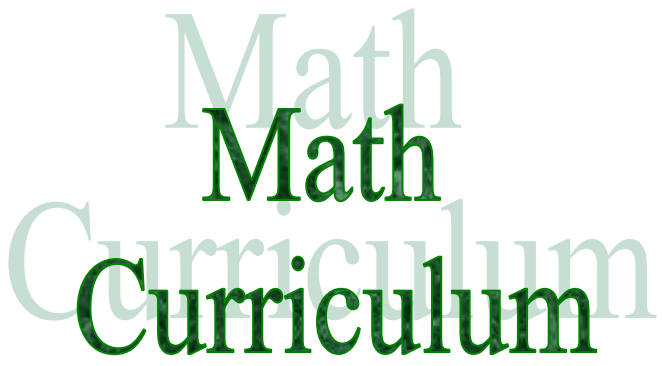
Wayne Central School District
Ontario Center, NY 14519



SIXTH GRADE
Draft

Revised: June 12, 2001
August 6, 2001

Curriculum Team
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Scope and Sequence Team
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I. District Philosophy

The Wayne Central School District believes that the goal of education is the all-around development of each student. The role of the school is to enable individuals to develop to their fullest potential.

The school, in cooperation with the home and community, will assist the student with intellectual, social, cultural, emotional, physical and moral growth. The school should help create within each student an awareness of civic responsibilities and respect for authority to assist the student in becoming a well-integrated, responsible person capable of assuming a vital role in an evolving civilization.

The Wayne Central School District subscribes to the general theory of individual differences; namely, that each student is an individual and has innate abilities, ambitions, and emotions. In the process of educating this individual, the program should provide a challenge while reflecting a concern for needs based on individual capabilities.

The Wayne Central School District further subscribes to the following fundamental principles:

1. **Children, regardless of potential, are capable of learning and acquiring the skill and knowledge needed to function to the best of their ability in our society,**

2. **Our responsibility is to see that children learn. The energies of all participants should be focused on achieving the desired outcomes. Accountability does not end with following established rules and procedures; its essence is found in results,**

3. **Minimum competence, while necessary, is not enough. Successful participation in our society demands much more. All children are entitled to approved curriculum, to instructional methods, and to expectations that challenge them to perform at their best, and help them to become truly proficient in knowledge and skills,**

4. **Every child in New York State is entitled to the resources necessary to provide the sound, basic education that the state constitution requires,**

5. **Each participant in the educational system should have the opportunity to effectively discharge his or her responsibility, and each participant should be held accountable for achieving desired results. This principle applies to all participants in the educational process – students, parents, teachers, counselors, librarians, administrators, the Board of Education, and others,**

6. **Achievement of desired results by individuals and groups should be rewarded. Creativity in our students needs to be nurtured and encouraged. Occasional failure in a large and diverse system us probably unavoidable. However, failure should not be permitted to persist. When it occurs, with either individuals or groups, help should be provided and the situation changed.**

II. District Mission Statement:

Based upon the belief that all students can learn, the staff of Wayne Central School district accepts the responsibility to teach all students regardless of differences, the fundamental skills. We further accept the responsibility to challenge all students to attain higher levels of achievement. Wayne Central will provide the opportunity, environment, and encouragement to meet this goal while developing the whole child physically, emotionally, and culturally.

III. NYS Learning Standards:

Health, Physical Education, and Home Economics

1. Personal Health and Fitness – Students will have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity, and maintain personal health.
2. A Safe and Healthy Environment – Students will acquire the knowledge and ability necessary to create and maintain a safe and healthy environment
3. Resource Management – Students will understand and be able to manage their personal and community resources.

Mathematics, Science, and Technology

1. Analysis, Inquiry, and Design – Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
2. Information Systems – Students will access, generate, process, and transfer information using appropriate technologies
3. Mathematics – 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.
4. Science – Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
5. Technology – Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.
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.
7. Interdisciplinary Problem Solving – Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

English Language Arts

1. Students will listen, speak, read and write for information and understanding. As listeners and readers, students will collect data, facts and ideas; discover relationships, concepts, and generalizations; and use knowledge generated from oral, written, and electronically produced texts. As speakers and writers, they will use oral and written language that follows the accepted conventions of the English language to acquire, interpret, apply, and transmit information.
2. Language for Literary Response and Expression – Students will read and listen to oral, written, and electronically produced texts and performances from American and world literature; relate texts and performances to their own lives; and develop an understanding of the diverse social, historical, and cultural dimensions the texts and performances represent. As speakers and writers. Students will use oral and written language that follows the accepted conventions of the English language for self-expression and artistic creation.
3. Language for Critical Analysis and Evaluation – Students will listen, speak, read and write for critical analysis and evaluation. As listeners and readers, students will analyze experiences, ideas, information, and issues presented by others using a variety of established criteria. As speaker and writers, they will use oral and written language that follows the accepted conventions of the English language to present, from a variety of perspectives, their opinions and judgements on experiences, ideas, information and issues.
4. Language for Social Interaction – Students will listen, speak, read, and write for social interaction. Students will use oral and written language that follows the accepted conventions of the English language for effective social communication with a wide variety of people. As reader and listeners, they will use the social communications of others to enrich their understanding of people and their views.

Languages Other Than English

1. Communication Skills – Students will be able to use a language other than English for communication.
2. Cultural Understanding – Students will develop cross-cultural skills and understandings.

The Arts

1. Creating, Performing, and Participating in the Arts – Students will actively engage in the processes that constitute creation and performance in the arts (dance, mucus, theatre, and visual arts) and participate in various roles in the arts.
2. Knowing and Using arts materials and Resources – Students will be knowledgeable about and make use of the materials and resources available for participation in the arts in various roles.
3. Responding to and Analyzing Works of Art – Students will respond critically to a variety of works in the arts, connecting the individual work to other works and to other aspects of human endeavor and thought.
4. Understanding the Cultural Contributions of the Arts – Students will develop an understanding of the personal and cultural forces that shape artistic communication and how the arts in turn shape the diverse cultures of past and present society.

Career Development and Occupational Studies

1. Career Development – Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions.
2. Integrated Learning – Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings.
3. Universal Foundation Skills – Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.
4. Career Majors – Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.

Social Studies

1. History of the United State and New York – Students will use a variety of intellectual skills to demonstrate their understanding of major ideas, eras themes, developments, and turning points in the history of the United States and New York.
2. World History – Students will use a variety of intellectual skills to demonstrate their understanding of major ideas, eras, themes, developments and turning points in world history and examine the broad sweep of history from a variety of perspectives.
3. Geography – Students will use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live – local, national and global – including the distribution of people, places, and environments over the Earth's surface.
4. Economics – Students will use a variety of intellectual skills to demonstrate their understanding of how the United States and other societies develop economic systems and associated institutions to allocate scarce resources, how major decision-making units function in the United States and other national economies, and how an economy solves the scarcity problem through market and nonmarket mechanisms.
5. Civics, Citizenship, and Government – Students will use a variety of intellectual skills to demonstrate their understanding of the necessity for establishing governments; the governmental system of the United States Constitution; the basic civil values of American constitutional democracy; and the roles, rights, and responsibilities of citizenship including avenues of participation.

IV. Commencement Outcomes

"Adult Roles, Skills & Knowledge"

CITIZEN

A citizen is a responsible, law-abiding member of society who:

- Has a strong sense of values;
- Knows right from wrong;
- Is aware of community news, issues and norms;
- Accepts diversity in ethnicity and belief;
- Has knowledge of government at all levels and issues relative to each;
- Associates with others in positive and productive ways.

LIFE - LONG LEARNER

A life-long learner is one who perseveres, is self-motivated, is innately curious, focused and:

- Is able to set goals;
- Adheres to deadlines/due-dates, has time management skills and abilities;
- Is a problem solver, can define problems, analyze information and task analyze/prioritize potential solutions, has the ability to select the best "tool/strategy" for the situation, and can enlist others in the process of evaluation and refocusing.

LEADER

A leader is a problem solver with effective communication skills. He/she has an ability to motivate others and:

- Is a strong willed person with vision, beliefs and convictions to carry out each.
- Is able to recognize and effectively use all resources, such as material, time and human
- Is responsible and accountable for self and others.

WORKER/WAGE EARNER/BUSINESS OWNER

A worker/wage earner is an individual who is trust worthy, moral and ethical, and who:

- Possess basic job skills with a willingness to change, grow and develop new skills;
- Is a good communicator;
- Demonstrates leadership skills and initiative and the ability to work as a team player;
- Is responsible, reliable and respectful to others;
- Has the ability to make sound decisions.

CONSUMER

A consumer is an individual who has knowledge of the global economy and:

- Utilizes and applies budgeting skills and credit awareness;
- Maintains long-terms personal financial planning (savings, banking, retirement);
- Understand one's rights, responsibilities and risks.

COUNSELOR/TEACHER/MENTOR

A counselor/teacher/mentor is an individual who is patient, self-confident, assertive leader who:

- Is a problem solver and can guide others to solve problems;
- Is an active listener;
- Is aware of issues, societal, family, religious differences and different customs;
- Has interpersonal skills and values others opinions.

PARENT/FAMILY MEMBER

A parent/family member is an individual who:

- Is nurturing and loving;
- Displays flexibility;
- Has high character and morals;
- Is accountable and consistent with respect to expectations and follow through;
- Becomes actively involved in their children and family's education and other pursuits.

FRIEND

A friend is an individual who shows great interest and respect for others, and who:

- Is non-judgmental and available when a time of need arises;
- Is unselfish, honest, supportive, caring and genuine;
- Is an open-minded listener who seeks to understand before being understood;
- Give him/herself to other without expectations of compensation or return of favor.

V. Scope and Sequence

	STRANDS	GRADE LEVEL 6	7	8		
PROBLEM SOLVING						
Develop a plan		D	D	D		
Strategies						
Look for a pattern	7A/7B	D	D	D		
Solve a simpler problem	1A	D	D	D		
Act it out	1A		D	D		
Guess and check	1A	D	D	D		
Draw a diagram	1A	D	D	D		
Make a table	1A	D	D	D		
Work backward	1A	I	D	M/R		
Choose the method of computation					1B	D
Make a list	1A	D	D	D		
Eliminate the possibilities				1A	D	D
Determine reasonable answers				1A	D	D
Make a model			1A	D	D	D
Use a graph			1B/5E	D	D	D
Use an equation			4E	I	D	D
Use logical reasoning			1C	D	D	D
Use the Pythagorean Theorem				5C/7I		I
Use a Venn diagram			1D	I	D	D/I
Use a frequency table			4D	D	D	D
Use a spreadsheet			5D	I	I	I
Use proportional reasoning				2B		
Decimal concepts			2A	D	D/M	R
Reading and writing			2A	D	M	R
Decimal place value			2A	D	M	R
Comparing and ordering				2A	D	D/M
Rounding.	6A	D	D/M	R		
Relating decimals and fractions				2A	I	D
Relating decimals, ratios, and percents					2A	I
Terminating and repeating decimals					3A	I
Scientific Notation			2D		I/D	D
Powers of Ten			2A	I	D	M/

Key:

I Introduce – new topic/skill
D Develop – more in depth study of the skill
M Mastery – learning benchmark has been reached
R Reinforce – continued use of a mastered skill

		STRANDS	GRADE LEVEL 6	7	8		
Fractions							
	Fraction concepts			2A	D	D/M	R
	Writing mixed numbers as fractions					2A	D
	Mixed numbers and improper fractions					2A	D
	Equivalent fractions			2A	D	D/M	R
	Comparing and ordering fractions				2D	D	D/M
	Simplifying fractions			2A	D	D/M	R
	Least common denominator (LCD)					2C	D
	Rounding and estimating fractions					6A	I
	Relating fractions and decimals				2B	D	D
	Relating fractions and percents				2B		I/D
Proportional Reasoning							
	Ratio						
		Concept of ratio		2B	I	D	D
		Reading and writing ratios			2B	I	D
		Simplifying ratios		2B		I/D	M/D
		Relating ratios and fractions			2B		I/D
		Relating ratios and rate			2B		I/D
		Ratio and probability		6E	I	I/D	I/D
	Proportion						
		Concept of proportion		2B		I/D	M
		Solving proportions		3G		I/D	D
		Property of proportion (cross product)				2D	I
		Scale drawings		4B		D	D
		Similar figures		7E	D	D	M/D
		Dilations	4H	I	D		
		Indirect measurement		3G		I	D
	Percent						
		Concept of percent		2B	I	D	M
		Writing fractions and decimals as percent				2B	
		Percents greater than l00 % or less than l %				2B	
		Find percent of a number			2B/2D		I/D
		Percent one number is of another			2B/2D		I/D

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	STRANDS	GRADE LEVEL 6	7	8		
Finding number when percent is known					2B/2D	
Percent proportion			2B/2D		I/D	D/M
Relating percent and ratio				2B		I/D
Percent equation			2B/2D		I	D
Non-proportional relationships				2B		
Computations and Estimation						
Order of operations	3C	I/D	D	M		
Decimals						
Adding and subtracting				3A	D	M
Multiplying by a whole number				3A	D	M
Multiplying two decimals				3A	I/D	D/M
Dividing by a whole number				3A	I/D	D/M
Dividing by decimals			3A	I/D	D/M	R
Dividing with zeros in the quotient					3A	I
Fractions						
Adding and subtracting				3A	D	D
Subtracting with renaming				3A	I/D	D
Multiplying and dividing				3A/3D	I	D
Add and subtract mixed numbers				3A	I	D
Multiply and divide mixed numbers					3A/3C	I
Percents						
Discount	2B		I/D	D		
Sales tax	2B		I/D	M		
Simple interest			2B		I/D	D
Percent of change			2B		I	D
Integers						
Adding and subtracting				3A		I/D
Multiplying and dividing				3A		I/D
Estimation						
Whole numbers						
Rounding	6A	D	M	R		
Sums and differences			6A	D	M	R
Products and quotients				6A	D	M

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	STRANDS	GRADE LEVEL 6	7	8		
Decimals						
Rounding	6A	I	D	M		
Sums and differences			6A	I	D	M
Products and quotients				6A	I	D
Fractions						
Sums and differences			6A		I/D	M
Products and quotients				6A		I/D
Percents			I	D		
Use equivalent fractions, decimals, and percents						6A
Strategies for estimating						
Rounding	6B	I	D	M		
Clustering	6B	I	M			
Square roots					I	D
Area or volume			5A/5C	D	D	D
Mental math						
Divisibility patterns			2C	D	M	R
Solving equations mentally				4E	M	
Finding percents			6A		I	D
Powers of ten			2A/3B	I/D	M	R
Using formulas	7H	I	D	D		
Number Systems and Number Theory				2A/2C	D	D
Reading and writing whole numbers				2A	M	R
Place value of whole numbers	2A	M	R			
Place value of decimals	2A/6A	D	M	R		
Comparing and ordering						
Whole numbers			2D	R		
Decimals	2D	D	M	R		
Fractions	2D	D	M	R		
Integers	2D		I/D	M		
Rationals	2D			I/D		
Positive exponents	2A	I	D	M		
Negative exponents	2A		I	D		

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		STRANDS	GRADE LEVEL 6	7	8		
Divisibility patterns		2C	D	M	R		
Prime and composite numbers		2C	D	M	R		
Relative primes		2C		M	R		
Prime factorization		2C	I	D/M	R		
Least common multiple (LCM)		2C	D	M	R		
Scientific notation		2A		I/D	M		
Square roots		2D/3C/7I		I	D		
Properties							
	Properties of number			2A/3C	D	D	M
	Distributive property			3C/3D		I	D
	Property of proportions (cross products)					2B/2D	
	Properties of equality			4E/7A/7E		I	D
PATTERNS AND FUNCTIONS							
Numeric patterns							
	Sequences			7A	I	D	D
	Fibonacci sequence			7A			I
	Divisibility patterns			2C	D	M	R
Geometric patterns							
	Recognizing geometry patterns				7A		M
	Tessellations			4A/1C		I	D
	Fractals	4A/1C		I			
Represent relationships							
	Tables	7B	I	D	D		
	Graphs	7B			I/D		
	Function rules			7A/7B/7D			I/D
Analyze functional relationships		7D			I/D		
Use patterns and functions to solve problems						7A/7C	I
ALGEBRA							
Integers							
	Reading and writing integers				2A		I/D
	Graphing integers on a number line					2A/4D	
	Comparing and ordering integers				2D		I/D

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		STRANDS	GRADE LEVEL 6	7	8		
	Adding and subtracting integers				3A		I/D
	Multiplying and dividing integers				3A		I/D
	Absolute value			3A		I/D	M
Rational numbers							
	Identify and simplify rational numbers					2A/2D	
	Properties of rational numbers				2D/3D		
	Rational numbers and decimals				2A/2D		
	Scientific notation			2A/2D			I/D
	Comparing and ordering				2D		
	Solving equations with rational number solutions						4E/7
Real numbers							
	Identify and classify real numbers					2A	
	Square roots			3B		I	D
	Irrational numbers			2A		I	D
Functions							
	Function tables			7B			I/D
	Linear functions			7C			I/D
	Analyze tables and graphs				5D/7B		
Equations and expressions							
	Concepts of variable, expression, equation					4E	I
	Order of operations			3B/3C	D	M	M/
	Evaluate algebraic expressions				4E		I/D
	Write algebraic expressions and equations					4E	
	Solve addition and subtraction equations					4E	I
	Solve multiplication and division equations					4E	I
	Solve two-step equations				7C		
	Solve equations with two variables					7C	
	Solve inequalities			2D/7C		I/D	D
	Solve equations with concrete methods					4F	I
	Solve equations algebraically				4E/7A	I	D
Graphing							
	Integers on a number line				2D		I/D
	Irrational numbers on a number line					2D	

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	STRANDS	GRADE LEVEL 6	7	8		
Inequalities on a number line				2D		I
Points on a coordinate plane				4C	I	D
Transformations on a coordinate plane					4C/4H	
Functions	7A		I	D		
Linear functions (equations)				4E/7C		
Polynomials				I/D		
Hands on equations			4F			I/D
Represent and simplify polynomials					4E	
Like and unlike terms			4E			I/D
Laws of exponents (Add, Subtract, Multiply and divide)						4E
Apply algebra to real-world and math problems					2A/4F	
STATISTICS						
Taking a survey	1B	D	D	D		
Analyzing survey data	1B/5D	D	D	D		
Organizing Data						
Using a table to organize data.				1B/7B	D	D
Frequency tables			1B/7B	I	D	D
Using tables to solve problems				1B/7B		I
Using matrices to organize data				1B/7B		
Constructing and interpreting graphs						
Bar graphs	4D/5D	D	M	R		
Circle graphs			4D/5D		I	D
Line graphs			4D/5D	D	M	
Line plots	4D/5D		I	M		
Histograms			4D/5E			I/D
Scatter plots			4D		I	D
Interpreting data						
Clusters	5D		I	D		
Mean, median, and mode				5D	I	D
Range	5D	I	D	D		
Making predictions from statistics					5D/1B	D

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		STRANDS	GRADE LEVEL 6	7	8		
	Making predictions from graphs				4D/5D	D	D
PROBABILITY							
	Outcomes	4G/6A/6E	I	D	D		
	Simple event			4G/6C/6E	I	D	D
	Independent events			4G/6E		I	D
	Dependent events			4G/6E		I	D
	Complementary events				6C/6E	I/D	
	Experimental probability				6C/6D/6E	I	D
	Theoretical probability			4G/6E	I	D	D
	Tree diagrams			4F/4G	I	D	D
	Counting principle			4F4G	I	D	D
	Probability and ratio			4G/6C	I	D	D
	Fair and unfair games			4G/6C	I	D	D
	Simulations or experiments				4G/6D	I	D
GEOMETRY							
Constructions							
	Congruent segments			4I/4J		I	
	Perpendicular lines			4I/4J		I	
	Parallel lines			4I/4J		I	
	Segment bisectors			4I/4J		I	
	Congruent angles			4I/4J		I	
	Angle bisectors			4I/4J		I	
	Polygons, inscribed			4I/4J		I	
	Congruent triangles			4I/4J		I	
Angles							
	Classify and measure angles				5B/4I/4J	I	D
	Sum of angle measures				7G		I/D
	Parallel lines and transversal				7H		I
Polygons							
	Identify polygons			4A/7G	I	D	M

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		STRANDS	GRADE LEVEL 6	7	8		
	Classify triangles and quadrilaterals					7G	I
	Identify congruent figures				4I	I	D
Triangles							
	Determine congruent triangles				4I		
	Right triangle relationships (trigonometry)					5C/7I	
	Pythagorean Theorem			5C/7I		I	I/D
	Special right triangles			7I/7J			I
Similarity							
	Corresponding parts of similar figures					4H/4I	I
	Identify similar figures			4H/4I	I	I/D	D
	Scale drawings			4B		I	D
	Dilations	4H		I	D		
Circles							
	Circumference (radius, diameter)				5C		I/D
	Area	5C		I/D	M		
Perimeter							
	Regular shapes			5C	D	D	M
	irregular shapes			5C	I	D	M
Area							
	Rectangles			5B/5C	D	D	M
	Parallelograms (base, height)				5B/5C		I/D
	Trapezoids	5B/5C		I/D	M		
	Triangles	5B/5C	I	D	M		
	Circles	5B/5C		I/D	M		
	Square roots and area of squares				2D/5C		I
Transformations							
	Translations, reflections, and rotations					4H	
	Dilations	4H		I	D		
	On the coordinate plane				4H		I
	Symmetry	4H	D	D	D		
Solids							
	Identify, draw three-dimensional figures					4A	
	Surface area			5C/5B		I	D

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		STRANDS	GRADE LEVEL 6	7	8		
	Volume	5C/5B	I	D	D		
Coordinate Geometry							
	Graphing ordered pairs				4C	I	D
	Transformations on the coordinate plane					4H	
Patterns							
	Recognizing geometric patterns				4A/7K	I	D
	Symmetry	4H	D	D	D		
	Fractals	4A/1C		I			
Trigonometry		7J			I		
Inductive and deductive thinking		1A			I		
MEASUREMENT							
Metric System							
	Units of length, capacity, and mass					5F	I
	Changing units within the metric system					5F	I
Customary system							
	Units of length, capacity, and weight					5F	
	Change units within the customary system					5F	
Time			D				
Perimeter and circumference			I	D	D		
Area							
	Irregular figures			5C		I/D	M
	Rectangles			5C	D	D	M
	Parallelograms			5C		I/D	M
	Triangles	5C	I	D	M		
	Circles	5C		I/D	M		
	Trapezoids	5C		I/D	M		
Surface area							
	Rectangular prisms			5C		I	D
Volume							
	Rectangular prisms			5C	I	D	M

Key:

I Introduce – new topic/skill
D Develop – more in depth study of the skill
M Mastery – learning benchmark has been reached
R Reinforce – continued use of a mastered skill

	STRANDS	GRADE LEVEL 6	7	8		
Cylinders	5C		I	D		
Pyramids and cones			5C		I	D
Precision and significant digits	5B			I		
Indirect measurement	3G		I	D		

Key:

I Introduce – new topic/skill
D Develop – more in depth study of the skill
M Mastery – learning benchmark has been reached
R Reinforce – continued use of a mastered skill

VI. Course Overview

Mathematics: Applications and Connections (Course 1) prepares all students for success in algebra and geometry. Students use manipulatives to bridge the gap from the concrete to the abstract, hands-on labs and mini-labs to discover concepts on their own, and cooperative learning to achieve academic and interpersonal skills.
Glencoe, Course 1, page T4-T5, 1999.

1. Problem Solving, Numbers and Algebra
2. Statistics: Graphing Data
3. Adding and Subtracting Decimals
4. Multiplying and Dividing Decimals
5. Using Number Patterns, Fractions, and Ratios
6. Adding and Subtracting Fractions
7. Multiplying and Dividing Fractions
8. Geometry
9. Geometry (Area and Volume)
10. Equations
11. Probability

VII. Instructional Outline

I. Problem Solving, Numbers, and Algebra

1. Problem solving four step plan
2. Patterns
3. Estimation using rounding
4. Order of operations
5. Algebraic expressions
6. Exponents
7. Problem Solving Strategy – Guess and Check

II. Statistics: Graphing Data

1. Frequency tables
2. Scales and intervals
3. Bar graphs, line graphs, circle graphs
4. Mean, median, mode, and range
5. Misleading graphs
6. Ordered pairs
7. Computer generated graphs

III. Adding and Subtracting Decimals

1. Model decimals
2. Read and write decimals
3. Metric units of length
4. Compare and order decimals
5. Round decimals
6. Estimate sums and differences
7. Add and subtract decimals

IV. Multiplying and Dividing Decimals

1. Estimate products of decimals
2. Multiply decimals
3. Perimeter and area of rectangles and squares
4. Solve problems by first solving a simpler problem
5. Divide decimals by whole numbers
6. Divide decimals by decimals
7. Metric units of mass and capacity

V. Using Number Patterns, Fractions, and Ratios

1. Divisibility rules
2. Prime and composite numbers
3. Prime factorization
4. Problem solving – organized list
5. Greatest common factor
6. Equivalent fractions
7. Simplest form- fractions and ratios
8. Experimental probability
9. Mixed numbers and improper fractions
10. Measurement using fractions
11. Least common multiple
12. Compare and order fractions
13. Decimals to fractions and vice versa

VI. Adding and subtracting fractions

1. Round and estimate fractions
2. Add and subtract fractions
3. Add and subtract mixed numbers
4. Add and subtract measures of time

VII. Multiplying and Dividing Fractions

1. Estimating products
2. Multiplying fractions and mixed numbers
3. Divide fractions and mixed numbers
4. Customary system of measurement
5. Problem solving using patterns

VIII. Geometry

1. Geometry Symbols
2. Angles
    a. Classify
    b. Measure
3. Lines
    a. Parallel
    b. Perpendicular
    c. Symmetry
4. Two-dimensional figures
5. Similar and congruent

IX. Geometry (Area and Volume)

1. Area
    a. Square
    b. Rectangle
    c. Triangle
2. Three Dimensional Figures
3. Volume of Rectangular Prisms

X. Equations

1. Addition
2. Subtraction
3. Multiplication and division

XI. Probability

1. Fair and unfair games
2. Theoretical probability
3. Making predictions using samples
4. Finding outcomes (combinations)

VIII. Course Benchmarks

IX. Units of Study

Unit One

Problem Solving, Numbers, and Algebra

A. Unit Benchmarks

Students will be able to:

1. Solve problems using the four step plan.
2. Solve problems using patterns.
3. Estimate sums, products, differences, and quotients using rounding.
4. Evaluate expressions using the order of operations.
5. Model algebraic expressions.
6. Evaluate numerical and simple algebraic expressions.
7. Use powers and exponents in expressions and expanded notation.
8. Solve problems by using the guess and check strategy.
9. Solve equations by using mental math and guess and check.

.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Create a chart with 3 columns- Exponent Form, Factor Form, and Standard Form. Students can fill in missing information. *Materials: Pocket chart*	**7**	**MST: 3**	**1, 2, 3, 4**
b. Newspaper Rounding activity- Find examples in the daily paper of rounded numbers. *Materials : Newspapers*	**3**	**MST: 3**	**1, 2, 3, 4, 5**
c. Order of Operations pneumonic device. Use the phrase, "Please Excuse My Dear Aunt Sally" to remember the correct order of operations. *Materials:*	**4**	**MST: 3**	**1, 2, 3, 4**
d. *Materials :*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 2-43 can be used in class and for homework *Materials:*	**1-9**	**MST: 3**	**1, 2, 3, 4, 5**
b. Popcorn Activity – See pages 20-21 in text. *Materials : Paper bags, popcorn*	**5**	**MST: 3**	**1, 2, 3, 4**
c. Expo BINGO – See page 31 in text *Materials: Calculator, BINGO cards, chips*	**7**	**MST: 3**	**1, 2, 3, 4**

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-9**	**MST: 3**	**1, 2, 3, 4**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Algebra
Algebraic Expression
Base
Cubed
Equation
Estimate
Evaluate
Examine
Expanded Form
Explore
Exponent
Factor
Guess and Check
Order of Operations
Pattern
Plan
Power
Rounding
Solution
Solve
Squared
Variable

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Two

Statistics: Graphing Data

A. Unit Benchmarks

Students will be able to:

1. Make and interpret frequency tables.
2. Choose appropriate scales and intervals for frequency tables.
3. Interpret and construct bar and line graphs.
4. Find the mean, median, mode, and range to describe a set of data.
5. Recognize when statistics and graphs are misleading.
6. Graph ordered pairs of numbers on a coordinate grid.
7. Collect data and create a computer-generated graph.
8. Interpret circle graphs.

.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Computer Graph Project
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Newspaper Activity- Find examples of different types of graphs. *Materials: Daily newspaper or magazines*	**3, 4, 5, 8**	**MST: 3**	**1, 2, 3, 4, 5**
b. Ongoing record of grades- Determine statistics of grades (mean, median, mode, range) *Materials :*	**4**	**MST: 3**	**1, 2, 3, 4, 5**
c. Tic-Tac-Toe four in a row- Use coordinate grid to plot ordered pairs. Teams take turns to be the first to get four X's or O's in a row. *Materials: Coordinate grid overhead copy, markers*	**6**	**MST: 3**	**1, 2, 3, 4**
d. *Materials :*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 44-91 and pages 459-461 can be used in class and for homework *Materials:*	**1-8**	**MST: 3**	**1, 2, 3, 4, 5**
b. *Materials:*			
c. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-8**	**MST: 3**	**1, 2, 3, 4**
b. Computer Graph Project- Students collect data and organize into frequency tables. Students then use EXCEL to generate a graph for their data. Three to five conclusions are written based on the results. *Materials:*	**7**	**MST: 3**	**1, 2, 3, 4, 5**
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Average
Bar graph
Circle graph
Coordinate system or coordinate grid
Data
Frequency table
Interval
Line graph
Mean
Median
Mode
Negative
Ordered pair
Origin
Positive
Quadrants
Range
Scale
Statistics
x-axis
x-coordinate
y-axis
y-coordinate

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Three

Adding and Subtracting Decimals

A. Unit Benchmarks

Students will be able to:

1. Model decimals through hundredths.
2. Read and write decimals through ten-thousandths.
3. Measure length in metric units and relate to real-life scale drawings.
4. Show relationships among metric units of length.
5. Compare and order decimals.
6. Round decimals.
7. Estimate decimal sums and differences.
8. Add and subtract decimals.
9. Explain reasonableness of real-life addition and subtraction problems.

.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Build-A-Number - Teacher randomly chooses numbers as students create the least or greatest number possible. *Materials: index card with digits 0-9*	**1, 2**	**MST: 3**	**1, 2, 3, 4, 5**
b. Measure items in the classroom. *Materials : Rulers, Meter sticks, Tape measure*	**3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
c. Checkbook Activity- Students record transactions. *Materials: Checkbook worksheet*	**7, 8, 9**	**MST 3**	**1, 2, 3, 4, 5**
d. *Materials :*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 92-129 can be used in class and for homework *Materials:*	**1-9**	**MST: 3**	**1, 2, 3, 4, 5**
b. Use graph paper or blocks to model decimals. See pages 94-96 in text. *Materials: graph paper, colored pencils*	**1**	**MST: 3**	**1**
c. Cooperative Group Activity- See pages 100-101 in text. *Materials: Tape Measure*	**3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
d. Number line- See page 105, 107, and 109. *Materials:*	**5, 6**	**MST: 3**	**1, 2, 3, 4, 5**

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-9**	**MST: 3**	**1, 2, 3, 4**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. Scale drawings- Use Social Studies maps. *Materials:*	**3**	**MST: 3**	**1, 2, 3, 4, 5**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Centimeter
Difference
Meter
Metric system
Millimeter
Place value
Reasonable answers
Scale Drawings
Sum

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Four

Multiplying and Dividing Decimals

A. Unit Benchmarks

Students will be able to:

1. Estimate and find the products of decimals and whole numbers.
2. Multiply decimals.
3. Find the perimeters and areas of rectangles and squares.
4. Explain how perimeter and area are related in the real world.
5. Divide decimals by whole numbers.
6. Divide decimals by decimals.
7. Divide decimals involving zeroes in the quotient.
8. Use metric units of mass and capacity.
9. Change units within the metric system.
10. Solve problems by first solving a simpler problem.
11. Explain reasonableness of real-life multiplication and division problems.

.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Find perimeters and areas of items in the classroom. *Materials: rulers, meter sticks*	**3**	**MST: 3**	**1, 2, 3, 4, 5**
b. *Materials :*			
c. *Materials:*			
d. *Materials :*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 130-175 can be used in class and for homework *Materials:*	**1-11**	**MST: 3**	**1, 2, 3, 4, 5**
b. Relating perimeter and area. See page 149 in text. *Materials*	**3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
c. Metric Game- See page 166 in text. *Materials:*	**8**	**MST 3**	**1, 2, 3, 4, 5**
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-11**	**MST: 3**	**1, 2, 3, 4**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Area
Dividend
Divisor
Factor
Gram
Kilogram
Liter
Milligram
Milliliter
Perimeter
Product
Quotient
Remainder
Sides

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Five

Using Number Patterns, Fractions, and Ratios

A. Unit Benchmarks

Students will be able to:

1. Use divisibility rules for 2, 3, 5, 6, 9, and 10.
2. Identify and explain the difference between prime and composite numbers.
3. Find the prime factorization of a composite number.
4. Find the greatest common factor of two or more numbers.
5. Use models to represent fractions and equivalent fractions.
6. Express fractions and ratios in simplest form.
7. Determine the experimental probability for a given set of data.
8. Express mixed numbers as improper fractions and vise versa.
9. Measure line segments and objects with a ruler divided in halves, fourths, and eighths.
10. Find the least common multiple of two or more numbers.
11. Compare and order fractions.
12. Express terminating decimals as fractions in simplest form.
13. Express fractions as terminating and repeating decimals.
14. Solve real life problems by making an organized list.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.
Factor tree Project

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Chart Relay- Teams/Classes compete against each other by completing divisibility charts. *Materials: pocket chart (optional)*	**1**	**MST: 3**	**1, 2, 3, 4, 5**
b. Sieve of Eratosthenes *Materials : Chart of numbers*	**2, 3**	**MST: 3**	**1, 2**
c. Pocket chart Activity showing prime factorization. *Materials: Pocket chart, index cards*	**2, 3**	**MST: 3**	**1, 2**
d. Manipulatives Materials : Hamburger kits, Pizza game	**5, 6, 8, 11**	**MST: 3**	**1, 2, 3, 4, 5**
e. Factor Tree Project- Students find the prime factorization of a specific number, and show results in a variety of creative ways. (sports, science, hobbies, etc.) *Materials :*	**2, 3**	**MST: 3**	**1, 2, 3, 4, 5**

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 176-225 can be used in class and for homework. *Materials:*	**1-14**	**MST: 3**	**1, 2, 3, 4, 5**
b. Rectangular Arrays- See page 181 in text. *Materials: graph paper*	**2**	**MST: 3**	**1**
c. Experimental Probability- See page 197 in text. *Materials:*	**6, 7**	**MST: 3**	**1, 2, 3, 4, 5**
d. Family Activity- See page 204 in text. *Materials:*	**9**	**MST: 3**	**1, 2, 3, 4, 5**
e. Least Common Multiple Game- See page 209 in text. *Materials:*	**10**	**MST: 3**	**1, 2, 3, 4, 5**

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-14**	**MST: 3**	**1, 2, 3, 4**
b. Factor Tree Project- See Teacher constructed activities. Students may use computer or internet to construct project. *Materials:*	**2, 3**	**MST: 3**	**1, 2, 3, 4, 5**
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Bar notation
Common multiples
Composite number
Equivalent fractions
Experimental probability
Factor tree
Foot
Greatest common factor (GCF)
Improper fraction
Inch
Least common denominator (LCD)
Least common multiple (LCM)
Mile
Mixed number
Multiple
Prime factorization
Prime number
Ratio
Repeating decimal
Simplest form
Terminating decimal
Yard

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Six

Adding and Subtracting Fractions

A. Unit Benchmarks

Students will be able to:

1. Round fractions and mixed numbers.
2. Estimate sums and differences of fractions and mixed numbers.
3. Add and subtract fractions.
4. Add and subtract mixed numbers.
5. Subtract mixed numbers involving renaming.
6. Add and subtract measures of time.
7. Write and explain the use of fractions in the real world.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Manipulatives *Materials: Hamburger kits*	**3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
b. Journal Activity *Materials :*	**7**	**MST: 3**	**1, 2, 3, 4, 5**
c. *Materials:*			
d. *Materials*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 226-265 can be used in class and for homework *Materials:*	**1-7**	**MST: 3**	**1, 2, 3, 4, 5**
b. Family Activity- See page 245. *Materials:*	**2, 3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
c. Mixed Number Game- See page 253 in text. *Materials:*	**2, 3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
d. *Materials:*			
e. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-7**	**MST: 3**	**1, 2, 3, 4**
b. Math Blasters *Materials: Computer software in computer lab*	**2, 3**	**MST: 3**	**1, 2, 3, 4, 5**
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Denominator
Hour
Like fractions
Minute
Numerator
Second

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Seven

Multiplying and Dividing Fractions

A. Unit Benchmarks

Students will be able to:

1. Estimate fraction products.
2. Multiply fractions by using graph paper.
3. Multiply fractions.
4. Multiply mixed numbers.
5. Divide fractions.
6. Divide mixed numbers.
7. Change units within the customary system.
8. Solve problems by finding and extending a pattern.
9. Recognize and extend sequences.
10. Write and explain how fractions and measurement are used in real life.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Multiply fractions by using graph paper. *Materials: Graph paper, colored pencils*	**2, 3**	**MST: 3**	**1, 2**
b. Journal Activity *Materials:*	**10**	**MST: 3**	**1, 2, 3, 4, 5**
c. *Materials:*			
d. *Materials*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 266-307 can be used in class and for homework *Materials:*	**1-10**	**MST: 3**	**1, 2, 3, 4, 5**
b. Multiplication Game- See page 276 in text. *Materials: Poster board, number cubes*	**3**	**MST: 3**	**1, 2, 3, 4, 5**
c. Newspaper Activity- See page 279 in text. *Materials: Newspapers or magazines*	**3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
d. Measuring and Chart Activity- See page 293 in teacher text. *Materials: Measuring containers (cups, pints, quarts, gallons)*	**7**	**MST: 3**	**1, 2, 3, 4, 5**
e. Interview/Community Activity- See page 294 in teacher text. *Materials:*	**7, 10**	**MST: 3**	**1, 2, 3, 4, 5**
f. Music Activity- See page 298 in teacher text. *Materials: Sheet music*	**8, 9**	**MST: 3**	**1, 2, 3, 4, 5**

Application Level:
1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-10**	**MST: 3**	**1, 2, 3, 4**
b. *Materials:*			
c. Materials:			
d. Materials:			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Compatible numbers
Cup
Fluid ounce
Gallon
Invert
Ounce
Pattern
Pint
Pound
Quart
Reciprocals
Sequence
Ton

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Eight

Geometry

A. Unit Benchmarks

Students will be able to:

1. Identify geometric symbols (line, line segment, ray, point) and relate them to everyday life.
2. Identify parallel and perpendicular lines.
3. Classify and measure angles.
4. Draw angles and estimate measures of angles.
5. Classify two–dimensional figures.
6. Describe and define lines of symmetry.
7. Determine congruence and similarity.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.
Jigsaw Puzzle Project (optional)

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Find examples of geometry terms in the classroom. *Materials:*	**1, 2, 3, 5, 6, 7**	**MST: 3**	**1, 2, 3, 4, 5**
b. Make types of angles with popsicle sticks. *Materials : Popsicle sticks*	**3, 4**	**MST: 3**	**1, 2**
c. Jigsaw Puzzle Project- Students create puzzles using various geometric shapes. *Materials: Teacher created packet*	**3, 4, 5, 7**	**MST: 3**	**1, 2, 3, 4, 5**
d. *Materials*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 350-393 can be used in class and for homework. *Materials:*	**1-7**	**MST: 3**	**1, 2, 3, 4, 5**
b. Chapter Project- See page 351 in text. *Materials: Worksheet*	**1, 2, 3, 4, 5**	**MST: 3**	**1, 2, 3, 4, 5**
c. Design creature/picture- See teacher text, page 373. *Materials: Construction paper, colored pencils, cardboard.*	**5**	**MST: 3**	**1, 2, 3**
d. Concentration Game- See page 377 in teacher text. *Materials: Index cards*	**6**	**MST: 3**	**1, 2, 3,**
e. Mini-Lab- See page 379 in text. *Materials: Tracing paper, scissors*	**7**	**MST: 3**	**1, 2, 3**
e. Small group library activity- See page 378 in teacher text. *Materials:*	**6**	**MST: 3**	**1, 2, 3, 4, 5**
f. Journal Activity- See page 379 in teacher text. *Materials:*	**7**	**MST: 3**	**1, 2**

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-7**	**MST: 3**	**1, 2, 3, 4**
b. Jigsaw Puzzle Project- Students create puzzles using various geometric shapes. *Materials: Teacher created packet*	**3, 4, 5, 7**	**MST: 3**	**1, 2, 3, 4, 5**
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. Small group library activity- See page 378 in teacher text. *Materials:*	**6**	**MST: 3**	**1, 2, 3, 4, 5**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Acute angle
Angle
Congruent
Decagon
Degree
Equilateral triangle
Hexagon
Line
Line of symmetry
Line segment
Obtuse angle
Octagon
Parallel
Parallelogram
Pentagon
Perpendicular
Point
Polygon
Protractor
Quadrilateral
Ray
Rectangle
Regular polygon
Right angle
Similar
Square
Straightedge
Triangle
Vertex

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Nine

Geometry (Area and Volume)

A. Unit Benchmarks

Students will be able to:

1. Find the area of triangles.

2. Find the area of squares and rectangles. (See Unit 4)

3. Identify three-dimensional figures. (sphere, cube, rectangular prism, square pyramid)

4. Find the volume of rectangular prisms.

B. Unit Assessment

Quizzes
Mid- chapter self-check
Unit Test
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Graph Paper- Use to show the area of squares, rectangles, and triangles. *Materials: graph paper*	**1, 2**	**MST: 3**	**1, 2**
b. Jewelry box Activity- Find volume using cm cubes. *Materials: boxes, cm cubes, rulers*	**4**	**MST: 3**	**1, 2**
c. Geometry BINGO- Students identify 2 and 3 dimensional shapes. *Materials: BINGO cards, BINGO chips, examples of geometry shapes.*	**3**	**MST: 3**	**1, 2**
d. *Materials*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 394-431 can be used in class and for homework *Materials:*	**1-4**	**MST: 3**	**1, 2, 3, 4, 5**
b. Writing Activity- See page 414 in teacher text. *Materials: library resources*	**3**	**MST: 3**	**1, 2, 3, 4, 5**
c. Mini-lab Activity- See page 418 in text. *Materials: cm cubes*	**4**	**MST: 3**	**1, 2**
d. *Materials*			
e. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials :*	**1-4**	**MST: 3**	**1, 2, 3, 4**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. Writing Activity- See page 414 in teacher text. *Materials: library resources*	**3**	**MST: 3**	**1, 2, 3, 4, 5**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Base
Center
Cube
Edge
Face
Height
Prism
Rectangular prism
Sphere
Square pyramid
Three-dimensional figure
Vertex
Volume

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Ten

Equations

A. Unit Benchmarks

Students will be able to:

1. Solve addition equations by using models.
2. Solve subtraction equations by using models.
3. Solve multiplication and division equations by using models.
4. Solve one-step equations using models.
5. Solve problems by using equations.
6. Determine the rules and complete function tables.

B. Unit Assessment

Quizzes
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.
Unit Test

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Balance scale- use to solve whole number equations. *Materials: balance scale, weights, transparencies*	**1, 2, 3, 4**	**MST: 3**	**1, 2, 3, 4, 5**
b. QUIZMO (change game to solve whole number equations) *Materials: QUIZMO, chips*	**1, 2, 3, 4**	**MST: 3**	**1, 2**
c. *Materials:*			
d. *Materials*			
e. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 474-509 can be used in class and for homework. Adapt using only whole numbers. *Materials:*	**1-6**	**MST: 3**	**1, 2, 3, 4, 5**
b. Function Machine- See pages 494-495 in text. Adapt using only whole numbers. *Materials: scissors, index cards, pocket chart(optional)*	**6**	**MST: 3**	**1, 2**
c. *Materials:*			
d. *Materials:*			
e. *Materials:*			
f. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials:*	**1-6**	**MST: 3**	**1, 2, 3, 4**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Equation
Function
Function machine
Function table
Input
Output

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

Unit Eleven

Probability

A. Unit Benchmarks

Students will be able to:

1. Explore fair and unfair games.

2. Find and interpret the theoretical probability of an event.

3. Predict the actions of a larger group using a sample.

4. Find outcomes using lists, tree diagrams, and combinations.

B. Unit Assessment

Quizzes
Extended Response Questions
Observation/ Dialogue
Informal checks for understanding through use of oral and written questions.
Mid-chapter self check
Unit Test

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. Dice experiment- Students work in cooperative groups to find probabilities and make predictions. *Materials: worksheet (frequency table), number cubes*	**1, 2, 3**	**MST: 3**	**1, 2, 3, 4, 5**
b. *Materials:*			
c. *Materials:*			
d. *Materials*			
e. *Materials :*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

2. Textbook with Teaching Strategies

Activity	Benchmark	Standard	Application Level
a. Textbook pages 512-545 can be used in class and for homework *Materials:*	**1-4**	**MST: 3**	**1, 2, 3, 4, 5**
b. Fair and Unfair Games- See page 515 in text. *Materials: number cubes, charts*	**1**	**MST: 3**	**1, 2**
c. Journal Activity- See page 522 in teacher text. *Materials:*	**3**	**MST: 3**	**1, 2, 3, 4, 5**
d. Mini-lab—See page 523 in text. **Materials:**	**3**	**MST: 3**	**1, 2, 3, 4, 5**
e. Writing Activity- See page 531 in teacher text. **Materials:**	**4**	**MST: 3**	**1, 2, 3, 4, 5**
f. **Materials:**			
g. **Materials:**			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. Test and review software available in teacher set. *Materials:*	**1-4**	**MST: 3**	**1, 2, 3, 4**
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

5. Miscellaneous

Activity	Benchmark	Standard	Application Level
a. *Materials:*			
b. *Materials:*			
c. *Materials:*			
d. *Materials:*			

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
5: Apply to Real World Unpredictable Situations

E. Vocabulary

Certainty
Combinations
Events
Experimental probability
Fair
Impossibility
Independent event
Outcome
Population
Random
Sample
Sample space
Theoretical probability
Tree diagram
Unfair

F. References and Resources

Glencoe Mathematics Applications and Connections, Course 1
Glencoe Teacher Classroom Resources, Course 1

X. Course Assessment

XI. Curriculum Review Process