GRADE EIGHT
Grade Level Expectations
Updated for 2009-10 school year

These are the core grade level expectations that should be taught and learned during grade six based on the McRel standards and benchmarks. They are written from the student point of view. Local sites may add additional grade level expectations to correspond with their curriculum. These grade level expectations are aligned with McRel standards and the standards-based progress report. The number listed is in reference to McRel 3rd edition; the number listed for Religion standard is in reference to *By Their Fruits You Shall Know Them*, Lorraine Ozar. In grades 3-12, the ITBS/ITED grade level expectations for reading, math, and science promulgated at the beginning of the 2003-04 school year by the Department of Education are noted in italics. Because of students' developmental levels, not all standards are addressed at every grade level. If a standard is not appropriate at a given grade level, it is omitted or it is marked with an NA (not appropriate). The progress report on PowerSchool Premiere reflects only the course name so no asterisks are noted to align with Progress Report as in grades K-5. **The Iowa Core Curriculum essential concepts have been embedded at appropriate places, bolded, and identified with (ICC). Not all ICC may be appropriate at a given grade level, but by the time a student reaches eighth grade, all the primary ICC core concepts will have been taught.**

RELIGION
Note: Seventh and eighth grade religion standards have been developed together, knowing that depending on the resources a school uses, these standards may be taught at either grade level. The important thing is to address them by the conclusion of eighth grade.

1. Reads, interprets, and applies Scripture to life.
    - Participates in discussion
    - Has knowledge of content
    - Recognizes God's role in the salvation story
    - Appraises our faith commitment through an in-depth study of the Ten Commandments
    - Examines the annunciation, birth, and early life of Jesus as recorded by the evangelists
    - Defines our role in living out Christ's message as given in the parables
    - Knows that Scripture and Tradition together form one source of God's revelation
2. Presents a reasoned rationale, based on faith and knowledge, for being a Catholic.
3. Illustrates basic understanding of Catholic dogma and doctrine in light of the "Catechism for the Catholic Church."
    - Continues to develop a deeper realization of role of Mary's Motherhood of Jesus, of the Church, our mother, and the greatest model of holiness
    - Acknowledges Mary as a model of faith through prayer and action
    - Explains the continuation of God's saving mission by the Holy Spirit's descent, working through the Apostles in the early Church, and the Church today
    - Develops an awareness of the sacredness of the body as a temple of the Holy Spirit
    - Continues to think and discuss more about the doctrine of the Catholic faith
    - Describes God's love as revealed in the life, death, and resurrection of Jesus (the Paschal mystery)
    - Explores the meaning of our own participation in the Body of Christ
4. Demonstrates the importance of sacraments, with an emphasis on the centrality of the Eucharist in the life of Catholics.
    - Understands the sacraments and their purpose in our lives
    - Develops and appreciates God's special gift of life (grace) to us, especially through prayer and the Sacraments
    - Discusses God's plan for each individual as revealed in the Bible
    - Recognizes the relationship of the Eucharistic sacrifice to crucifixion
5. Makes moral decisions consistent with Church teachings.
    - Realizes that God's plan is that people be good in order to live with God forever in heaven
    - Realizes that God gave humans the special gift of free will
    - Develops a code of behavior reflecting other role models who have committed themselves to the acceptance of God's will in their daily lives
    - Prioritizes choices that help to achieve the eternal goal in our lives
6. Illustrates a basic understanding of the history of the Church - 8th grade
    - Outlines the historical development of Christ's Church
    - Explains how the Church is holy, and how it needs our holiness
    - Develops a deeper knowledge and love of the Church
    - Discusses the mission of the Church for society (evangelization)
    - Identifies the fulfillment of Jewish prophecies regarding the Messiah
    - Recognizes Jesus Christ as the Son of God and King of heaven and earth

- Studies the history and writing of St. Paul spreading the Good News to the Gentiles

7. Acknowledges and affirms the diverse cultural expressions of Catholicism.
   - Recognizes the many gifts, talents, and abilities that God has provided each of us
8. Applies Catholic principles to interpersonal relations (e.g., family, peers, work, society, special needs, elderly, Church, marginalized)
   - Practices Christian action toward others
   - Recognizes each person goes through various stages of life; each stage brings new changes and challenges for the individual on his/her journey to mature adulthood
   - Knows that God's gift of sexuality includes and affects one's physical, intellectual, emotional, social and spiritual development
   - Identifies areas of personal weaknesses and develops positive responses
9. Demonstrates an appreciation for faith community as the way we come to know God.
   - Analyzes particular vocations within our vocation as a child of God
   - Examines the missionary life of Christ and the disciples and today's missionaries
   - Recognizes that the Church is a visible sign of the kingdom of God
10. Uses effective community building skills in relating with others.
   - Applies skills to concrete life situations - is considerate of others and their feelings
   - Understands that God's gift of life needs to be protected and nurtured from conception to death
   - Understands that respect and care must be shown for the biological processes/changes of one's own body and that of others
   - Recognizes the importance of reflecting on what it means to live in relationship with God and to live a moral life
11. Critiques societal structures in light of Catholic social justice principles and applies to social and personal situations.
   - Practices Christian action toward others
12. Engages in service to the community (e.g., family, parish, local, national, and global) in response to the Gospel call.
   - Practices Christian action toward others
   - Understands that being a disciple of Christ calls one to serve family, community and Church
   - Participates in parish and community service projects
   - Is made aware of various roles and ministries in the Church
   - Recognizes that the work of the Church is to show love, peace, and justice in the world
13. Exercises responsible stewardship for the gift of creation.
   - Practices Christian action toward others
   - Responds joyfully to God's call to give of one's self in love to God and others (stewardship)
   - Continues to study the meaning of stewardship, i.e., "Receive God's gifts gratefully, cultivate them responsibly, share them lovingly in justice with others, and return them with increase to the Lord."
14. Examines the variety of Christian life styles as ways to respond to the baptismal call to a life of service.
   - Participates in parish and community service projects
15. Demonstrates the relationship between faith and culture through arts, social sciences, sciences, technology.
16. Uses appropriate resources to plan and participate in liturgy and other prayer experiences.
   - Participates in planning liturgies and para-liturgies on student level of growth and awareness
17. Uses a variety of prayer forms (e.g., traditional, spontaneous, meditative, devotional, multicultural) to enrich and express personal and communal spirituality.
   - Develops a personal relationship with Jesus that evokes a response of generous love
   - Can recite and use the designated prayers for this grade level on the Prayer/Basic Beliefs and Practices listing. Other prayers of cultural/liturgical significance may be designated by the local site.
18. Celebrates the presence of the Sacred in experiences of sacramentals, symbols, and rituals.
19. Demonstrates an understanding of liturgical seasons and feasts.
   - Increases knowledge of Church's liturgical seasons of Advent, Christmas, Lent, and Easter
   - Participates at their own level in liturgical celebrations and other forms of prayer
   - Understands the church year celebrates God's story of salvation as fulfilled in the life, death, resurrection, and ascension of Jesus
   - Knows regulations for Fast and Abstinence

LANGUAGE ARTS

Writing

1. Uses general skills and strategies in the writing process
    - **Uses an effective writing process (ICC)**
    - Prewriting, drafting and revising, editing and publishing, proofreading, evaluating peers' and own writing
        - Identifies strengths and weaknesses in own writing
        - Organizes thoughts and expresses opinions and knowledge in a clear manner using complete sentences
        - Writes paragraphs with a clear main idea and several supporting details
        - Writes for a variety of audiences and purposes which include report of information, use of narratives, essays, poetry, persuasive compositions, responses to literature, and creative writing
    - **Uses knowledge of purpose, audience, format, and medium in developing written communication (ICC)**
    - **Applies writing skills and strategies to communicate effectively in a variety of genres with various audiences (ICC)**
    - **Is able to write on demand (ICC)**
    - **Incorporates technology as a tool to enhance writing (ICC)**
    - Writes compositions that address problems/solutions, e.g., identifies and defines a problem in a way appropriate to the intended audience, describes at least one solution, and presents logical and well supported reasons
    - Handwriting - Writes legibly using proper size and spacing
2. Uses stylistic and rhetorical techniques in written composition
    - Demonstrates an understanding of the English language, i.e., usage, punctuation, capitalization, and spelling
        - Spells high frequency words from content areas correctly
    - Writes compositions that use a variety of sentence structures to expand and embed ideas
    - Uses transitions between sentences and paragraphs
    - Writes compositions that show clear evidence of descriptive language that clarifies and enhances ideas
    - Uses paragraph form in writing, e.g., arranges sentences in sequential order, uses supporting and follow-up sentences, establishes coherence within and among paragraphs
3. Writes with a command of the grammatical and mechanical conventions of composition
    - **Adheres to conventions generally established in spelling, punctuation, grammar, usage, syntax and style (ICC)**
    - Applies rules of grammar, usage, punctuation, and capitalization in writing
    - Writes compositions that have no significant errors in the use of ending punctuation marks
    - Writes compositions that have few significant errors in the use of commas
    - Demonstrates proper use of colon, semicolon, hyphen, dash, apostrophe, and quotation marks
    - Demonstrates proper use of nouns, pronouns, verbs, adjectives, adverbs, prepositions, interjections, and conjunctions
    - Uses appropriate format in written compositions, e.g., includes footnotes, uses italics, etc.
    - Shows improvement in writing skills
4. Gathers and uses information for research purposes
    - **Uses writing as a tool for learning (ICC)**
    - Effectively uses media resources to gather information
    - **Engages in the information literacy process: accesses, evaluates, and communicates information and ideas (ICC)**
    - Engages in research
        - Uses the library/media center on a regular basis and properly uses a variety of resources for research topics, e.g., computer database to locate sources for research topics
        - Separates information into major components based on a set of criteria
        - Examines critical relationships between and among elements of a research topic
        - Addresses different perspectives on a topic
        - Achieves balance between research information and original ideas
        - Integrates a variety of information into a whole and draws conclusions

Reading

5. Reading Process - Uses the general skills and strategies of the reading process

- Reflects on what has been learned after reading and formulates ideas, opinions, and personal responses to texts
- Uses specific strategies to clear up confusing parts of a text, e.g., rereads the text, consults another source, asks for help
- **Uses a variety of strategies to develop and expand reading vocabulary (ICC)**
- Accurately identifies author's purpose and point of view
- Monitors own reading strategies and makes modifications
- Identifies specific devices and author uses to persuade
- Makes, confirms, summarizes, and revises simple predictions
- **Independently reads a significant number of books and text each year. This reading should include both fiction and nonfiction in a variety of genres (ICC)**
- Continues to develop a desire to read; engages in daily silent reading
    - Establishes and adjusts purposes for reading, e.g., to understand, interpret, enjoy, solve problems, predict outcomes, answer a specific question, form an opinion, skim for facts
- **Reads with fluency silently and aloud to support comprehension (ICC)**
- **Reads for a variety of purposes and across content areas (ICC)**

6. Reading Comprehension - Uses reading skills and strategies to understand and interpret a variety of literary works

- **Uses a variety of strategies and skills to comprehend and interpret fiction (ICC)**
- Responds to literary and informational texts (oral, written, artistic)
- *Understands and comprehends stated information*
- *Determines the meaning of new words from their context - **vocabulary***
- *Draws conclusions, makes inferences, and deduces meaning*
- *Interprets information in new contexts*
- *Interprets non literal language*
- *Determines the main idea of a text*
- Continues to develop and use a variety of comprehension strategies - cause/effect, compare/contrast, classify/categorize, drawing conclusion, predicting outcomes, and giving details of main idea
- *Analyzes the style or structure of a text*
- Reads and identifies various genre of literature and informational texts including technical guides
- Identifies the main and secondary characters in works containing complex character structures
- Recognizes the use of specific literary devices, e.g., foreshadowing, flashback
- Recognizes complex elements of plot, e.g., setting, major events, problems, conflicts, resolutions
- *Infers traits, feelings, and motives of characters*
- Makes and confirms inferences and predictions about events in a story
- Understands the use of language in literary works to convey mood, images, and meaning, e.g., dialect, dialogue, symbolism, irony, rhyme, voice, tone, sound, alliteration, onomatopoeia
- Makes connections between the motives of characters and motives in student's own life

7. Reading Comprehension - Uses reading skills and strategies to understand and interpret a variety of informational texts

- **Uses a variety of skills and strategies to comprehend non-fiction and informational text (ICC)**
- Responds to literary and informational texts (oral, written, artistic)
- *Understands and comprehends stated information*
- *Determines the meaning of new words from their context - **v**ocabulary*
- *Draws conclusions, makes inferences, and deduces meaning*
- *Interprets information in new contexts*
- *Interprets non literal language*
- *Determines the main idea of a text*
- Continues to develop and use a variety of comprehension strategies - cause/effect, compare/contrast, classify/categorize, drawing conclusion, predicting outcomes, and giving details of main idea
- *Analyzes the style or structure of a text*
- Reads and identifies various genres of literature and informational texts including technical guides
- Can effectively use the structures in informational texts; uses text organizers to determine the main ideas or locate information
- Uses the various parts of a text (index, table of contents, glossary) to locate specific information
- Reads for a variety of purposes including to answer a specific question, to form an opinion, and to skim for facts
- Comprehends, summarizes, and paraphrases information in texts in all content areas
- Uses a variety of strategies and reading skills to understand a variety of information texts

- Differentiates between fact and opinion in informational texts
- Understands techniques used to convey viewpoint, e.g., word choice, language structure, context

Listening and Speaking

8. Uses listening and speaking strategies for different purposes; listens actively
   - **Produces a coherent message (ICC)**
   - Expresses ideas clearly
   - **Participates in a variety of communication situations (ICC)**
   - **Participates appropriately in one-on-one situations and groups settings (ICC)**
   - Uses appropriate verbal and nonverbal techniques for oral presentations e.g., word choice, feeling, expression, eye contact, posture, etc.
   - Understands implicit statements of attitude and opinion, e.g., implicit point of view conveyed by tone of voice and expression
   - Understands elements of persuasion and appeal in spoken text, e.g., purpose and impact of pace, volume, tone, stress
   - **Considers audience and variables in the speaking situation (ICC)**
   - **Uses appropriate content and conventions for purpose, audience, occasion, and context (ICC)**
   - **Demonstrates use of presentation skills to communicate (ICC)**
   - **Recognizes the role of evaluation in oral communication (ICC)**
   - **Recognizes the role of response in oral communication (ICC)**

   - **Listens for information and understanding (ICC)**
   - **Listens for interpretation, analysis, and evaluation (ICC)**
   - **Listens to establish, maintain and enhance relationships (ICC)**

Viewing

9. Uses viewing skills and strategies to understand and interpret visual media
   - **Uses a range of strategies to interpret visual media (ICC)**
   - Responds orally and in writing to higher order thinking questions in all content areas
   - Understands basic elements of advertising and uses a variety of criteria to evaluate visual media
   - Understands the use of stereotypes and biases in visual media, e.g., distorted representations of society, imagery and stereotyping in advertising, etc.
   - Understands techniques used in visual media to influence or appeal to a particular audience
   - **Applies a variety of criteria to evaluate informational media (ICC)**
   - **Understands how literary forms can be represented in visual narratives (ICC)**

Media

10. Understands the characteristics and components of the media
   - Understands that media, messages, and products are composed of a series of separate elements, e.g., sections of a newspaper
   - Enhances the understanding of the similarities and differences among a variety of media, e.g., how documentaries, Internet, television, and radio present a story in a different way
   - Knows characteristics and understands the different purposes of a wide range of media, e.g., to provide entertainment or information to persuade, to transmit culture, to focus attention on an issue
   - Understands the ways in which image-makers (media) carefully construct meaning, e.g., idea and word choice, authors, photos or cutlines chosen in newspapers
   - **Analyzes the effects of visual media on society and culture (ICC)**

MATH

1. ***Problem solving*** *- Uses a variety of strategies in the problem-solving process*
    - *Solves single-step and multiple-step math problems*
        - Brainstorms possible approaches before starting a problem
        - Breaks complex problems into simpler parts
    - *Identifies extraneous or insufficient information in problems*
    - *Chooses a method for solving a problem* - some methods more helpful than others
    - Checks reasonableness of results of each part of problem solving process
    - Constructs a physical representation for complex problems
    - Understands there is more than one way to solve mathematical problems
    - Can determine information required to solve a problem, choosing methods, and setting limits for acceptable solution
    - Understands the role of written symbols in representing mathematical ideas and the use of precise language in conjunction with the special symbols of mathematics
2. ***Concept of Numbers*** *- Understands and applies basic and advanced properties of the concepts of numbers*
    - **Understands, estimates, and represents real numbers, including common irrational numbers and use of scientific notation (ICC)**
    - Checks reasonableness of results through estimation - *estimates measurements with appropriate precision*
        - *Uses standard rounding to estimate*
        - *Uses order of magnitude to estimate*
        - *Uses number sense to estimate*
    - *Represents, compares, and orders numbers;* fractions and decimals
    - **Understands, applies, and is computationally fluent with rational numbers, including negative numbers (ICC)**
    - **Understands and applies ratio and rate, including percents, and connects ratio and rate to fractions and decimals (ICC)**
    - **Understands and applies proportional reasoning (ICC)**
    - *Describes and applies properties of numbers*
    - *Classifies numbers by divisibility*
    - *Demonstrates ways of performing operations*
    - *Uses place value; writes numbers in standard, expanded, and exponential form*
    - *Uses and interprets operational and relationship symbols*
    - *Solves equations and inequalities*
    - *Uses variable expressions to model situations*
    - *Explores numerical patterns*
    - Communicates mathematical concepts through writing and speaking
    - Understands the characteristics and uses of exponents and scientific notation
    - Uses number theory concepts, e.g. divisibility and remainders, factors, multiples, prime, relatively prime to solve problems
    - Understands the role of positive and negative integers in the number system
3. ***Computation*** *- Uses basic and advanced procedures while performing the processes of computation*
    - Uses order of operations effectively
    - Interprets remainders
    - Understands exponentiation of rational numbers and root-extraction, e.g., squares and square roots, cubes and cube roots
    - Understands the properties of operations with rational numbers, e.g., distributive property, commutative property, and associative properties of addition and multiplication, inverse properties, and identity properties
    - Selects and uses appropriate computational methods for a given situation
4. ***Measurement*** *- Understands and applies basic and advanced properties of the concepts of measurement*
    - *Measures length/distance, time, temperature, weight, mass, and volume*
    - *Identifies and uses appropriate units of measurement*
        - Selects and uses appropriate units and tools, depending on degree of accuracy required to find measurements for real-world problems
        - Converts units within a system, e.g. feet to inches, quarts to pints, hours to minutes
    - Estimates, calculates, and compares perimeter, area, and volume
    - Applies given measurement formulas for perimeter, area, circumference, volume, and surface area in problem situations
    - Understands procedures for basic indirect measurements, e.g., using grids to estimate area of irregular figures
    - Understands the basic concept of rate as a measure, e.g., miles per hour

5. ***Geometry*** *- Understands and applies basic and advanced properties of the concepts of geometry*

- **Understands, determines, and applies area of polygons (ICC)**
- **Understands and applies similarity, with connections to proportion (ICC)**
- **Understands, determines, and applies surface areas and volume of prisms and cylinders and circumference and area of circles (ICC)**
- **Analyzes two-dimensional space and figures by using distance, angle, coordinates, and transformations (ICC)**
- **Visualizes, represents, and describes three-dimensional shapes (ICC)**
- Understands the relationships between two-and three-dimensional representations of a figure, e.g., scale drawings, blueprints
- Uses geometric methods (i.e., using an unmarked straight edge and a compass using an algorithm) to complete basic geometric constructions, e.g., perpendicular bisector of a line segment, angle bisector
- Understands the mathematical concepts of similarity and congruency
- Understands the basic concept of the Pythagorean theorem (introduction)
- Uses the intersection of two-dimensional figures (e.g., lines, triangles, squares) to derive geometric definitions such as parallel, perpendicular, Pythagorean theorem, and mid point
- *Identifies, classifies, and compares geometric figures*
- *Describes geometric properties, patterns, and relationships*
- *Applies the concepts of perimeter, area, and volume*
- Solves real-world problems involving area of geometric figures

6. ***Data analysis*** *- Understands and applies basic and advanced concepts of statistics and data analysis*

- Gathers and records data to make generalizations
- **Analyzes and summarizes data sets, including initial analysis of variability (ICC)**
- **Understands, interprets, determines, and applies measures of center and graphical representations of data (ICC)**
- Finds mean, median, mode, and range
- Reads, interprets, organizes, and displays data in charts, tables, plots and graphs
- *Reads amounts on scales of bar and line graphs*
- *Locates amounts in specific cells of a table*
- *Compares quantities to determine ranks, sums or differences and to find ratios*
- *Uses tables and graphs to determine rates or identify trends, understand underlying or functional relationships, and generalize or draw conclusions*
- Understands the basic concept of outliers
- Understands faulty arguments, common errors, and misleading presentations of data

7. ***Probability*** *- Understands and applies basic and advanced concepts of probability*

- **Understands and represents simple probabilistic situations (ICC)**
- **Understands, computes, and estimates simple probabilities using counting strategies and simulation (ICC)**
- **Uses proportions and percentages to analyze data and chance (ICC)**
- *Applies probability concepts and counting rules*
- *Understands and applies measures of central tendency and variability*
- Identifies common errors in the presentation of statistics
- Understands the relationship between the numerical expression of a probability (e.g., fraction, percentage, odds) and the events that produce these numbers
- Understands how predictions are based on data and probabilities
- Determines probability using simulations or experiments
- Understands procedures for selecting an unbiased sample

8. ***Functions and Algebra*** *- Understands and applies basic and advanced properties of functions and algebra*

- **Writes, interprets, and uses mathematical expressions, find equivalent forms, and relates such symbolic representations to verbal and tabular representations (ICC)**
- **Understands and applies proportionality (ICC)**
- **Understands, solves, and applies linear equations and inequalities (ICC)**
- **Understands and applies linear functions (ICC)**
- **Uses tables and graphs to analyze systems of linear equations (ICC)**
- Constructs a pattern and articulates why the pattern works
- Understands that a variable can be used in many ways
- Understands basic operations of algebraic expressions, e.g., combining like terms, expanding, substituting for unknowns
- Understands various representations of patterns and functions and the relationships among them
- Understands the basic concept of a function, i.e., functions describe how changes in one quantity or variable result in changes in another

- Uses substitution within given formulas and expressions with real world problems
- Solves simple systems of equations graphically
- Uses the rectangular coordinate system to model and solve problems

9. Nature of Mathematics - Understands the general nature and uses of mathematics

SCIENCE/HEALTH

Knowing that there are programs that are K-5, K-6, K-8, 6-8, 7-12, the approach for the science component of the grade level expectations is as follows: grade 6 includes the 13 standards of science/health; grade 7 is focused on life science/health; grade 8 is focused on earth and space/health. However, all 13 standards are indicated below to give context to the science/health subject area. Knowing this, there will need to be adjustments at the local level via the curriculum review cycle. This planning was based on the assumption that specific courses are taught at the high school in the areas of physical science, biology, chemistry, physics and other advanced courses.

Earth and Space *- Students can understand concepts and relationships in Earth/space sciences.*

1. Understands atmospheric processes and the water cycle - *Can understand changes in and around Earth.*
   - **Understands and demonstrates knowledge of the structure of the earth system and the processes that change the earth and its surface (ICC)**
   - Knows the composition and structure of the Earth's atmosphere, e.g., temperature and pressure in different layers of the atmosphere, circulation of air masses
   - **Understands and demonstrates knowledge of the water cycle, including consideration of events that impact groundwater quality (ICC)**
   - Knows the processes involved in the water cycle, e.g., evaporation, condensation, precipitation, surface run-off, percolation, and their effects on climatic patterns
   - **Understands and demonstrates knowledge of the earth's atmospheric properties and how they influence weather and climate (ICC)**
   - Knows that the Sun is the principle energy source for phenomena on the Earth's surface, e.g., winds, ocean currents, the water cycle, and plant growth
2. Understands Earth's composition and structure - *Can understand ideas about Earth's composition and structure.*
   - **Understands and demonstrates knowledge of our earth's history based on physical evidence (ICC)**
   - Knows that the Earth's crust is divided into plates that move at extremely slow rates in response to movements in the mantle
   - Knows that sedimentary, igneous, and metamorphic rocks contain evidence of the minerals, temperatures, and forces that created them
   - Knows how successive layers of sedimentary rock and the fossils contained within them can be used to confirm the age, history, and changing life forms of the earth, and how this evidence is affected by the folding, breaking, and uplifting of layers
3. Understands the composition and structure of the universe and the Earth's place in it - *Can understand concepts relating to the universe.*
   - **Understands and demonstrates knowledge of the components and predictable patterns of our solar system (ICC)**
   - Knows that gravitational force keeps planets in orbit around the sun and moons in orbit around the planets
   - Knows that the planet Earth and our solar system appear to be somewhat unique (e.g., the Earth is the only celestial body known to support life, although similar systems might yet be discovered in the universe)
   - Knows how the regular and predictable motions of the earth and moon explain phenomena on earth, e.g., the day, the year, phases of the moon, eclipses, tides, shadows

Life Science - *Students can understand concepts and relationships in life science.*

4. Understands the principles of heredity and related concepts - *Can understand life cycles*
   - **Understands and demonstrates knowledge of how different organisms pass on traits (ICC)**
5. Understands the structure and function of cells and organisms - *Can understand the structure of living things*
   - **Understands and demonstrates knowledge of the basic components and functions of cells, tissues, organs, and organ systems (ICC)**
   - **Understands and demonstrates knowledge of the complementary nature of structure and function and the commonalities among diverse organisms (ICC)**
   - **Understands and demonstrates knowledge of the functions and interconnections of the major human body systems including the breakdown in structure or function that disease causes (ICC)**

6. Understands relationships among organisms and their physical environment - *Can understand environmental interaction and adaptation*

- **Understands and demonstrates knowledge of the interdependency of organisms, changes in environmental conditions, and survival of individuals and species (ICC)**
- **Understands and demonstrates knowledge of the cycling of matter and energy through ecosystems (ICC)**
- **Understands and demonstrates knowledge of the social and personal implications of environmental issues (ICC)**

7. Understands biological evolution and the diversity of life

Physical Sciences - *Students can understand concepts and relationships in physical science.*

8. Understands the structure and properties of matter

- **Understands and demonstrates knowledge of elements, compounds, mixtures, and solutions based on the nature of their physical and chemical properties (ICC)**

9. Understands the sources and properties of energy

- **Understands and demonstrates knowledge of physical and chemical changes and their relationship to the conservation of matter and energy (ICC)**
- **Understands and demonstrates knowledge of forms of energy and energy transfer (ICC)**

10. Understands forces and motion

- **Understands and demonstrates knowledge of motions and forces (ICC)**

Nature of Science and Technology

11. Understands the nature of scientific knowledge

- Knows that an experiment must be repeated many times an yield consistent results before the results are accepted as correct

12. Understands the nature of scientific inquiry - Students can understand and apply skills used in scientific inquiry.

- *Can understand and apply the processes and skills of scientific inquiry*
    - Knows that scientific inquiry includes evaluating results of scientific investigations, experiments, observations, theoretical and mathematical models and explanations proposed by other scientists
    - Knows possible outcomes of scientific investigations (e.g., some may result in new ideas and phenomena for study, some may generate new methods or procedures for investigation; some may result in the development of new technologies to improve the collection of data; some may lead to new investigations)
- *Can analyze and interpret scientific information*
- Uses appropriate tools (including computer hardware and software) and techniques to gather, analyze, and interpret scientific data
- **Generates questions that can be answered through scientific investigations (ICC)**
- **Designs and conducts different kinds of scientific investigations (ICC)**
- **Understands that different kinds of questions suggest different kinds of scientific investigations (ICC)**
- **Selects and uses appropriate tools and techniques to gather, analyze and interpret data (ICC)**
- **Incorporates mathematics in scientific inquiry (ICC)**
- **Uses evidence to develop descriptions, explanations, predictions, and models (ICC)**
- **Thinks critically and logically to make the relationships between evidence and explanations (ICC)**
- **Recognizes and analyzes alternative explanations and predictions (ICC)**
- **Communicates and defends procedures and explanations (ICC)**
- **Uses appropriate safety procedures when conducting investigations (ICC)**

13. Understands the scientific enterprise

- Knows that people of all backgrounds and with diverse interests, talents, qualities, and motivations engage in fields of science and engineering; some of these people work in teams and others work alone, but all communicate extensively with others
- Knows that throughout history, many scientific innovators have had difficulty breaking through accepted ideas that are now considered to be common knowledge

HEALTH

1. Knows the availability and effective use of health services, products, and information
    - Knows how to locate and use community health information, products, and services that provide valid health information
2. Knows environmental and external factors that affect individual and community health
    - Understands how peer relationships affect health, e.g., name-calling, prejudice, discrimination
3. Understands the relationship of family health to individual health
    - Understands the development of adolescent independence
4. Knows how to maintain mental and emotional health
    - Knows strategies to manage stress and feelings caused by disappointment, separation, or loss
5. Knows essential concepts and practices concerning injury prevention and safety
    - Knows potential signs of self- and other- directed violence
6. Understands essential concepts about nutrition and diet
    - Understands how eating properly can help to reduce health risks
7. Knows how to maintain and promote personal health
    - Knows strategies and skills that are used to attain personal health goals
8. Knows essential concepts about the prevention and control of disease
    - Knows communicable, chronic, and degenerative disease processes and the differences between them
9. Understands aspects of substance use and abuse
    - Knows factors involved in the development of a drug dependency and the early observable signs and symptoms
    - Knows conditions that may put people at higher risk for substance abuse problems
10. Understands the fundamental concepts of growth and development
    - Knows the similarities and differences between male and female sexuality

SOCIAL STUDIES - listed by strands **(ICC)**

Knowing that there are programs that are K-5, K-6, K-8, 6-8, 7-12, the approach for the social studies component of the grade level expectations is as follows: grade 7 focuses on world regions and grade 8 focuses on American History up to the Civil War. Knowing this, there will need to be adjustments at the local level. This planning was based on the assumption that specific courses are taught at the high school in the areas of global studies, geography, American history and government, economics, psychology, and sociology.

1 **Political Science/Civic Literacy**

- **Understand the rights and responsibilities of each citizen and demonstrate the value of lifelong civic action. (ICC)**
- **Understand how the government established by the Constitution embodies the principles of democracy. (ICC)**
- **Understand the purpose and function of each of the three branches of government established by the U.S. Constitution. (ICC)**
- **Understand the similarities and differences among the complex levels of local, state, and national government. (ICC)**
- **Understand strategies for effective political action that impacts local, state, and national governance. (ICC)**
- **Understand how laws are established at the local, state, and national levels. (ICC)**
- **Understand how various political systems throughout the world define the rights and responsibilities of the individual. (ICC)**
- **Understand the role of the United States in current world affairs. (ICC)**
- Knows some basic uses of constitutions and how they have been used to protect individual rights and promote the common good and specifically understands the American Constitution
- Knows volunteer opportunities that exist in one's own school and community
- Knows how diversity encourages cultural creativity
- Knows sources of political conflict that have arisen in the United States
- Knows some important American ideals

2. Economics

- **Understand the role of scarcity and economic trade-offs and how economic conditions impact people's lives. (ICC)**
- **Understand the functions of economic institutions. (ICC)**
- **Understand how governments throughout the world influence economic behavior. (ICC)**
- **Understand factors that create patterns of interdependence in the world economy. (ICC)**
- **Understand the impact of advancing technologies on the global economy. (ICC)**
- **Understand how universal economic concepts present themselves in various types of economies throughout the world. (ICC)**
- **Understand the function of common financial instruments. (ICC)**
- Knows that inflation refers to a sustained increase in the average price level of the entire economy

3. Geography
- **Understand the use of geographic tools to locate and analyze information about people, places, and environments. (ICC)**
- **Understand how geographic and human characteristics create culture and define regions. (ICC)**
- **Understand how human factors and the distribution of resources affect the development society and the movement of populations. (ICC)**
- **Understand how physical processes and human actions modify the environment and how the environment affects humans. (ICC)**
- Knows the ways in which culture influences the perception of places and regions, e.g., religion and other belief systems, language and traditions
- Knows the processes that produce renewable and nonrenewable resources, e.g., fossil fuels
- Knows historic and current conflicts and competition regarding the use and allocation of resources

4. Historical Understanding
- **Understand historical patterns, periods of time, and the relationships among these elements. (ICC)**
- **Understand how and why people create, maintain, or change systems of power, authority, and governance. (ICC)**
- **Understand the role of culture and cultural diffusion on the development and maintenance of societies. (ICC)**
- **Understand the role of individuals and groups within a society as promoters of change or the status quo. (ICC)**
- **Understand the effect of economic needs and wants on individual and group decisions. (ICC)**
- **Understand the effects of geographic factors on historical events. (ICC)**
- **Understand the role of innovation on the development and interaction of societies. (ICC)**
- **Understand cause and effect relationships and other historical thinking skills in order to interpret events and issues. (ICC)**
- Understands the creation of the Declaration of Independence
- Understands how the ideals of the American Revolution influenced the goals of various groups of people during and after the war (e.g., women, loyalists, Native Americans, enslaved and free African Americans, etc.)
- Understands the development and impact of the American party system

5. Behavioral Sciences
- Understand the changing nature of society.
- Understand how personality and external social forces impact the individual.
- Understand the influences on individual and group behavior and group decision making.
- Understand the process of how humans develop, learn, adapt to the environment, and internalize their culture.
- Understand current social issues to determine how the individual is able to formulate opinions and respond to those issues.
- Understand how to evaluate social research and information.

MUSIC

1. Sings alone and with others, a varied repertoire of music
- Sings with good breath control, expression, and technical accuracy at a level that includes modest ranges and changes of tempo, key, and meter
- Participates and contributes in class activities
- Attempts to sing on pitch in rhythm with appropriate dynamics and timbre, and maintains a steady tempo
- Listens and follows directions
- Responds to the cues of the conductor when singing as part of a group
- Sings music written in two and three parts

2. Performs on instruments, alone and with others, a varied repertoire of music
- Performs simple melodies by ear on an instrument
- Creates movement to accompany music or poems
- Performs music representing diverse genres and cultures, with expression appropriate for the work being performed

3. Improvises melodies, variations, and accompaniments.
- Improvises short melodies, unaccompanied and over given rhythmic accompaniments, in a consistent style, meter, and tonality

4. Composes and arranges music within specified guidelines
- Creates musical accompaniments (e.g. a rhythm instrument accompaniment)
- Composes short pieces within specified guidelines
- Knows how the elements of music are used to achieve unity and variety, tension and release, and balance in musical composition

5. Reads and notates music

- Understands musical notations
- Reads sixteenth and dotted notes and rests
- Uses standard notation to record musical ideas
- Knows standard notation symbols for pitch, rhythm, dynamics, tempo, articulation, and expression

6. Knows and applies criteria to music and musical performances
   - Appreciates music and is able to analyze in simple terms
   - Identifies specific music events when listening to music, e.g., entry of oboe, change of meter, return of refrain
   - Understands how the elements of music are used in various genres and cultures
   - Knows the basic principles of meter, rhythm, tonality, intervals, chords, and harmonic progressions
7. Understands relationships between music and history and culture
   - Understands, appreciates, and participates in liturgical music
   - Knows and demonstrates appropriate audience behavior
   - Understands characteristics that cause various musical works to be considered exemplary
   - Understands that music preferences reflect one's own personal experiences

ART

1. Understands and applies media techniques and processes related to visual arts
   - Maintains an imaginative approach while following simple instructions
   - Uses a wide variety of tools safely and economically
   - Enjoys using different art media and techniques
   - Knows how the characteristics and qualities of art media, techniques, and processes can are used to enhance experiences and ideas
   - Understands, critiques, and uses self-evaluation tools both oral and written
2. Knows how to use structures and functions of art
   - Follows simple instructions, but maintains an imagination while creating art
   - Knows how the qualities of structures and functions of art are used to improve communication of one's ideas
   - Expresses creativity through art projects
3. Knows range of subject matter.
   - Continues to grow in art vocabulary
   - Knows different subjects, themes, and symbols which convey intended meaning in artworks
4. Understands the visual arts in relation to history and cultures
   - Identifies specific works of art as belonging to particular cultures, times, and places - art appreciation
   - Becomes knowledgeable of famous artists and their work
   - Understands the historical and cultural contexts of a variety of art objects
5. Understands the characteristics and merits of one's own artwork and the artwork of others
   - Understands that specific art works can elicit different responses

PHYSICAL EDUCATION

1. Uses a variety of basic and advanced movement forms (running, skipping, hopping, eye-hand/eye-foot coordination-dribbling while running)
   - Demonstrates knowledge of concepts
   - Demonstrates fundamental skills
   - Uses intermediate sport-specific skills for individual, dual, and team sports
   - Uses intermediate sport-specific skills for dance and rhythmical activities
2. Uses movement concepts and principles in development of motor skills
   - Understands the principle of training and conditioning for specific physical activities
   - Uses basic offensive and defensive strategies in a modified version of a team and individual sport
   - Understands movement forms associated with highly skilled physical activities
3. Understands benefits and costs associated with participation in physical activity
   - Chooses physical activities based on a variety of factors, e.g. personal interests and capabilities, challenge and enjoyment
   - Understands long-term physiological benefits of regular participation in physical activity, e.g., improved cardiovascular strength, improved flexibility, and body composition
   - Knows factors that inhibit participation in physical activity, e.g., substance abuse
   - Celebrates personal successes and achievements as well as those of others
4. Understands how to monitor and maintain a healthy, enhanced level of physical fitness
   - Understands wellness - demonstrates benefits of healthy life style

- Identifies the health benefits of participation in physical activity
- Selects and participates regularly in more advanced physical activities for the purpose of improving skill and health
- Understands the role of exercise and other factors in weight control and body composition

5. Understands the social and personal responsibility associated with participation in physical activity
   - Demonstrates the willingness to join in an activity
   - Demonstrates good sportsmanship
   - Understands safety concepts
   - Understands the proper attitudes toward both winning and losing
   - Follows appropriate rules, procedures, and behaviors with few reminders while participating in games/activities; accepts the teacher's decision regarding a personal rule infraction without displaying negative reactions toward others
   - Knows how to develop rules, procedures, and etiquette that are safe and effective for specific activity situations
   - Demonstrates acceptance of the skills and abilities of others through verbal and nonverbal behavior

TECHNOLOGY All students should have opportunities to demonstrate the following performances. (Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked).

Technology Foundation Standards for Students

1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

a. apply existing knowledge to generate new ideas, products, or processes.
b. create original works as a means of personal or group expression.
c. use models and simulations to explore complex systems and issues.
d. identify trends and forecast possibilities.

2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

a. interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media.
b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
c. develop cultural understanding and global awareness by engaging with learners of other cultures.
d. contribute to project teams to produce original works or solve problems.

3. Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information. Students:

a. plan strategies to guide inquiry.
b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
d. process data and report results.

4. Critical Thinking, Problem-Solving & Decision-Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems and make informed decisions using appropriate digital tools and resources. Students:

a. identify and define authentic problems and significant questions for investigation.
b. plan and manage activities to develop a solution or complete a project.
c. collect and analyze data to identify solutions and/or make informed decisions.
d. use multiple processes and diverse perspectives to explore alternative solutions.

5. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:

a. advocate and practice safe, legal, and responsible use of information and technology.
b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
c. demonstrate personal responsibility for lifelong learning.
d. exhibit leadership for digital citizenship.

6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems and operations. Students:

a. understand and use technology systems.
b. select and use applications effectively and productively.
c. troubleshoot systems and applications.
d. transfer current knowledge to learning of new technologies.

Prior to completion of Grade 8, students will:

a. Describe and illustrate a content-related concept or process using a model, simulation, or concept-mapping software. (1,2)
b. Create original animations or videos documenting school, community, or local events. (1,2,6)
c. Gather data, examine patterns, and apply information for decision making using digital tools and resources. (1,4)
d. Participate in a cooperative learning project in an online learning community. (2)
e. Evaluate digital resources to determine the credibility of the author and publisher and the timeliness and accuracy of the content. (3)
f. Employ data-collection technology such as probes, handheld devices, and geographic mapping systems to gather, view, analyze, and report results for content-related problems. (3,4,6)
g. Select and use the appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. (3,4,6)
h. Use collaborative electronic authoring tools to explore common curriculum content from multicultural perspectives with other learners. (2,3,4,5)
i. Integrate a variety of file types to create and illustrate a document or presentation. (1,6)
j. Independently develop and apply strategies for identifying and solving routine hardware and software problems. (4,6)

GUIDANCE/HUMAN SEXUALITY

Working with Others

- Contributes to the overall effort of a group
- Uses conflict-resolution techniques
- Works well with diverse individuals and in diverse situations
- Displays effective interpersonal communication skills
- Demonstrates leadership skills

Self-Regulation

- Sets and manages goals
- Performs self-appraisal
- Considers risks
- Maintains a healthy self-concept
- Restrains impulsivity

Human Sexuality - derived in part from *Growing in Love*, Harcourt Religion Publishers

- Understands tenets of Safe Environment lesson
- Understands that human dignity flows from having been created in God's image
- Recognizes that men and women are created to complement, not compete with each other
- Recognizes that stereotyping and other forms of discrimination are wrong
- Recognizes that there are appropriate ways to express affection and love in friendships and dating
- Understands that the Church's teaching on sexual morality makes sense and is rooted in the natural moral law.
- Recognizes that some choices and actions are objectively right and some are objectively wrong
- Understands that Christian marriage and parenting are loving and life-giving

PERSONAL DEVELOPMENT/SOCIAL RESPONSIBILITY/CITIZENSHIP

- Interacts respectfully with others
- Works effectively as a team member
- Makes an effort to solve social problems
- Participates appropriately
- Follows directions
- Works independently
- Completes high quality work
- Completes homework assignments

Iowa Core Curriculum - 21st Century Concepts and Skills

As each Iowa student is provided access to essential concepts and meaningful learning experiences in the core academic content areas, it is imperative that we also look to 21st century skills to build capacity in students so they are prepared to lead productive, satisfying lives. According to Ken Kay, president of the Partnership for 21st Century Skills, the 21st century skills set "is the ticket to economic upward mobility in the new economy" (Gewertz, 2007). Business and industry is providing a very clear message that students need the skills to "work comfortably with people from other cultures, solve problems creatively, write and speak well, think in a multidisciplinary way, and evaluate information critically. And they need to be punctual, dependable, and industrious." (Gewertz, 2007).

The Framework for 21st Century Learning stated, "We believe schools must move beyond a focus on basic competency in core subjects to promoting understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into core subjects" (2007). 21st century skills bridge the knowledge, skills, and dispositions of students from the core academic areas to real life application.

"The primary aim of education is not to enable students to do well in school, but to help them do well in the lives they lead outside of the school."

-Ray McNulty, ICLE
Iowa High School Summit, December 10, 2007

Descriptions of the new global reality are plentiful, and the need for new, 21st century skills in an increasingly complex environment is well documented. In one form or another, authors cite (1) the globalization of economics; (2) the explosion of scientific and technological knowledge; (3) the increasingly international dimensions of the issues we face, i.e. global warming and pandemic diseases; and (4) changing demographic as the major trends that have resulted in a future world much different from the one that many of us faced when we graduated from high school (Friedman, 2005 and Stewart, 2007). The trends are very clear that each Iowa students will need essential 21st century skills to lead satisfying lives in this current reality.

Descriptions of what constitute essential 21st century skills are plentiful as well. In the 2007 session, the Iowa Legislature established the Iowa 21st century framework as:

* civic literacy
* employability skills
* financial literacy
* health literacy
* technology literacy

Within this 21st century skill framework are the common strands of learning and innovation; communication, information, and technology; and, life and career skills. The development of the Iowa 21st century essential concepts and skills was a collaborative process engaging the expertise of p — 16 educators, business, and industry representatives. Sources used for this work included the 1991 SCANS report, What Work Requires of Schools, and Framework for 21st Century Learning, from the Partnership for 21st Century Skills. The committee surveyed the literature and endeavored to bring together the common elements of these frameworks. The members have outlined the concepts, dispositions and habits of mind believed essential for success in the 21st century.

The reality of building capacity for the 21st century is that we do not know what the work of the future will be like (Darling-Hammond, 2007) or how technology will influence health and financial issues. The challenge is to prepare students to think critically, to engage in mental activity, or habits of mind, that "use facts to plan, order, and work toward an end; seek meaning or explanations; are self-reflective; and use reason to question claims and make judgments" (Noddings, 2008). It may be that our task is not only to prepare students to "fit into the future" but to shape it. "If the complex questions of the future are to be determined by human beings making one choice rather than another, we should educate youths - all of them - to join in the conversation about those choices and to influence that future" (Meier, 2008)

Civic Literacy

NOTE: The Essential Concepts and Skills listed in 21st Century - Civic Literacy are the same as the Essential Concepts and Skills listed in Social Studies - Political Science/Civic Literacy

Employability Skills

- **Communicate and work productively with others, considering different perspectives, and cultural views to increase the quality of work.**
- **Adapts and adjusts to various roles and responsibilities in an environment of change.**
- **Demonstrate leadership, integrity, ethical behavior, and social responsibility in all environments.**
- **Demonstrate initiative, self-direction, creativity, and entrepreneurial thinking while exploring individual talents and skills necessary to be successful.**
- **Demonstrate productivity and accountability while aspiring to meet high expectations.**

Financial Literacy

- **Model the process of financial planning based on personal prioritization of wants and needs.**
- **Create an effective spending plan using informed decision-making skills.**
- **Recognize appropriate uses of credit and its impact on an individual's financial security.**
- **Evaluate various risks to personal identity and create a plan for ongoing protection.**
- **Evaluate possible options for investing as a means to attain one's goals.**
- **Demonstrate ethical financial decision making skills and assess how these decisions might impact the broader community.**

Health Literacy

- **Demonstrate functional health literacy skills to obtain, interpret, understand and use basic health concepts to enhance personal, family and community health.**
- **Utilize interactive literacy and social skills to establish personal, family, and community health goals.**
- **Apply critical literacy/thinking skills related to personal, family and community wellness.**
- **Employ media literacy skills to analyze media and other influences to effectively manage personal, family and community health situations.**
- **Demonstrate behaviors that foster healthy, active lifestyles for individuals and the benefit of society.**

Technology Literacy

- **Demonstrate creative thinking in the design and development of innovative technology products and problem solving.**
- **Collaborate with peers, experts, and others using interactive technology.**
- **Plan strategies utilizing digital tools to gather, evaluate, and use information.**
- **Use critical thinking skills to conduct research, solve problems, and make informed decisions using appropriate technological tools and resources.**
- **Understand the legal and ethical issues of technology as related to individuals, cultures, and societies.**
- **Understand the underlying structure and application of technology systems.**