of the students as described in (a) above and helps students progress as provided in RSA 193-C:3, III.

(c) Pursuant to Ed 306.26, the local school board shall require that a science program in each middle school provides:

- (1) Planned activities in grades 5-8 designed to increase students' factual knowledge and conceptual understanding of the nature of science, unifying themes of science, and physical, biological, and earth space sciences;
- (2) Instruction in grades 6 to 8 which provides a semester or yearlong and content connected experiences in biology life science, physical science, and earth space science;
- (3) Opportunities for students to develop a knowledge and understanding of process skills such as observing, classifying, measuring, graphing, inferring, experimenting, and communicating; and
- (4) Systematic instruction, laboratory experiences and activities designed to enable students to:
 - a. Gather scientific data through laboratory and field work;
 - b. Employ safe practices and techniques in the laboratory and on field trips;
 - c. Apply scientific concepts and skills in solving real problems and in everyday situations;
 - d. Understand the impact of science and technology on daily life;
 - e. Be aware of science-related societal issues;
 - f. Investigate the natural world and acquire an understanding of scientific explanations of natural phenomena;
 - g. Acquire an understanding of the history of science and its impact on society and the realization that science is a human endeavor;
 - h. Become familiar with science and technology related careers;
 - i. Engage in full and partial inquiries;
 - j. Use their understanding of background content and theories to guide their design of observations and investigations;
 - k. Shape and modify their background knowledge through experiments and observations;
 - l. Develop their abilities in systematic observation, making accurate measurements, and identifying and controlling variables; and

- m. Express their understanding through the use of writing, labeling drawings, completing concept maps, developing spreadsheets and creative representations, and designing computer images and representations.
- (d) Each district shall establish a comprehensive curriculum that provides for continued growth in all content areas consistent with RSA 193-C:3, III.
- (e) Pursuant to Ed 306.27, the local school board shall require that a science program in each high school provides:
- (1) Opportunities for students to become familiar with the impact, limitations, fundamental principles, and methods of science;
 - (2) Opportunities for students to acquire knowledge of the natural world through the application of logical thought processes such as observation, hypothesizing, experimentation, and the drawing of conclusions;
 - (3) Opportunities for students to develop a knowledge and understanding of attitudes and problem-solving techniques essential for life in an increasingly complex technological society;
 - (4) Courses totaling at least 5 credits in science comprised of offerings in each of the following areas:
 - a. Physical science which shall include:
 1. Conservation of matter;
 2. Conservation of energy, matter and energy in nuclear phenomena;
 3. Newton's Laws involving the structure and interaction of matter and energy;
 4. Chemical principles, including the ability to distinguish among materials by utilizing observable properties; and
 5. Physical principles, including the application of knowledge of forces and motion to all types of motion in the universe;
 - b. Biology which shall include:
 1. Molecular and cellular biology;
 2. Genetics;
 3. Plant and animal diversity and the structure and function of plants and animals;

4. The principles of classification, including fundamental structures, functions, and mechanisms of inheritance found in the major grouping of organisms including bacteria, fungi, protists, plants, and animals;
5. Population biology;
6. Organic evolution and patterns and products of evolution, including genetic variation, specialization, adaptation, and natural selection;
7. Ecology, and animal behavior and how environmental factors affect all living systems, including individuals, communities, biomes, and the biosphere, as well as species to species interactions; and
8. The concept that organisms are linked to one another and to their physical setting by the transfer and transformation of matter and energy to maintain a dynamic equilibrium;

c. Chemistry which shall include:

1. Structure of matter;
2. States of matter;
3. Chemical classification;
4. Introductory organic chemistry;
5. Reactions of matter such as acids, bases, oxidation-reduction, electrochemistry, equilibrium, kinetics; and
6. Thermodynamics;

d. Physics which shall include:

1. Principles of mechanics;
2. Laws of conservation;
3. Basics of waves;
4. Fundamentals of electricity and magnetism; and
5. Atomic and nuclear physics;

e. Earth space science which shall include the concepts that the earth:

1. Is a unique member of our solar system, located in a galaxy, within the universe;

2. Is a complex planet with 5 interacting systems, namely:
 - (i) Solid earth or lithosphere;
 - (ii) Air or atmosphere;
 - (iii) Water or hydrosphere;
 - (iv) Ice or cryosphere; and
 - (v) Life or biosphere; and
 3. Contains a variety of renewable and nonrenewable resources; and
- f. General or advanced science which shall include subject matter appropriate to the disciplines listed in e. above; and
- (5) Systematic instruction, fieldwork, experimentation and activities designed to enable students to:
- a. Know about the diversity of natural phenomena and the methods of studying and classifying them;
 - b. Recognize the interrelationship and interdependence of living organisms and the role of a biological organism in a physical world;
 - c. Understand the scientific method of investigation, including the role of observation and experimentation in the advancement of scientific knowledge;
 - d. Gather scientific data through laboratory and field work;
 - e. Construct tables and graphs from given data and interpret data presented in tables and graphs;
 - f. Draw conclusions and inferences from data;
 - g. Apply scientific concepts and skills in solving real problems and in everyday situations;
 - h. Communicate observations and experimental results both quantitatively, through the use of mathematical relationships, and qualitatively, in clear and concise spoken or written language;
 - i. Appreciate the unifying concepts and principles within the natural sciences;
 - j. Be aware of the philosophical, ethical, legal, political, and economic impacts of science and technology;

- k. Acquire an understanding of the history of science and the realization that science is a human endeavor; and
 - l. Be aware of concerns about the current and future impacts of science and technology on society and the environment.
- (f) Science courses in high schools shall teach the fundamentals of science and incorporate all of the content-specific components listed in (e) above and as many of the other non-course frameworks and concepts, including, but not limited to science as inquiry/science and technology and society/unifying themes, as are appropriate.
- (g) High school science courses shall be designed to prepare students for meeting or exceeding the end of grade 10 proficiencies in science consistent with RSA 193-C:3, III, regardless of the grade in which the course occurs.

Repeal Ed 306.451, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.451 REPEALED

Readopt Ed. 306.46, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.46 Social Studies Program

- (a) Pursuant to Ed 306.26, the local school board shall require that a social studies program in each elementary school provides:
- (1) Opportunities for students to:
 - a. Acquire knowledge and understanding of civics, economics, geography, and history in a program consistent with RSA 193-C:3, III; and
 - b. Become familiar with the skills of decision making, data gathering, and critical thinking;

(2) Pursuant to RSA 186:13, opportunities to practice citizenship in the school and community;

(3) Pursuant to RSA 189:11, instruction in history and government and the constitutions of the United States and New Hampshire; and

(4) Opportunities for students to acquire the knowledge, skills, and attitudes necessary for effective participation in the life of the community, the state, the nation, and the world.

(b) Pursuant to Ed 306.26, the local school board shall require that a social studies program in each middle school provides:

(1) Opportunities for students to acquire knowledge and understanding of civics, economics, geography, and history in a program consistent with RSA 193-C:3, III;

(2) Pursuant to RSA 186:13, opportunities to practice citizenship in the school and community;

(3) Pursuant to RSA 189:11, instruction in history and government and the constitutions of the United States and New Hampshire; and

(4) Systematic instruction and activities designed to enable students to:

a. Acquire and use information to clarify issues and seek solutions to societal problems;

b. Value and apply critical thinking, interpersonal relations, and decision-making skills in both individual and group problem-solving situations;

c. Participate in and contribute to the well-being of the home and school as well as the larger communities of the state, nation, and world; and

d. Become familiar with careers in history, the humanities, and the social sciences.

(c) Pursuant to Ed 306.27, the local school board shall require that a social studies program in each high school provides:

(1) Opportunities for students to acquire knowledge and modes of inquiry in the areas of civics, economics, geography, world history, and United States and New Hampshire history in a program consistent with RSA 193-C:3, III, including the related areas of sociology, anthropology, and psychology;

(2) Opportunities for students to acquire the knowledge, skills, and attitudes necessary for effective participation in the life of the community, the state, the nation, and the world;

(3) Pursuant to RSA 186:13, opportunities to practice citizenship in the school and community;

(4) Courses totaling at least 5 credits in social studies comprised of offerings in each of the following areas:

- a. At least one credit in national and state history pursuant to RSA 189:11;
- b. At least one credit in world history or global studies;
- c. At least one credit in geography;
- d. At least ½ credit in United States and New Hampshire government/civics;
- e. At least ½ credit in economics; and
- f. At least one credit, which may be interdisciplinary or integrated, to be chosen from the areas of geography, economics, world history, civics/government, state or national history or both, or behavioral studies; and

(5) Systematic instruction and activities designed to enable students to acquire the skills of critical thinking, effective decision making, and human relations.

Repeal Ed 306.461, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.461 REPEALED

Readopt Ed. 306.47, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.47 Technology/Engineering Education Program.

(a) Technology/engineering education is the discipline devoted to the study of human invention and innovation and their influence on our natural and human-made environment.

(b) The local school board shall require that a technology/engineering education program in each middle school provides:

- (1) Opportunities for students to develop an understanding of the technological world in which they live and will someday work;
- (2) Opportunities for students to develop positive attitudes and knowledge about present and future technologies in 3 or more of the following content areas:

- a. Medical technologies;
 - b. Agricultural;
 - c. Biotechnologies;
 - d. Energy and power technologies;
 - e. Information and communications technologies;
 - f. Transportation technologies;
 - g. Manufacturing technologies;
 - h. Construction technologies; and
 - i. New and emerging technologies;
- (3) Opportunities for students to develop a knowledge and understanding of how social forces like demographics and prevailing economic systems can influence the free-enterprise system and the global marketplace;
- (4) Opportunities to promote the development of problem-solving skills as well as basic skills in planning, design, fabrication, and evaluating technical processes technology/engineering principles and design, encouraging those habits of mind necessary to be a lifelong learner; and
- (5) Systematic instruction and activities designed to enable students to:
- a. Acquire an understanding of technical processes, the practical application of mathematics and scientific principles, and the interrelationships between technology/engineering education and other academic disciplines in the school curriculum;
 - b. Be aware of the right to, and the knowledge of what constitutes, safe work environments as well as the safe and appropriate use of tools, small machines, and processes;
 - c. Understand industry and technology, their systematic structures, and their place in our culture;
 - d. Understand the technological systems model requiring inputs, processes, outputs and feedback, where the processes include the resources of people, information, tools, energy, capital, time, materials;
 - e. Learn leadership and group-process skills;
 - f. Recognize and build upon individual talents and interests; and

- g. Become familiar with opportunities and requirements for careers in new and emerging technologies like medicine, agriculture, biotechnology, energy and power, information and communications, transportation, manufacturing, and construction.
- (c) The local school board shall require that a technology /engineering education program in each high school provides:
- (1) Opportunities for students to develop insight, understanding, and application of technological concepts, processes, and systems;
 - (2) Opportunities for students to develop safe and efficient habits in the application of tools, materials, machines, processes, and technical concepts;
 - (3) Planned activities designed to increase students' knowledge and skills related to technologies like medicine, agriculture, biotechnology, energy and power, information and communications, transportation, manufacturing, and construction;
 - (4) Courses totaling at least 4 credits in technology/engineering education with a minimum of one credit offered in 3 of the 4 areas of:
 - a. Energy and power technologies, including electricity, electronics, power mechanics, transportation, alternative energy, and energy conservation;
 - b. Process technologies, including manufacturing, construction, wood, metal, medical, agricultural, and biotechnology;
 - c. Communication and information technologies, including engineering graphics/CAD fundamentals, architectural design including modeling and the virtual environment, photography, printing, desktop publishing, graphic arts and design; and
 - d. Engineering principles and design; and
 - (5) Systematic instruction and activities designed to enable students to:
 - a. Understand the factors of production, including capital, labor, and management, in relation to industrial organization, systems and structure;
 - b. Utilize the engineering design process to propose, build, test and assess technological problems in a systematic and economically sound manner;
 - c. Develop skills in specific machine and tool operations;
 - d. Plan, design, produce and/or use measuring instruments, jigs, fixtures, and templates to control, test and assess parts of a technological process;
 - e. Use a variety of problem-solving tools to develop and apply critical thinking skills to technological problems;

- f. Exhibit an understanding for the importance of using resources in a way that is economical, efficient and respectful of our shared environment;
- g. Develop those habits of mind necessary to a lifelong learner such as the ability to question, investigate, design, experiment, and evaluate; and
- h. Develop leadership abilities required in a technological society such as communication, cooperation, and collaboration with individuals and groups.

Repeal Ed 306.471, effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.471 REPEALED

Readopt Ed. 306.48, effective 6/29/15 (Document # 10870, Emergency), to read as follows:

Ed 306.48 World Languages Program.

- (a) The local school board may provide instruction in one or more world languages in an elementary school. The extent of this instruction and the students to whom it is offered shall be determined by local school board policy.
- (b) Pursuant to Ed 306.26 the local school board may provide supplemental instruction in one or more world languages in a middle school.
- (c) If world language instruction is offered, the program shall be designed to provide:
 - (1) Opportunities for students to develop a basic proficiency in a second language or to explore 2 or more languages other than English;
 - (2) Instruction which emphasizes basic competency in the 4 skills of listening comprehension, reading, speaking, and writing;
 - (3) Activities designed to make students aware of the culture of the countries in which the language(s) is/are spoken; and
 - (4) Systematic instruction and activities designed to enable students to:
 - a. Gain basic linguistic knowledge in one or more second language(s);

- b. Acquire basic communicative competence by applying the skills of listening comprehension, speaking, reading, and writing;
- c. Understand the contributions of other cultures and compare elements of those cultures with American culture;
- d. Recognize and respect linguistic and cultural differences and be enriched by other societies' contributions to the human experience;
- e. Be aware of the concept of global interdependence; and
- f. Become familiar with the relationship between second language skills and future career choices.

(d) Pursuant to Ed 306.27, the local school board shall require that a world language program in each high school provides:

(1) Opportunities for students to become familiar with the linguistic and cultural elements of classical and/or modern languages;

(2) Opportunities for students to develop a knowledge and understanding of the skills necessary for effective communication in the language(s) studied as well as an understanding of the nature and contributions of the related culture(s); and

(3) Systematic instruction and activities designed to enable students to:

- a. Acquire progressive proficiency in the skills of listening comprehension, speaking, reading, writing and structural analysis;
- b. Increase knowledge and understanding of the countries, cultures, and attitudes of the peoples whose languages are being studied;
- c. Appreciate one's own cultural heritage;
- d. Plan education and career development in areas related to world languages; and
- e. Develop career and technical interests and activities associated with the study and use of world languages.

(e) Each high school shall offer courses totaling 5 credits comprised of a 3-year sequence in one world language and a 2-year sequence in a second world language.

(f) American Sign Language (ASL) shall qualify as a world language for purposes of this section and for the purpose of meeting a high school world language graduation requirement.

Repeal Ed 306.481 effective 3-27-14 (Document # 10556), as repealed effective 6-29-15 (Document # 10870, Emergency) as follows:

Ed 306.481 REPEALED