

## Subject Area Math Grade Level 2

**Mission Statement:** It is the mission of the Elba Central School District to actualize the phrase “Elba Equals Educational Excellence for Everyone.” We are committed to providing both quality and equity. Every student will have the opportunity to develop to the best of his/her ability.

**Elba Standards:** In addition to the knowledge and basic skills they need in order to participate in society, graduates of Elba Central School will develop:

1. Empowering skills: decision making, goal setting, creative thinking and problem solving abilities;
  2. Communication and social interaction skills;
  3. Technological literacy;
  4. Total wellness (social, physical, emotional health and self-esteem);
  5. The values necessary to participate in society.
- As a result of achieving these outcomes, our students will embrace lifelong learning.

### **New York State Standards:**

Standard 3: *Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry;*

1. Mathematical Reasoning
2. Numbers and Numeration
3. Operations
4. Modeling/Multiple Representation
5. Measurement
6. Uncertainty
7. Patterns/Functions

Standard 6—Interconnectedness: Common Themes. Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

The Key Ideas for Standard Six are

1. Systems Thinking—Through systems thinking, people can recognize the commonalities that exist among all systems and how parts of a system interrelate and combine to perform specific functions.
2. Models—Models are simplified representations of objects, structure, or systems used in analysis, explanation, interpretation, or design.

3. Magnitude and Scale—The grouping of magnitudes of size, time, frequency, and pressures or other units of measurement into a series of relative order provides a useful way to deal with the immense range and the changes in scale that affect the behavior and design of systems.
4. Equilibrium and Stability—Equilibrium is a state of stability due either to a lack of changes (static equilibrium) or a balance between opposing forces (dynamic equilibrium).
5. Patterns of Change—Identifying patterns of change is necessary for making predictions about future behavior and conditions.
6. Optimization—In order to arrive at the best solution that meets criteria within constraints, it is often necessary to make trade-offs.

**National Standards:**

Number and Operations Standard for Grades Pre-K–2

Expectations

In Pre-kindergarten through grade 2 all students should—

Understand numbers, ways of representing numbers, relationships among numbers, and number systems

Algebra Standard for Grades Pre-K–2

Expectations

In Pre-kindergarten through grade 2 all students should—

Understand patterns, relations, and functions

Geometry Standard for Grades Pre-K–2

Expectations

In Pre-kindergarten through grade 2 all students should—

Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships

Measurement Standard for Grades Pre-K–2

Expectations

In Pre-kindergarten through grade 2 all students should—

Understand measurable attributes of objects and the units, systems, and processes of measurement

Data Analysis and Probability Standard for Grades Pre-K–2

Expectations

In Pre-kindergarten through grade 2 all students should—  
Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them

#### Problem Solving Standard for Grades Pre-K–2

Instructional programs from Pre-kindergarten through grade 12 should enable all students to—

- \*build new mathematical knowledge through problem solving;
- \*solve problems that arise in mathematics and in other contexts;
- \*apply and adapt a variety of appropriate strategies to solve problems;
- \*monitor and reflect on the process of mathematical problem solving.

#### Reasoning and Proof Standard for Grades Pre-K–2

Instructional programs from Pre-kindergarten through grade 12 should enable all students to—

- \*recognize reasoning and proof as fundamental aspects of mathematics;
- \*make and investigate mathematical conjectures;
- \*develop and evaluate mathematical arguments and proofs;
- \*select and use various types of reasoning and methods of proof.

#### Communication Standard for Grades Pre-K–2

Instructional programs from Pre-kindergarten through grade 12 should enable all students to—

- \*organize and consolidate their mathematical thinking through communication;
- \*communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
- \*analyze and evaluate the mathematical thinking and strategies of others;
- \*use the language of mathematics to express mathematical ideas precisely.

#### Connections Standard for Grades Pre-K–2

Instructional programs from Pre-kindergarten through grade 12 should enable all students to—

- \*recognize and use connections among mathematical ideas;
- \*understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
- \*recognize and apply mathematics in contexts outside of mathematics.

#### Representation Standard for Grades Pre-K–2

Instructional programs from Pre-kindergarten through grade 12 should enable all students to—

- \*create and use representations to organize, record, and communicate mathematical

- ideas;
- \*select, apply, and translate among mathematical representations to solve problems;
  - \*use representations to model and interpret physical, social, and mathematical phenomena.

**Performance Indicators:** Description of the levels of student achievement pertaining to standard.

<b>Assessment:</b>	<b>Acceptable Performance Level</b>
Chapter tests	70% accuracy
TerraNova Math Tests	Established levels of performance

**Scope:** Range of subject matter.

**Sequence:** Order of subject matter

**Methodology:** Best Practices  
Use of manipulatives  
Varied student groupings