

Iowa Core Curriculum
Sixth – Eighth Grade

❖ **Mathematics**

Statistics & Probability

- **Sixth Grade Essential Concept and/or Skill: *Develop understanding of statistical variability.***
 - **6.SP.2.** Understand that a set of data collected to answer a statistical question has a distribution, which can be described by its center, spread, and overall shape.
- **Seventh Grade Essential Concept and/or Skill: *Use random sampling to draw inferences about a population.***
 - **7.SP.1.** Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
 - **7.SP.2.** Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
- **Eighth Grade Essential Concept and/or Skill: *Investigate patterns of association in bivariate data.***
 - **8.SP.2.** Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

❖ Science

Science as Inquiry (Sixth - Eighth Grade)

- **Essential Concept and/or Skill: *Identify and generate questions that can be answered through scientific investigations.***
 - Students should develop the ability to refine and refocus broad and ill-defined questions. An important aspect of this ability consists of clarifying questions and inquiries and directing them toward objects and phenomena that can be described, explained, or predicted by scientific investigations.
 - Students should develop the ability to connect their questions with scientific ideas, concepts, and quantitative relationships that guide investigations.
- **Essential Concept and/or Skill: *Think critically and logically to make the relationships between evidence and explanations.***
 - Students decide what evidence should be used and develop the ability to account for anomalous data.
 - Students should be able to review data from an experiment, summarize the data, and form a logical argument between cause and effect relationships.
 - Students should begin to state some explanations in terms of relationships between two or more variables.

Life Science (Sixth – Eighth Grade)

- **Essential Concept and/or Skill: *Understand and demonstrate knowledge of the social and personal implications of environmental issues.***

Chapter 12 of the Iowa Administrative Code states that science instruction shall include conservation of natural resources; and environmental awareness.

 - The number of organisms an ecosystem can support depends on the resources available and abiotic factors, such as quantity of light and water, range of temperatures, and soil composition. Given adequate biotic and abiotic resources and no disease or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem.

❖ Social Studies

- **Essential Concept and/or Skill: *Understand the influences on individual and group behavior and group decision-making.***
 - Understand that various factors affect decisions that individuals make.
 - Understand role, status, and social class affect interactions of individuals and social groups.
 - Understand that each culture has distinctive patterns of behavior that are usually practiced by most of the people who grow up in it.
 - Understand that standards used to judge behaviors vary for different settings and societal groups.
 - Understand that technology is important in spreading ideas, values, and behavior patterns within a society and among different societies.
 - Understand that the media may influence the behavior and decision-making of individuals and groups.

❖ English Language Arts

Reading Informational Text

- **Sixth Grade Essential Concept and/or Skill: *Integration of Knowledge and Ideas***
 - **RI.6.7.** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
- **Seventh Grade Essential Concept and/or Skill: *Integration of Knowledge and Ideas***
 - **RI.7.7.** Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).
- **Eighth Grade Essential Concept and/or Skill: *Integration of Knowledge and Ideas***
 - **RI.8.7.** Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.

❖ 21st Century Skills

Civic Literacy (Six - Eighth Grade)

- **Essential Concept and/or Skill:** *Understand the rights and responsibilities of each citizen and demonstrate the value of lifelong civic action.*
 - Understand participation in civic and political life can help bring about the attainment of individual and public goals.
 - Understand the importance of voluntarism as a characteristic of American society.
- **Essential Concept and/or Skill:** *Understand strategies for effective political action that impacts local, state and national governance.*
 - Understand the concept of civic responsibility.
 - Understand the importance of political leadership, public service, and a knowledgeable citizenry in American democracy.
 - Understand the concept of political leadership in the student's own school, community, state, and the nation.

Technology Literacy1 (Six - Eighth Grade)

- **Essential Concept and/or Skill:** *Use critical thinking skills to conduct research, solve problems, and make informed decisions using appropriate technological tools and resources.*
 - Identify real-world issues and analyze technological resources for developing and refining questions for investigation.
 - Effectively use multiple technological resources to develop a systematic plan for conducting research. Develop possible solutions or a complete product to demonstrate knowledge and skills.
 - Use technology to gather, analyze, and assess data and its effectiveness to design, develop and test possible solutions that assist students in making decisions.
 - Analyze and evaluate information from a variety of perspectives and resources in order to assess multiple solutions and investigate them from differing viewpoints.

Financial Literacy (Sixth - Eighth Grade)

- **Essential Concept and/or Skill:** *Model the process of financial planning based on personal prioritization of wants and needs.*
 - Develop short-term and long-term financial goals.
 - Define the steps in the goal-setting process.
 - Explain the relationship between goal setting and achievement.
 - Create goals according to a prioritization of wants and needs that are specific, realistic, and measurable.
 - Identify expenditures as needs or wants.

¹ NOTE: The technology literacy essential concepts and skills are from the International Society for Technology in Education's National Educational Technology Standards for Students.