

Taylor's Elementary School
Expecting Excellence in Achievement, Actions and Attitudes
2008-2009 Fourth Grade Pacing Guide



Math

Unit 1: Place Value

Pacing: 16 Days

Standard 4-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.

Standard 4-2: The student will demonstrate through the mathematical processes an understanding of decimal notation as an extension of the place value system; the relationship between fractions and decimals; the multiplication of whole numbers; and accurate, efficient, and generalizable methods of dividing whole numbers, adding decimals, and subtracting decimals.

Unit Essential Question: How does the value of a digit help with ordering, adding, and subtracting whole numbers and decimals?

Unit 1 Concepts:

- Place Value Structure
- Comparing Decimals
- Place Value
- Strategies to Add and Subtract Decimals

Unit 2: Multiplication and Division

Pacing: 31 Days

Standard 4-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.

Standard 4-2: The student will demonstrate through the mathematical processes an understanding of decimal notation as an extension of the place value system; the relationship between fractions and decimals; the multiplication of whole numbers; and accurate, efficient, and generalizable methods of dividing whole numbers, adding decimals, and subtracting decimals.

Unit Essential Question: What strategies can be used to multiply and divide?

Unit 2 Concepts:

- Divisibility Rules
- Multiplying Whole Numbers
- Strategies to Divide Whole Numbers

Unit 3: Fractions

Pacing: 20 Days

Standard 4-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.

Standard 4-2: The student will demonstrate through the mathematical processes an understanding of decimal notation as an extension of the place value system; the relationship between fractions and decimals; the multiplication of whole numbers; and accurate, efficient, and generalizable methods of dividing whole numbers, adding decimals, and subtracting decimals.

Unit Essential Question: What is the relationship between fractions and decimals?

Unit 3 Concepts:

- Equivalent Fractions
- Fraction/Decimal Equivalents
- Comparing Fractions
- Representation

Unit 4: Algebra

Pacing: 15 Days

Standard 4-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.

Standard 4-3: The student will demonstrate through the mathematical processes an understanding of numeric and nonnumeric patterns, the representation of simple mathematical relationships, and the application of procedures to find the value of an unknown.

Unit Essential Question: What strategies can we use to find an unknown value in an equation?

Unit 4 Concepts:

- Analyze Patterns
- Generalize Rules
- Unknown Values
- Change Over Time

Unit 5: Measurement

Pacing: 23 Days

Standard 4-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.

Standard 4-5: The student will demonstrate through the mathematical processes an understanding of elapsed time; conversions within the US Customary System; and accurate, efficient, and generalizable methods of determining area.

Unit Essential Question: How do we use measurement in everyday life?

Unit 5 Concept:

- Length
- Volume
- Weight and Mass
- Conversions
- Elapsed Time
- Temperature

Unit 6: Geometry

Pacing: 21 Days

Standard 4-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.

Standard 4-4: The student will demonstrate through the mathematical processes an understanding of the relationship between two- and three dimensional shapes, the use of transformation to determine congruency, and the representation of location and movement within the first quadrant of a coordinate system.

Standard 4-5: The student will demonstrate through the mathematical processes an understanding of elapsed time; conversions within the US Customary System; and accurate, efficient, and generalizable methods of determining area.

Unit Essential Question: How do we classify geometric figures?

Unit 6 Concepts:

- Geometric Shapes
- Multiple Transformations
- Comparing Angles
- Area and Perimeter
- Coordinate Planes

Unit 7: Data Analysis

Pacing: 27 Days

Standard 4-1: The student will understand and utilize the mathematical processes of problem solving, reasoning and proof, communication, connections, and representation.

Standard 4-6: The student will demonstrate through the mathematical processes an understanding of the impact of data-collection methods, the appropriate graph for categorical or numerical data and the analysis of possible outcomes for a simple event.

Unit Essential Question: How do we use graphs to gather information and make predictions based on the data?

Unit 7 Concepts:

- Collection Methods
- Interpret Data
- Organize Data
- Prediction and Probability

Science

<p>Unit Topic: <u>Astronomy</u></p> <p>Pacing: 25 days</p> <p>Standard 4-3: The student will demonstrate an understanding of the properties, movements, and locations of the objects in the solar system (Earth Science)</p> <p>Unit Concepts: Solar System, Movements, Moon, Shadows, Tools</p> <p>Unit Essential Question: What evidence of cycles is found in the solar system?</p>	<p>Unit Topic: <u>Biomes</u></p> <p>Pacing: 20 days</p> <p>Standard 4-2: The student will demonstrate an understanding of the characteristics and patterns of behavior that allow organisms to survive in their own distinct environments. (Life Science)</p> <p>Unit Concepts: Environment, Biome</p> <p>Unit Essential Question: How do characteristics of environments influence the organisms that live there?</p>
<p>Unit Topic: <u>Classification of Organisms</u></p> <p>Pacing: 15 days</p> <p>Standard 4-2: The student will demonstrate an understanding of the characteristics and patterns of behavior that allow organisms to survive in their own distinct environments. (Life Science)</p> <p>Unit Concepts: Flowering Plant, Non-flowering Plant, Seed, Vertebrate, Invertebrate</p> <p>Unit Essential Question: How are physical characteristics used to classify living things?</p>	<p>Unit Topic: <u>Electricity</u></p> <p>Pacing: 15 days</p> <p>Standard 4-5: The student will demonstrate an understanding of the properties of light and electricity. (Physical Science)</p> <p>Unit Concepts: Forms of energy—Light, Electricity, Heat, Sound Complete Circuit Components—Wire, Switch, Battery, Light Bulb Electric Current Paths—Series Circuits, Parallel Circuits Types of Materials (with electricity)—Conductors, Insulators</p> <p>Unit Essential Question: How can we make electricity a useful form of energy?</p>

<p>Unit Topic: <u>Light</u></p> <p>Pacing: 15 days</p> <p>Standard 4-5: The student will demonstrate an understanding of the properties of light and electricity. (Physical Science)</p> <p>Unit Concepts: Properties of Light—Brightness, Color When light Strikes an Object—Reflection, Refraction, Absorption Types of Materials (with light)—Transparent, Translucent, Opaque</p> <p>Unit Essential Question: How does light affect what we see?</p>	<p>Unit Topic: <u>Magnetism</u></p> <p>Pacing: 15 days</p> <p>Standard 4-5: The student will demonstrate an understanding of the properties of light and electricity. (Physical Science)</p> <p>Unit Concepts: Properties of Magnets and Electromagnets—Polarity, Attraction, Repulsion, Strength</p> <p>Unit Essential Question: How can we use energy from magnets?</p>
<p>Unit Topic: <u>Organisms and Their Environments</u></p> <p>Pacing: 20 days</p> <p>Standard 4-2: The student will demonstrate an understanding of the characteristics and patterns of behavior that allow organisms to survive in their own distinct environments. (Life Science)</p> <p>Unit Concepts: Senses, Inherited Behaviors, Acquired behaviors, Adaptations</p> <p>Unit Essential Question: How do living things survive in their environments?</p>	<p>Unit Topic: <u>Weather</u></p> <p>Pacing: 25 days</p> <p>Standard 4-4: The student will demonstrate an understanding of weather patterns and phenomena. (Earth Science)</p> <p>Unit Concepts: Water Cycle—Evaporation, Condensation, Precipitation, Runoff; Clouds—Cumulus, Cirrus, Stratus; Weather Conditions—Wind Speed, Wind Direction, Precipitation, Temperature; Severe Weather/Storms—Thunderstorms, Hurricanes, Tornadoes; Weather Tools—Wind Speed-Anemometer, Wind Direction-Wind Vane/Wind Sock, Air Temperature – Thermometer; Weather Predicting</p> <p>Unit Essential Question: How do meteorologists make predictions using weather patterns?</p>

A variety of novels are used to address skills:

<p>Social Studies</p> <p><u>Helen Keller</u></p> <p><u>Pedro's Journal</u></p> <p><u>Marco? Polo!</u></p> <p><u>The Silent stranger</u></p> <p><u>Me Oh Maya</u></p> <p><u>Secrets of Society Hill</u></p> <p><u>Toliver's Secret</u></p> <p><u>Dear Levi</u></p> <p><u>George vs. George</u></p>	<p><u>Our Strange New Land</u></p> <p><u>Winter of Red Snow</u></p> <p><u>Yankee Blue/Rebel Gray</u></p> <p>Science</p> <p><u>Space Explorers</u></p> <p><u>Weather Wizards</u></p> <p><u>Electric Storm</u></p> <p><u>Feeding Frenzy</u></p>
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Reading and Social Studies/Science Integration

Guided Reading Comprehension Skill/Strategy	Writing: Topics for Teacher Genre/Grammar
Story Structure, Multiple meaning words	Kinds of sentences
Author's viewpoint, Predict/infer	Subject/predicate, News article, Introduce oral history
Text organize, Use Thesaurus Compound and Complete sentences	Compound sentences
Noting details	Friendly Letter, Common nouns
Identify story elements	Genre Mysteries, Sentences and phrases
Sequence of events , Predict/Infer	Realistic Fiction, Pre-Write Draft
Making inferences	Sing/Plural , Revise; Proof; Publish
Making Generalizations ,Summarize	Biography , Business letter , More plural nouns
Category and Class	Realistic Fiction, Business letter Singular and plural , Possessive nouns
Comprehension Skills Review	Publish and share, Character Sketches, Business letters
Noting Details , Monitor/clarify Compare/contrast, Question Fantasy and Realism, Comprehension skills	Tall Tales
Comprehension Skills, Question	Writing a summary
Predicting Outcomes Predict/Infer, Problem Solving	Opinion Paragraph Irregular verbs "be"
Drawing Conclusions, Summarize	Comparison/contrast, Adjectives
Story structure	Writing a message, Comparing w/adjectives
Comprehension Skills Review , Summarize	Writing skills review, Grammar skills review
Understanding Poetry, Monitor/clarify	Writing a Poem (Couplet/Limerick)
Cause/effect, Predict/infer Story structure, Making judgments Text Organizations Compare/contrast, Monitor/Clarify, Fact/opinion , Author's viewpoint Understanding Pourquoi , Visualizing	Report on famous person Bibliography
Follow directions, Summarize	"How to" multi-paragraph
Topic, main idea, details , Monitor/clarify	Expository paragraph
Making inferences, Predict/infer	Writing a persuasive speech
Comprehension skills Review , Monitor/clarify	Prepositions