

GOAL: Understand change and/or continuity and cause and/or effect in history

Objectives: Students will be able to:

- Use chronological order to explain causal relationships between and among people and events

GOAL: Use the tools and methods of inquiry, perspective, and empathy to explain historical \ events with multiple interpretations and judge the past on its own terms

Objectives: Students will be able to:

- Analyze how beliefs and education and/or the society in which a person resides shape his/her "point of view"
- Judge the past in the context of the time instead of imposing present norms and values on historical events

GOAL: Understand important historical events from ancient times through the Renaissance

Objectives: Students will be able to:

- Examine written and physical evidence from ancient societies including Mesopotamia, Egypt and Rome

GOAL: Understand culture as a system of beliefs, knowledge, and practices shared by a group and understand how cultural systems change over time

Objectives: Students will be able to:

- Examine the ways in which different cultures have influenced families and communities
- Use examples of changing culture to identify and analyze ways to respond to cultural differences and problems within and across groups (e.g., stereotyping, ethics)

GOAL: Use geographic representations to organize, analyze, and present information on people, places, and environments and understand the nature and interaction of geographic regions and societies around the world

Objectives: Students will be able to:

- Describe the development of agriculture in the Tigris, Euphrates, and Nile river valleys

Students will learn by:

- Teacher directed lessons
- Working in small and large groups
- Participating in field trips outside the classroom
- Participating in small group and class discussions
- Observing demonstrations
- Engaging in hands-on activities
- Completing individual and group projects

Students will be assessed by:

- Teacher Evaluation of writing assignments, projects, speeches, portfolios, quizzes, and exams
- Class participation
- Homework
- Project completion
- Self-evaluations
- Peer evaluation on group work

5th and 6th grade work will be assessed differently according to grade level expectations in writing, research and understanding of concepts. In addition, 5th and 6th grade students may be assigned similar projects with varying components designed to challenge the abilities of students in each grade level.

Resources:

Various teacher resources

5th - 6th Grade Goals and Objectives
 Science
 2009-2010
 Desiree Fink

GOAL: Discover, invent, and investigate using the skills necessary to engage in the scientific process.

Objectives: Students will be able to:

- Identify the variables in scientific investigations and recognize the importance of controlling variables in scientific experiments
- Formulate and defend conclusions based on evidence
- Pose a question and develop a hypothesis based on observations.
- Safely collect and analyze data through an experiment to answer a question
- Differentiate between an observation and an inference.
- Formulate and defend conclusions based on scientific evidence.
- Formulate a testable hypothesis that can be answered through a controlled experiment
- Use appropriate tools, equipment, and techniques safely to collect, display, and analyze

data.

- Use models and/or simulations to represent and investigate features of objects, events, and processes in the real world.

GOAL: Understand that science, technology, and society are interrelated.

Objectives: Students will be able to:

- Use models and/or simulations to represent and investigate features of objects, events, and processes in the real world
- Discuss the relationships between science, technology, and society.

GOAL: Understand the unity, diversity, and interrelationships of organisms that has resulted from evolution, including their relationships to cycles of matter and energy in the environment.

Objectives: Students will be able to:

- Describe the cycle of energy among producers, consumers, and decomposers
- Describe the interdependent relationships among producers, consumers, and decomposers in an ecosystem in terms of the cycles of matter
- Discuss how food chains and food webs can be traced back to plants.
- Discuss the roles of matter and various organisms in the same environment.
- Describe how an organism's behavior changes with its environment.
- Describe how different organisms need specific environmental conditions to survive.

GOAL: Understand the structures and functions of living organisms and how organisms can be compared scientifically.

Objectives: Students will be able to:

- Describe the structures of the human body and how they work together to sustain life
- Describe the relationship between structure and function in organisms.
- Discuss and identify the basic differences between plant and animal cells and how that relates to their functions.
- Describe the human body and how they work together to sustain life.

GOAL: Understand genetics and biological evolution and their impact on the unity and diversity of organisms

Objectives: Students will be able to:

- Recognize that some traits of living things are inherited and others are learned

GOAL: Understand the nature of matter and energy, forms of energy (including waves) and energy transformations, and their significance in understanding the structure of the universe.

Objectives: Students will be able to:

- Define Energy
- Identify different forms of energy (e.g., thermal, electrical, nuclear, light, sound) and how they can change and transfer energy from one form to another
- Compare how heat energy can be transferred through conduction, convection, and radiation
- Explain that the sun produces energy in the form of light and heat.
- Explain how vibrations make sounds.
- Explain how light changes when it reaches an object (e.g., reflection, refraction, and absorption).
- Describe how some materials may be combined to form new substances.

GOAL: Understand the relationship between force, mass, and motion of objects; and know the major natural forces: gravitational, electric, and magnetic.

Objectives: Students will be able to:

- Compare how simple tools make doing work easier.
- Describe that the mass of the Earth exerts a gravitational force on all objects.
- Identify different forms of energy (e.g., thermal, electrical, nuclear, light, sound) and how they can change and transfer from one form to another.
- Explain how electrically charged materials can push or pull other charged materials.
- Recognize changes that indicate that a chemical reaction has taken place
- Describe matter using the atomic model

GOAL: Understand the Earth and its processes, the solar system, and the universe and its contents.

Objectives: Students will be able to:

- Describe the relationship (size and distance) of Earth to other components in the solar system

- Explain that the planets orbit the sun and that the moon orbits the Earth
- Safely observe and describe the basic movements of the sun and moon.
- Describe that constellations stay the same, though they “appear” to move across the night sky.
- Describe how slow processes (e.g., waves, wind, water, ice) sometimes shape and reshape the Earth.
- Describe how fast processes (e.g., volcanoes, earthquakes) sometimes shape and reshape the surface of the Earth.
- Describe the relationship between the sun and the Earth’s daily rotation and annual revolution.
- Demonstrate that day and night are caused by the rotation of the Earth on its axis

Students will learn by:

- Teacher directed lessons
- Working in small and large groups
- Participating in field trips outside the classroom
- Participating in small group and class discussions
- Observing demonstrations
- Engaging in hands-on activities
- Completing individual and group projects

Students will be assessed by:

- Class participation
- Quizzes and Exams
- Homework
- Project completion
- Self-evaluations

5th and 6th grade work will be assessed differently according to grade level expectations in writing, research and understanding of concepts. In addition, 5th and 6th grade students may be assigned similar projects with varying components designed to challenge the abilities of students in each grade level.

Resources:

Accent on Science. Sand, Adams, Hackett, and Moyer. Charles E. Merrill Publishing Co., 1985.

National Geographic Magazine

Various Internet resources, videos, scientific journals, popular magazines and newspapers.

5th Grade Goals and Objectives

Language Arts

2009-2010

Desiree Fink

GOAL: Use knowledge of the conventions of language and texts to construct meaning for a range of literary and informational texts for a variety of purposes

Objectives: Students will be able to:

- Use new grade-appropriate vocabulary learned through reading print and online resources and word study, including meanings of roots, affixes, word origins
- Use a variety of grade-appropriate print and online resources to research a topic

GOAL: Use reading strategies to construct meaning from a variety of texts

Objectives: Students will be able to:

- Use organizational patterns (e.g., compare and contrast, proposition and support) to access information
- Make inferences and draw conclusions about grade-appropriate texts
- Distinguish between explicit and implied information

GOAL: Respond to literary texts from a range of stances: personal, interpretive, critical

Objectives: Students will be able to:

- Cite specific information or ideas in the text that support and develop the author's message or theme
- Explain the relationship between plot events and how they build to the resolution of the selection's primary conflict
- Explain how characters evolve over the course of a work
- Compare a literary element (e.g., characters, setting, plot) as it occurs in two or more texts and explain how effectively it is realized in each text
- Describe how the author's choice of words or use of imagery contributes to overall quality and reader's enjoyment

- Identify the meaning of common idioms (e.g., *from the frying pan into the fire*, *cat got your tongue*, *raining cats and dogs*) found in a text
- Describe similarities and differences between characters and themes in literary texts and personal or real world experiences

GOAL: Use the writing process and conventions of language and research to construct meaning and communicate effectively for a variety of purposes and audiences using a range of forms

Objectives: Students will be able to:

- Write in a variety of grade-appropriate formats for a variety of purposes and audiences, such as:
 - o narratives that include plot, setting, characters, and a conflict
 - o poems that use figurative language to convey a theme or impression
 - o reports incorporating a framing question and including research from two or more sources
 - o responses to literature
 - o pieces related to completing tasks
 - o notes summarizing what they have read or hear
 - o pieces to reflect on learning and to solve problems
- Form and use the following grammatical constructions correctly when editing writing:
 - o complex sentences
 - o introductory phrases and subordinate clauses
 - o noun-pronoun agreement with intervening words or phrases
 - o appositives
 - o relative clauses
- Recognize and correct run-on sentences and fragments
- Use a variety of strategies and resources to spell grade-appropriate words
- Edit writing to correct use of following punctuation:
 - o Parentheses
 - o commas with relative clauses
 - o commas with appositives, if needed

GOAL: Use rhetorical devices to craft writing appropriate to audience and purpose

Objectives: Students will be able to:

- Use information from appropriate sources: self, peers, and a variety of grade-appropriate sources
- Use significant details and relevant information to develop meaning
- Organize writing to exclude extraneous details and inconsistencies
- Use transitional words or phrases between sentences and paragraphs to guide the reader and give the writing cohesiveness
- Use clear and precise vocabulary to support meaning

- Improve clarity by combining sentences, varying sentences, or rearranging text
- Adjust voice to suit the purpose and form of writing (e.g., funny story, report, serious poem)

GOAL: Apply knowledge of verbal and nonverbal language to communicate effectively in various situations: interpersonal, group, and public: for a variety of purposes

Objectives: Students will be able to:

- Use speaking and listening skills to fill a prescribed role in group activities
- Give informal presentations or reports to inform
- Recall oral messages by noting key ideas and relating them to the speaker's purpose
- Form an opinion or draw a conclusion about key points in oral messages
- Vary pitch and stress to emphasize intended meaning
- Use gestures, facial expressions, and eye contact to enhance the spoken word
- Adjust dialect (e.g., standard English, Hawaiian Creole, colloquialisms) to grade-appropriate audience, purpose, and situation
- Describe how advertising techniques are used in various media

Students will learn by:

- Teacher directed lessons
- Working in small and large groups
- Participating in field trips outside the classroom
- Participating in small group and class discussions
- Observing demonstrations
- Engaging in hands-on activities
- Completing individual and group projects

Students will be assessed by:

- Teacher evaluations or writing assignments, projects, speeches, quizzes and exams.
- Teacher observation of class discussions, group work, and class participation.
- Homework
- Project completion
- Self-evaluations

Resources:

McDougal, Littell English program (Silver Level)

various other teacher resources

5th Grade Goals and Objectives

Math

2009-2010

Desiree Fink

GOAL: Students will understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Objectives: Students will be able to:

- Represent percent and ratio using pictures or objects
- Use equivalent forms of whole numbers, fractions, ratios, decimals, and percents to solve problems
- Use models, benchmarks, and equivalent forms to judge the size of fractions and order them

GOAL: Understand the meaning of operations and how they relate to each other

Objectives: Students will be able to:

- Apply the inverse relationship between addition and subtraction, and multiplication and division, to solve problems
- Describe situations involving multiplication and division of fractions and decimals

GOAL: Use computational tools and strategies fluently and, when appropriate, use estimation

Objectives: Students will be able to:

- Multiply decimals up to 3 places and divide decimals by whole numbers
- Use a variety of strategies to multiply and divide fractions

GOAL: Understand attributes, units, and systems of units in measurement; and develop and use techniques, tools, and formulas for measuring

Objectives: Students will be able to:

- Convert simple units within a system of measurement (e.g., millimeters to centimeters, feet to yard, quarts to gallons, gram to kilogram, minutes to hours, days to weeks)
- Select and apply appropriate customary and metric units and tools to measure angles
- Use map scales to measure the distance between locations and make simple scale drawings

- Estimate and measure the size of an angle
- Use known measurements (e.g., base and height) to calculate desired measurements (e.g., area) of triangles, parallelograms, and trapezoids
- Use known measurements (e.g., length, width, and height) to calculate desired measurements (e.g., surface area and volume) of rectangular solids

GOAL: Analyze properties of objects and relationships among the properties

Objectives: Students will be able to:

- Describe the properties that define classifications of three-dimensional shapes (e.g., cylinders have two bases that are circles)
- Apply the understanding that the sum of the measures of the angles in any triangle is 180°
- Classify angles (no larger than 180°) as acute, right, obtuse, or straight

GOAL: Use transformations and symmetry to analyze mathematical situations

Objectives: Students will be able to:

- Predict and confirm the results of combinations of flips, turns, and slides
- Identify three-dimensional objects that have rotational symmetry and locate the rotational axis

GOAL: Use visualization and spatial reasoning to solve problems both within and outside of mathematics

Objectives: Students will be able to:

- Use two-dimensional nets of rectangular solids to solve surface area problem

GOAL: Select and use different representational systems, including coordinate geometry

Objectives: Students will be able to:

- Determine the distance between points along horizontal and vertical lines of a coordinate system

GOAL: Understand various types of patterns and functional relationships

Objectives: Students will be able to:

- Analyze patterns and functions and use generalizations to make reasonable predictions
- Describe situations in which the relationship between two quantities vary directly or inversely

GOAL: Use symbolic forms to represent, model, and analyze mathematical situations

Objectives: Students will be able to:

- Use a variety of strategies to solve number sentences with unknowns
- Model problem situations with objects or manipulatives and use representations (e.g., graphs, tables, equations) to draw conclusions
- Describe situations with constant or varying rates (e.g., miles per hour, items per box)

GOAL: Pose questions and collect, organize, and represent data to answer those questions

Objectives: Students will be able to

- Collect and display data in circle graphs
- Recognize the difference in representing numeric data and categorical data and select appropriate representations to display each type of data

GOAL: Interpret data using methods of exploratory data analysis

Objectives: Students will be able to

- Determine the range, median, mode, and mean for a data set
- Compare different representations of the same data and evaluate how well each representation shows important aspects of the data

GOAL: Develop and evaluate inferences, predictions, and arguments that are based on data

Objectives: Students will be able to

- Design studies to further investigate the conclusion/predictions made based on data

GOAL: Understand and apply basic notions of chance and probability

Objectives: Students will be able to

- Use fractions, decimals, and percents to indicate the probability of events
- Determine all possible outcomes of a simple compound event

Students will learn by:

- Teacher directed lessons
- Working in small and large groups
- Participating in small group and class discussions
- Observing demonstrations
- Engaging in hands-on activities
- Completing individual and group projects

Students will be assessed by:

- Class participation
- Homework
- Quizzes and Exams
- Project completion
- Self-evaluations

Resources:

SRA Math Explorations and Applications (Grade 5) and various other teacher resources

6^{5h} Grade Goals and Objectives
Language Arts
2009-2010
Desiree Fink

GOAL: Use knowledge of the conventions of language and texts to construct meaning for a range of literary and informational texts for a variety of purposes

Objectives: Students will be able to:

- Use grade-appropriate vocabulary, including content area vocabulary, learned through reading and word study, including structural analysis of word parts
- Use a variety of grade-appropriate print and online resources to research a topic

GOAL: Use reading strategies to construct meaning from a variety of texts

Objectives: Students will be able to:

- Compare structures of texts and apply those that are most appropriate for a given purpose
- Use knowledge of organizational structures (e.g., logical, classification) to construct meaning from texts
- Use knowledge of organizational structures (e.g., logical, classification) to construct meaning from texts
- Identify evidence used to support an argument

GOAL: Respond to literary texts from a range of stances: personal, interpretive, critical

Objectives: Students will be able to:

- Analyze plot, setting, characterization, or conflict to interpret theme in a literary text
- Explain how an author's background is reflected in literature, including the use of language
- Identify and give examples of stylistic elements (e.g., rhyme scheme, rhythm, alliteration)
- Explain how personification and hyperbole enhance the meaning of the text
- Explain how the author's description of setting and characters and his/her development of plot connect to self

GOAL: Use the writing process and conventions of language and research to construct meaning and communicate effectively for a variety of purposes and audiences using a range of forms.

Objectives: Students will be able to:

- Write in a variety of grade-appropriate formats for a variety of purposes and audiences, such as:
 - o narratives that include plot, setting, characters, and a conflict
 - o poems that use figurative language to convey a theme or impression
 - o reports incorporating a framing question and including research from two or more sources
 - o responses to literature
 - o pieces related to completing tasks
 - o notes summarizing what they have read or hear
 - o pieces to reflect on learning and to solve problems
- Form and use the following grammatical constructions correctly when editing writing:
 - o consistent verb tense across paragraphs
 - o comparative and superlative forms of adjectives
 - o coordinating and subordinating conjunctions
 - o prepositional phrases
 - o compound sentence joined by semicolon rather than conjunction and comma
 - o subject-verb agreement with intervening phrase
- Edit writing to correct use of following punctuation:
 - o commas in direct address
 - o colon after salutation
 - o hyphens in written numbers
 - o italics or underlining for emphasis
 - o semicolons to join related independent clauses
- Use a variety of strategies and resources to spell grade-appropriate words
- Incorporate information from references by quoting, paraphrasing, and/or summarizing
- Describe the reasons for citing sources (e.g., giving credit to original source, providing information for readers to follow up on an idea)
- Cite various grade-appropriate sources using a consistent format when reporting information

GOAL: Use rhetorical devices to craft writing appropriate to audience and purpose

Objectives: Students will be able to:

- Select appropriate details, examples, reasons, and/or facts to support an insight, message, or thesis
- Use an organizational structure (e.g., chronological, comparison and contrast, spatial order, climactic order, order of importance) to support meaning
- Vary sentence structure and grammatical forms (e.g., forms of adjectives, prepositional phrases, compound sentences) to improve clarity
- Adjust voice to suit the audience and situation (e.g., informal note to a peer, business letter to organization, research report)

GOAL: Apply knowledge of verbal and nonverbal language to communicate effectively in various situations: interpersonal, group, and public: for a variety of purposes

Objectives: Students will be able to:

- Explain how appropriate participation affects the productivity of group activities
- Use language that facilitates open communication (e.g., phrasing comments in a positive way, using descriptive language to communicate a point)
- Give short prepared oral presentations to inform and persuade
- Use appropriate listening strategies (e.g., listening attentively, taking notes, asking questions) to learn from an oral presentation
- Find out needed information by asking thoughtful questions
- Adjust volume, pacing, pitch, tone, and voice to support the content of the message
- Use emphasis and repetition to highlight important points
- Adjust dialect (e.g., standard English, Hawaiian Creole, colloquialisms) to grade-appropriate audience, purpose, and situation
- Describe a variety of messages conveyed by visual media

GOAL: Adapt messages appropriately to address audience, purpose, and situation

Objectives: The student will be able to:

- Use relevant evidence and examples to support content
- Use appropriate verbal and nonverbal language for various purposes and audiences

Students will learn by:

- Teacher directed lessons
- Working in small and large groups
- Participating in field trips outside the classroom
- Participating in small group and class discussions
- Observing demonstrations
- Engaging in hands-on activities
- Completing individual and group projects

Students will be assessed by:

- Class participation
- Homework
- Quizzes and Exams
- Project completion
- Self-evaluations

Resources:

McDougal, Littell English program (Gold Level) and various other teacher resources

6th Grade Goals and Objectives

Language Arts

2009-2010

Desiree Fink

GOAL: Use knowledge of the conventions of language and texts to construct meaning for a range of literary and informational texts for a variety of purposes

Objectives: Students will be able to:

- Use grade-appropriate vocabulary, including content area vocabulary, learned through reading and word study, including structural analysis of word parts
- Use a variety of grade-appropriate print and online resources to research a topic

GOAL: Use reading strategies to construct meaning from a variety of texts

Objectives: Students will be able to:

- Compare structures of texts and apply those that are most appropriate for a given purpose
- Use knowledge of organizational structures (e.g., logical, classification) to construct meaning from texts
- Use knowledge of organizational structures (e.g., logical, classification) to construct meaning from texts

- Identify evidence used to support an argument

GOAL: Respond to literary texts from a range of stances: personal, interpretive, critical

Objectives: Students will be able to:

- Analyze plot, setting, characterization, or conflict to interpret theme in a literary text
- Explain how an author's background is reflected in literature, including the use of language
- Identify and give examples of stylistic elements (e.g., rhyme scheme, rhythm, alliteration)
- Explain how personification and hyperbole enhance the meaning of the text
- Explain how the author's description of setting and characters and his/her development of plot connect to self

GOAL: Use the writing process and conventions of language and research to construct meaning and communicate effectively for a variety of purposes and audiences using a range of forms

Objectives: Students will be able to:

- Write in a variety of grade-appropriate formats for a variety of purposes and audiences, such as:
 - o narratives that include plot, setting, characters, and a conflict
 - o poems that use figurative language to convey a theme or impression
 - o reports incorporating a framing question and including research from two or more sources
 - o responses to literature
 - o pieces related to completing tasks
 - o notes summarizing what they have read or hear
 - o pieces to reflect on learning and to solve problems
- Form and use the following grammatical constructions correctly when editing writing:
 - o consistent verb tense across paragraphs
 - o comparative and superlative forms of adjectives
 - o coordinating and subordinating conjunctions
 - o prepositional phrases
 - o compound sentence joined by semicolon rather than conjunction and comma
 - o subject-verb agreement with intervening phrase
- Edit writing to correct use of following punctuation:
 - o commas in direct address
 - o colon after salutation
 - o hyphens in written numbers
 - o italics or underlining for emphasis
 - o semicolons to join related independent clauses
- Use a variety of strategies and resources to spell grade-appropriate words

- Incorporate information from references by quoting, paraphrasing, and/or summarizing
- Describe the reasons for citing sources (e.g., giving credit to original source, providing information for readers to follow up on an idea)
- Cite various grade-appropriate sources using a consistent format when reporting information

GOAL: Use rhetorical devices to craft writing appropriate to audience and purpose

Objectives: Students will be able to:

- Select appropriate details, examples, reasons, and/or facts to support an insight, message, or thesis
- Use an organizational structure (e.g., chronological, comparison and contrast, spatial order, climactic order, order of importance) to support meaning
- Vary sentence structure and grammatical forms (e.g., forms of adjectives, prepositional phrases, compound sentences) to improve clarity
- Adjust voice to suit the audience and situation (e.g., informal note to a peer, business letter to organization, research report)

GOAL: Apply knowledge of verbal and nonverbal language to communicate effectively in various situations: interpersonal, group, and public: for a variety of purposes

Objectives: Students will be able to:

- Explain how appropriate participation affects the productivity of group activities
- Use language that facilitates open communication (e.g., phrasing comments in a positive way, using descriptive language to communicate a point)
- Give short prepared oral presentations to inform and persuade
- Use appropriate listening strategies (e.g., listening attentively, taking notes, asking questions) to learn from an oral presentation
- Find out needed information by asking thoughtful questions
- Adjust volume, pacing, pitch, tone, and voice to support the content of the message
- Use emphasis and repetition to highlight important points
- Adjust dialect (e.g., standard English, Hawaiian Creole, colloquialisms) to grade-appropriate audience, purpose, and situation
- Describe a variety of messages conveyed by visual media

GOAL: Adapt messages appropriately to address audience, purpose, and situation

Objectives: The student will be able to:

- Use relevant evidence and examples to support content
- Use appropriate verbal and nonverbal language for various purposes and audiences

Students will learn by:

- Teacher directed lessons
- Working in small and large groups
- Participating in field trips outside the classroom
- Participating in small group and class discussions
- Observing demonstrations
- Engaging in hands-on activities
- Completing individual and group projects

Students will be assessed by:

- Class participation
- Homework
- Quizzes and Exams
- Project completion
- Self-evaluations

Resources:

McDougal, Littell English program (Gold Level) and various other teacher resources

6th Grade Goals and Objectives

Math

2009-2010

Desiree Fink

GOAL: Understand numbers, ways of representing numbers, relationships among numbers, and number systems.

Objectives: Students will be able to:

- Compare and order fractions, decimals, and percents
- Explain and give examples of number theory concepts (e.g., prime factorization, common factors, greatest common factor, common multiples, least common multiple, divisibility)

GOAL: Understand the meaning of operations and how they relate to each other

Objectives: Students will be able to:

- Apply the order of operations when calculating with whole numbers
- Use the operation properties to simplify computations with fractions, decimals, and percents

GOAL: Use computational tools and strategies fluently and, when appropriate, use estimation

Objectives: Students will be able to:

- Use estimation prior to computing with fractions and decimals and compare the estimation to the actual result
- Recognize situations in which it is more appropriate to estimate than to compute an exact answer

GOAL: Understand attributes, units, and systems of units in measurement; and develop and use techniques, tools, and formulas for measuring

Objectives: Students will be able to:

- Estimate the circumference and area of a circle (with no reference to a formula)
- Construct angles with a given degree measure
- Apply strategies and formulas to solve area and perimeter problems involving polygons (e.g., regular hexagons) and complex shapes (i.e., shapes composed of two or more common shapes)

GOAL: Analyze properties of objects and relationships among the properties

Objectives: Students will be able to:

- Analyze and describe the relationships among the angles, side lengths, perimeters, and areas of similar geometric figures
- Create arguments for proving that two shapes are congruent

GOAL: Use transformations and symmetry to analyze mathematical situations

Objectives: Students will be able to:

- Use line symmetry and rotational symmetry to describe classifications of shapes (e.g., squares have 4 lines of symmetry and 90° rotational symmetry)

GOAL: Use visualization and spatial reasoning to solve problems both within and outside of mathematics

Objectives: Students will be able to:

- Construct a two-dimensional representation from different angles of a three-dimensional object
- Draw two-dimensional shapes with specified properties

GOAL: Select and use different representational systems, including coordinate geometry

Objectives: Students will be able to:

- Predict the shape that is formed by connecting the points represented by given coordinates
- Use coordinate geometry to represent and analyze properties of geometric shapes

GOAL: Understand various types of patterns and functional relationships

Objectives: Students will be able to:

- Represent visual and numerical patterns with tables and graphs and generalize the "rule" using words and symbols
- Describe simple one-step functions using words and symbols when given a table of "input" and "output" values

GOAL: Use symbolic forms to represent, model, and analyze mathematical situations

Objectives: Students will be able to:

- Interpret and solve problem situations involving two different variables
- Use fact families to solve for an unknown in an open sentence
- Evaluate algebraic expressions

GOAL: Pose questions and collect, organize, and represent data to answer those questions

Objectives: Students will be able to

- Analyze how data collection methods and sample size can affect the results of data sets

GOAL: Interpret data using methods of exploratory data analysis

Objectives: Students will be able to

- Determine and interpret the measures of center (mean, median, mode) of a data set and explain what each measure indicates about the data set
- Use a stem-and-leaf plot to analyze a set of data

GOAL: Develop and evaluate inferences, predictions, and arguments that are based on data

Objectives: Students will be able to

- Make inferences about a population based on the interpretation of a sample data set

GOAL: Understand and apply basic notions of chance and probability

Objectives: Students will be able to

- Compute probabilities of simple compound events (e.g., rolling two dice, using two different spinners at the same time)

Students will learn by:

- Teacher directed lessons
- Working in small and large groups
- Participating in field trips outside the classroom
- Participating in small group and class discussions
- Observing demonstrations
- Engaging in hands-on activities
- Completing individual and group projects

Students will be assessed by:

- Class participation
- Quizzes and Exams
- Homework
- Project completion
- Self-evaluations

Resources:

SRA Math Explorations and Applications (Grade 6) and various other teacher resources