

**Iowa and Common Core**  
**Fifth Grade**

**Fifth Grade Mathematics**

➤ **Number & Operations, Fractions-**

▪ **Use equivalent fractions as a strategy to add and subtract fractions**

- **5.NF.A.2** Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result  $2/5 + 1/2 = 3/7$ , by observing that  $3/7 < 1/2$ . Analyze patterns and relationships.

➤ **Measurement & Data-**

▪ **Convert like measurement units within a given system**

- **5.MD.A.1** Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

▪ **Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.**

- **5.MD.C.4** Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
- **5.MD.C.5** Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

➤ **Geometry-**

▪ **Classify two-dimensional figures into categories based on their properties.**

- **5.G.B.3** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

## Fifth Grade Science

- **Science as Inquiry-**
  - **S.3-5.SI.1 Identify and generate questions that can be answered through scientific investigations.**
    - Students ask questions that they can answer with scientific knowledge combined with their own observations.
    - Students recognize that different questions lead to different types of investigations.
  - **S.3-5.SI.3 Plan and conduct scientific investigations.**
    - Students should engage in systematic observation, making accurate measurements, and identifying and controlling variables.
    - Students understand the concept of a fair test.
    - Follow appropriate safety procedures when conducting investigations
  - **S.3-5.SI.4 Use appropriate tools and techniques to gather, process, and analyze data.**
    - Students enhance their skills with tools such as rulers, thermometers, balances, spring scales, magnifiers and microscopes.
  - **S.3-5.SI.5 Incorporate mathematics in science inquiries.**
    - Mathematics is used to gather, organize and present data and to construct convincing explanations.
- **Earth's Systems**
  - **5-ESS2-2** Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.
  - **5-ESS3-1** Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
- **Matter & It's Interactions-**
  - **5-PS1-3** Make observations and measurements to identify materials based on their properties.
  - **5-PS1-4** Conduct an investigation to determine whether the mixing of two or more substances results in new substance.
- **Energy-**
  - **5-PS3-1** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
- **From Molecules to Organisms: Structures & Processes-**
  - **5-LS2-1** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
- **Engineering & Design-**
  - **3-ETS1-1** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

## Fifth Grade Social Studies

### ➤ Behavioral Sciences-

- **SS.3-5.BS.2 Understand the influences on individual and group behavior and group decision-making.**
  - Understand that people involved in a dispute often have different points of view.
  - Understand that communicating different points of view in a dispute can often help people to find a satisfactory compromise.

### ➤ Economics-

- **SS.3-5.E.5 Understand that advancing technologies impact the global economy.**
  - Understand that technologies have costs and benefits associated with them.

### ➤ Geography-

- **SS.3-5.E.5 Understand how human factors and the distribution of resources affect the development society and the movement of populations.**
  - Understand the relationship between population growth and resource use.
  - Understand the concepts of renewable and non-renewable resources.
  - Understand the relation between economic activities and natural resources in areas.

## Fifth Grade English Language Arts

- **Reading Literature- Key Ideas and Details**
  - **IA.1** Employ the full range of research-based comprehension strategies, including making connections, determining importance, questioning, visualizing, making inferences, summarizing, and monitoring for comprehension.
- **Reading Informational Text- Key Ideas And Details**
  - **RI.5.2** Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
  - **RI.5.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
  - **IA.1** Employ the full range of research-based comprehension strategies, including making connections, determining importance, questioning, visualizing, making inferences, summarizing, and monitoring for comprehension.
- **Reading Informational Text- Integration Of Knowledge And Ideas**
  - **RI.5.7.** Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
- **Writing- Research To Build And Present Knowledge**
  - **W.5.7.** Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
  - **W.5.9.** Draw evidence from literary or informational texts to support analysis, reflection, and research.

## Fifth Grade 21st Century Skills

- **Civic Literacy-**
  - **SS.3-5.PSCI.1 Understand the rights and responsibilities of each citizen and demonstrate the value of lifelong civic action.**
    - Understand why civic responsibility is important and know examples of civic responsibility.
    - Understand opportunities for leadership and public service in the student's own classroom, school, community, state, and the nation.
    - Understand the importance of voluntarism as a characteristic of American society.

### **Lessons with Mathematics Standards**

*Energy Mathematics-* 5-MD.A.1

*Forest Field Trip & Decomposition-* 5-MD.A.1

*Fractals, Fractions, & Fun-* 5-MD.A.1, 5.NF.A.2, 5.G.B.3

*Rainfall Harvest, Home & Earth-* 5.MD.C.4, 5.MD.C.5 (also has Science standard)

### **Lessons with Science Standards (including Next Generation Standards)**

*Making an Impression-* 5-PS1-3, 5-PS1-4, S.3-5.SI.3

*Rainfall Harvest, Home & Earth-* (Mathematics) 5-ESS2-2, 3-5-ETS1-3, S.3-5.SI.4

*Microbes & Composting-* 5-LS2-1, 5LS2-B-1, S.3-5.SI.1, S.3-5.SI.3

*Nature Recycles, Too!-* 5-LS2-1

*Photosynthesis, Oh the Drama!-* 5-PS3-1, S.3-5.SI.3

*Soil Composition-* 5-PS1-3

*Earth Faces a Serious Problem-* (Social Studies) 3-5-ETS1-1

*Water Around the World-* (Social Studies) 5-ESS2-2

*Investigation PowerPoint Investigation-* (21<sup>st</sup> Century Skills) 5-ESS3-1

### **Lessons with Social Studies Standards**

*Earth Faces a Serious Problem-* SS.3-5.BS.2 (also has Science standard)

*Rock Sort-* SS.3-5.BS.2

*The Lorax-* SS.3-5.BS.2

*Water Around the World-* SS.3-5.BS.2 (also has Science standard)

### **Lessons with English Language Arts Standards**

*DIY Pledge Writing-* RI.5.2, RI.5.3, W.5.7

*Environmental Heroes-* RI.5.3, RI.5.7

*How Long Does that Trash Last?-* RI.5.3

*People for the Planet-* RI.5.7, IA.1

### **Lessons with 21<sup>st</sup> Century Skills Standards**

*Investigation PowerPoint Presentation-* SS.3-5.PSCI.1 (also has Science standard)

*Investigation through Geocaching-* SS.3-5.PSCI.1

*Pledge Tree-* SS.3-5.PSCI.1

*Searching for Meaning through Jigsaw Discussions-* SS.3-5.PSCI.1