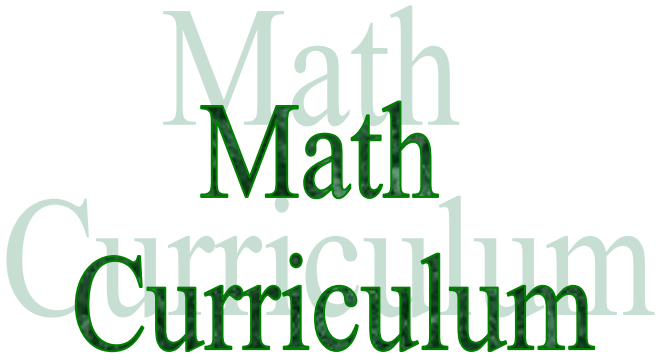
Wayne Central School District
Ontario Center, NY 14519



FIFTH GRADE
Draft

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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

Strand	**Standard**	**PK**	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Numbers and Numeration **Conservation of Numbers**											
N1 One to one correspondence	**2A**	**T**	**M**	**R**							
N2 Counting cardinal numbers up to 100 by ones and tens	**2A, 2D**	**I**	**T**	**M**	**R**	**R**					
N3 Counting to 100, forward and backward by ones and twos, on a *number line* matching of words and symbols 0-15	**2A**			**M**	**R**	**R**	**R**				
N4 *Place value* to 100	**2C**		**T**	**M**	**R**	**R**					
N5 *Estimate* quantity and grouping by using manipulatives, *expanded notation* 17=10+7	**6A**		**T**	**M**	**R**	**R**					
N6 Introduce concept of *odd and even*	**2B**		**I**	**T**	**M**	**R**					
N7 Introduce symbols =,<,>	**7B**		**I**	**I**	**T**	**M**	**R**	**R**			
N8 Counting ordinal numbers 1-5	**2A, 2D**	**I**	**T**	**M**	**R**						
N9 Counting ordinal numbers 6-10	**2A, 2D**		**I**	**M**	**R**						
N10 Develop concept of *first, middle, last*	**2A**	**I**	**M**	**R**							
N11 Investigate patterns for *sums and differences* using concrete models	**3A**		**I**	**M**	**R**	**R**					

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R Concept is reviewed or expanded

Strand	Standard	PK	K	1	2	3	4	5	6	7	8
N12 Counting orally ordinal numbers 1st to 31st and beyond	2A, 2B		I	T	M	R					
N13 Count to 1,000	2A, 2B			I	M	R					
N14 Count by 2's, 3's 4's 5's and 10's using a number line and *number charts*	2A, 2B		I	T	M	R					
N15 Write numbers 0-10	7B	I	T	M	R						
N16 Place value to 999, expanded notation 999=9 hundreds+9 tens + 9 ones: 900 + 90 + 9	2B				T	M	R				
N17 *Rounding* using a number line to 100	6A			I	T	M	R				
N18 Count cardinal numbers through 100,000	2A				I	T	M	R			
N19 Count ordinal numbers through 500	2A				I	T	M				
N20 Count to 100's by 2's, 3's, 4's, 5's and 10's	2B			I	T	M	R				
N21 Use place value in *decimals* and in reading numbers through 100,000 with money	2A				I	T	M	R			
N22 Round numbers to hundreds	6A				I	M	R				
N23 Round numbers to thousands	6A					T	M	R			
N24 Introduce concept of *positive and negative* integers (temperature)	2B			I	I	M	R	R			
N25 Predict odd or even numbers in addition and subtraction	2B, 7B				T	M	R				
N26 Read and write whole numbers to hundred millions	2A, 2C					I	M	R	R		
N27 Skip count to numbers greater than 100	2B			I	I	T	M	R	R		
N28 Extend place value to concepts to millions and hundredths	2C				I	T	M	R			
N29 Round numbers to nearest *whole number*	6D				I	T	M	R			
N30 *Predict* when *product* of two numbers will be odd or even	2B, 7B					T	M	R			

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N31 Continue discussion of positive and negative numbers, temperature	**2B**						**M**	**R**			
N32 Look for patterns in *sequences* of positive numbers	**1B**			**I**	**I**	**T**	**M**	**R**			
N33 Read and write numbers to one billion	**2A**						**T**	**M**	**R**		
N34 Investigate powers of 10 in place value (hundreds place is 10 *squared or* 10x10)	**2A**							**I**	**T**		
N35 Express numbers in expanded notation using powers of 10	**2A**						**I**	**M**	**R**		
N36 Round off numbers to nearest 10,000	**6A**						**I**	**M**	**R**		
N37 Use number line as aid in understanding negative concept	**2D**							**M**	**R**		

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Strand	**Standard**	**PK**	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Operations With Whole Numbers and Integers											
O1 *Addition* and *subtraction* of whole numbers: combine sets to produce new sets and explore the idea of one more	**3A**	**I**	**T**	**M**	**R**	**R**					
O2 Sharing of sets such as cookies or crayons as objects for *Multiplication and Division*	**3A**		**T**	**M**	**R**	**R**					
O3 Introduce role of zero in addition and subtraction	**3B, 3C**		**T**	**M**	**R**	**R**					
O4 Practice addition and subtraction of sums and differences through 10	**3A**	**I**	**T**	**M**	**R**	**R**					
O5 Add three numbers with sum being 10 or less	**3D**		**I**	**M**	**R**	**R**					
O6 Develop concept of *order*	**3C, 3D**		**I**	**M**	**R**	**R**					
O7 *Regrouping* of two *digit* numbers	**3A**				**T**	**M**					
O8 Explore *inequality* in number sentences 2<3	**7C**		**I**	**T**	**M**	**R**					
O9 Explore different groupings when adding three or more numbers *(associative property)* 2+(6+4) with or without manipulatives	**3D**		**I**	**T**	**M**	**R**					
O10 Show inverse operations (addition and subtraction)	**3A**			**I**	**M**	**R**					
O11 Explore multiplication and division through sharing sets or groups	**3B**			**I**	**T**	**M**					
O12 Show inverse operations of multiplication and division	**3B, 3C**				**T**	**M**	**R**				

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O13 Show that order of factors in multiplication problems does not change answer (cumulative property)	3B, 3C			T	M	R					
O14 Practice *estimation* with operations	6B				T	M	R				
O15 Addition and subtraction mastering sums and differences through 18	3A, 3C			T	M	R					
O16 Add and subtract three digit numbers with no regrouping	3A				T	M					
O17 Addition and subtraction up to two digit numbers requiring regrouping	3A				T	M					
O18 Add and subtract 2,3, and 4 digit numbers totaling 10,000 or less	3A					M	R				
O19 Explore role of 0 and 1 in multiplication (identify)	3C				I	T	M				
O20 Experiment with grouping (associative of multiplication)	3D					T	M				
O21 Work with multiplication and division products and quotients through 100	3C				I	T	M				
O22 Study of algorithms for division (one digit divisor)	3A					T	M				
O23 Study of commutative property by name (multiplication)	3B					T	M				
O24 Explore division in finding number of *equal* groups of items	1A			I	I	T	M	R			
O25 Emphasize multiplication and division being inverse operations	3B					T	M	R			
O26 Concepts of *equality* and inequality in all four operations	7B, 7C					M	R	R			
O27 Add and subtract whole numbers with sums less than one million	3A					T	M	R			

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O28 Subtract whole numbers when zero is in the *minuend* with regrouping	3A				T	M	R				
O29 Estimation of sums and differences prior to computation	1D, 6E				I	T	M	R	R		
O30 Find missing addends in an addition sentence	1D			I	T	T	M	R			
O31 Introduce concept of a *prime factor*	2B						M	R			
O32 Multiplication of three digit numbers by two digits	3A					I	M	R			
O33 Multiplication by *multiples* of 10	3A					T	M	R			
O34 Find *common factors* of groups of numbers less than 100	2B, 2D					T	M	R			
O35 Begin concept of *least common factor* and *greatest common multiple*	2B, 2D						T	M	R		
O36 Find *quotient* and *remainder* when three digit number is divided by one digit number	3A					T	M	R			
O37 Find *quotient* and *remainder* when three digit number is divided by a two digit number	3B						T	M			
O38 Use inverse operations to check division by multiplication	3B					T	M	R			
O39 Investigate *distributive* property 326X4= (300X4) + (20X4) +6X4))	3B					T	M	R			
O40 Quick review of operations	3A							M			
O41 Literal problems using single operations across curriculum	3A					T	T	M	R		
O42 Develop concept of *order of operation* (addition, subtraction, multiplication, and division)	3B							I	T	M	
O43 Continue to find greatest common factor and least common multiple	2C							T	M	R	

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Strand	**Standard**	**PK**	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Fractions and Decimals											
F1 Awareness in daily life (money)	**5B**		**M**								
F2 Concept of *half*	**2B**		**M**								
F3 Develop concept of unit *fractions*	**2B**			**M**	**R**	**R**					
F4 Develop concept of oneness	**2B**			**M**	**R**	**R**					
F5 Explore many to one (five fingers to one hand)	**2E**			**M**							
F6 Use money to develop concept of *decimals*	**2C**			**T**	**M**						
F7 Relate units to whole	**2D**				**T**	**M**	**R**				
F8 Unit fractions to 1/8, 1/10	**2D**				**T**	**M**	**R**				
F9 Location of halves on number line and ruler	**2D**				**T**	**M**	**R**				
F10 Find 1/2, 1/3, 1/4 of a collection	**2D**				**T**	**M**	**R**				
F11 Relate many to one in preparation for the concept of *ratio* (5 fingers to 1 hand)	**2E**			**I**	**T**						
F12 Concept of *ratio*	**2E**				**T**	**M**	**R**				
F13 Explore money notation using two place decimals	**2C**			**I**	**M**	**R**					
F14 Order unit fractions using < and > symbols with denominators 2,3,4,5,6,8,10,12	**2B, 2D**					**T**	**M**	**R**			
F15 Review concept of 1=2/2 etc.	**2B**					**M**					

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Strand	Standard	PK	K	1	2	3	4	5	6	7	8
F16 Use terms *numerator* and *denominator*	2B			I	I	M	R				
F17 Find *equivalent* fractions	2B					T	M	R			
F18 Relate fractions and decimals to money and *metric* system	2A					T	M	R			
F19 Add and subtract like denominators	2B					I	T	M			
F20 Add and subtract decimals with one tenth	2B					M	R				
F21 Compare fractions on a number line and decimals to tenths	2B					T	M	R			
F22 Study order of unit fractions	2B					T	M	R			
F23 Correlate the common fraction notation for decimals to the tenths place (1/10 =0.1, .1, etc.)	2B						M	R			
F24 Add and subtract fractions with unlike denominators	2B						I	T	M	R	
F25 Add and subtract decimals to the hundredths place	2D					T	M	R	R		
F26 Multiply decimal to tenths	3A						T	M	R		
F27 Practice locating decimal points in products	2D						T	M	R		
F28 Develop concept of *proper* and *improper* fractions	2A						T	M	R		
F29 Develop concept of *percent* in multiples of five	2E						T	M	R		
F30 Continue addition and subtraction of fractions with like and unlike denominators	3A						T	M	R		
F31 Change improper fractions to *mixed number*	2A							T	M	R	
F32 Compare fractions to fractions and decimals to decimals	2D							T	M	R	
F33 Addition and subtraction of decimals with hundredths and thousandths	3A						T	M	R		

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F34 Multiply and divide decimals to hundredths	3A						T	M	R		
F35 Multiply and divide decimals by powers of 10	3A							I	T	M	
F36 Round off decimals to thousandths	6A							T	M	R	
F37 Use pictures and or graphic illustrations to demonstrate multiplication and division of fractions	1A, 3D							M	R		
F38 Practice writing equivalent forms of common fractions and decimals 1/2 = .5	2A, 2B							T	M	R	
F39 Multiplication of fractions	2A, 2B							T	M		
F40 Multiplication and mixed numbers and division of fractions	2A, 2B							I	M		

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Probability and Statistics											
P1 Organize and *classify data* (e.g. color, size, and shape)	**4B, 5D**	**I**	**M**								
P2 *Likeness* and *difference* concept of more, less and same	**4B**		**T**	**M**	**R**						
P3 *Certainty* and *uncertainty*/ guessing and estimation	**6A, 6B**		**T**	**M**	**R**						
P4 Collect data and record *results*	**4B**		**I**	**T**	**M**	**R**					
P5 Practice prediction	**6C**		**I**	**T**	**M**	**R**					
P6 Collect and tabulate data	**4B, 4C**		**I**	**T**	**M**	**R**					
P7 Arrange data using *tables* and *graphs*	**4B, 4C**		**I**	**T**	**M**	**R**					
P8 Compare data	**4B, 5E, 7D**		**I**	**T**	**M**	**R**					
P9 Investigate beginning *logic*	**1D**		**I**	**T**	**M**	**R**					
P10 Collect *statistical data* from newspapers, magazines, polls, and activities in other content areas	**6G**				**I**	**T**	**M**	**R**			
P11 Organize data using tables and bar graphs	**4B, 7F**		**I**	**I**	**I**	**T**	**M**	**R**			
P12 Discuss graphs used in everyday publications	**4B, 7F**				**I**	**T**	**M**	**R**			
P13 Conduct experiments and predict outcomes	**6F**				**T**	**M**	**R**	**R**			

Key:

I Skill is introduced but not benchmarked
T Skill receives considerable instruction (taught but not benchmarked)
M Concept is mastered and benchmarked. Note that a skill may be introduced and benchmarked in one year. In those cases, only an M appears
R Concept is reviewed or expanded

Strand	**Standard**	**PK**	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
P14 Use fractional notation to express probability of outcomes	**6H**				**I**	**T**	**M**	**R**			
P15 Use orderly methods to count number of *outcomes* in an experiment (pictures, models, tree diagrams)	**6H**				**I**	**T**	**M**	**R**			
P16 Introduce logic concepts	**1D**			**I**	**T**	**M**	**R**	**R**			
P17 Make *frequency* tables from *tallied* data	**5E, 6G**			**I**	**I**	**T**	**M**	**R**			
P18 Use models, pictures and tree diagrams	**6E**					**T**	**M**	**R**			
P19 Examine *range* and differences between smallest and largest	**7F**				**I**	**T**	**M**	**R**			
P20 Develop concept of *average (arithmetic mean)*	**7F**						**T**	**M**			
P21 Continue to explore methods of collecting and analyzing data	**5D**					**I**	**T**	**M**	**R**		
P22 Use tables, graphs and *diagrams* to represent collected data	**5E**					**I**	**T**	**M**	**R**		
P23 Use *compass* and *protractors* to construct circle graphs	**4I**							**I**	**I**	**T**	**M**
P24 Continue to investigate logic concepts	**1D**					**T**	**M**	**R**	**R**		
P25 Compare bar, line and circle graphs which represent same information	**5E**							**T**	**M**	**R**	
P26 Determine *probabilities* of *independent* events	**6E**					**I**	**T**	**T**	**M**	**R**	
P27 Make *arrangements* and *combinations*	**6C**						**T**	**T**	**M**	**R**	

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Strand	**Standard**	**PK**	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Geometry and Measurement											
G1 Compare *dimensions* of various objects using terms like larger than, taller than, smaller than, shorter than, as long as, farther, or nearer; measure objects using non-standard units	**5A, 5C**	**I**	**M**	**R**							
G2 Compare *capacity* of containers using sand and water	**5B**	**I**	**T**	**M**	**R**						
G3 Compare temperatures/duration of time	**5A, 5B**	**I**	**M**	**R**							
G4 Weighing experiences using terms heavier than and lighter than	**5A**		**T**	**M**	**R**						
G5 Observe objects in the environment that have geometric shapes; make geometric pictures, patterns, and designs using geometric shapes.	**4D, 7A, 7E**	**I**	**M**	**R**							
G6 Study time to the hour, day, month, and year using clocks and calendars	**5A, 5B**	**I**	**T**	**M**	**R**						
G7 Investigate how to make change for amounts of money	**5B**		**I**	**T**	**M**	**R**					
G8 Use meter, centimeter, and *decimeter* for measuring length	**5A, 5C**			**T**	**M**	**R**	**R**				
G9 Introduce kilogram, liter, and Celsius thermometer	**5C**			**T**	**M**	**R**					
G10 Identify shapes in everyday life	**4E**	**I**	**T**	**M**	**R**						
G11 *Measure* objects using non-standard units	**5A, 5B**		**I**	**M**	**R**						

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R Concept is reviewed or expanded

Strand	Standard	PK	K	1	2	3	4	5	6	7	8
G12 *Weigh* objects using grams, kilograms	5B, 5C				M	R					
G13 Measure time in half hours, quarter hours, and 5 minutes intervals	5A, 5B			I	T	M					
G14 Make change up to $1.00	5C				T	M	R				
G15 Measure liquids in liters, milliliters	5C				M	R					
G16 Practice addition of measures	3A				M	R					
G17 Use shapes to create designs	4A		I	T	M	R					
G18 Observe two and three dimensional objects	7G			I	M	R					
G19 Introduce English units of measure	5D		I	T	M	R					
G20 Select and use appropriate measurement tools	5D			I	T	M	R				
G21 Estimate using actual units of measure	6B			T	M	R					
G22 Identify equivalent measures within a measuring system	5B				T	M	R				
G23 Introduce *coordinate geometry* (positive)	4B					M					
G24 Relate the clock to fractions as well as circle construction	5B			I	T	M	R				
G25 Find the *perimeter* of *polygons*	5D				T	M	R				
G26 Investigate properties of plane figures (number of sides, number of angles)	4A					T	M	R			
G27 *Plane figures* (polygons and circles)	4E		I	T	T	M	R				
G28 Explore three dimensional figures to understand *volume* (taking up space)	4C					T	M	R	M		
G29 Learn how to use a compass and protractor	4E						I	T	M		

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Strand	Standard	PK	K	1	2	3	4	5	6	7	8
G30 Continue to investigate *symmetry*	4E			I	T	M					
G31 Find perimeter, area and volume of specific figures by counting units	4C					T	M	R			
G32 Use rulers, protractors and compasses to construct plane geometric figures (circles and squares, etc.)	4E					I	T	T			
G33 Use terms such as polygon, circle, chord, radius, angle, diameter, face edge, vertex, line segment, point parallel and perpendicular and intersecting	4E					I	T	T			
G34 Extend work in coordinate geometry to both positive and negative coordinates	2B					I	T	M			
G35 Be familiar with common metric units used in everyday life	5A					I	T	M			
G36 Continue to study perimeter and area using graph paper and manipulative	5B					I	T	M	R		
G37 Develop formulas for the area and perimeter of squares and rectangles	5C					I	T	M	R		
G38 Measure area and perimeter of rectangles, triangles and irregular polygons using blocks, geoboards, graph paper etc.	5C							T	M		
G39 Continue to measure volume (prisms) with manipulatives	5B, 5C							T	M		
G40 Continue to measure temperature using *Celsius* and *Fahrenheit* thermometers	5A							T	M		
G41 Continue to draw and measure plane figures using rulers, protractors, and compasses	4I					I	T	M	R		
G42 Use pictures to explore *similar* and *congruent* figures; symmetry	4H					I	T	M	R		

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Strand	**Standard**	**PK**	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Problem Solving **Mathematical Reasoning**											
P1 Develop number concepts through sorting and classifying	**1A**	**I**	**M**	**R**							
P2 Integrate comparison of sets and counting with other activities (real life situations)	**1A**	**I**	**M**	**R**							
P3 Participate in sorting and classifying	**1A**	**I**	**M**	**R**							
P4 Explore likeness and differences	**1A**	**I**	**M**	**R**							
P5 Begin to recognize number sequence	**1B**	**I**	**M**	**R**							
P6 Relate counting to repeated patterns	**1B**	**I**	**M**	**R**							
P7 Describe rationale for grouping or sequencing	**1C**	**I**	**M**	**R**							
P8 Categorize objects by attributes	**1A**		**T**	**M**	**R**						
P9 Observe likenesses and differences using at least two categories at a time	**1A**		**I**	**T**	**M**	**R**					
P10 Draw pictures and use manipulatives to represent problems	**1A**		**I**	**T**	**M**	**R**					
P11 Use models, facts and relationships to draw conclusions	**1A**						**T**	**M**	**R**		
P12 Use statements "and" or "not"	**1A**							**I**	**T**		
P13 Use patterns and relationships to analyze math situations	**1B**						**T**	**M**	**R**		
P14 Be able to justify answers, math checks	**1C**					**I**	**T**	**M**	**R**		
P15 Use logical reasoning to reach simple conclusions	**1D**					**I**	**T**	**M**	**R**		
P16 Apply a variety of reasoning strategies	**1A**						**I**	**T**	**M**		
P17 Make conclusions based on inductive reasoning	**1C**							**I**	**T**		
P18 Justify conclusions involving simple and compound	**1D**							**I**	**T**		

Key:

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VI. Course Overview

A major goal of the Mathematics program at the 5th grade level is the development of problem solving skills. Students are engaged in many problem-solving situations and have the opportunity to reflect upon their solutions. They are actively involved individually and in groups in exploring, conjecturing, analyzing and applying Mathematics in both mathematical and real-world context. Students are engaged in hands-on conceptual learning and have opportunities to express their understanding in a variety of modes (diagrams, graphs, words, symbols, numbers and manipulatives). Technology assists the students in exploration activities and is used as a problem-solving device. Specific units include;

1. numbers and numeration
2. operations with whole numbers and integers
3. fractions and decimals
4. probability and statistics
5. geometry and measurement
6. problem solving

VII. Instructional Outline

1. NUMBERS AND NUMERATION

a) Read and write numbers to one billion
b) Investigate powers of 10 in place value (hundreds place is 10 squared or 10 x 10)
c) Express numbers in expanded notation using powers of 10
d) Round off numbers to nearest 10,000
e) Use number line as aid in understanding negative concept

2. OPERATIONS WITH WHOLE NUMBERS AND INTEGERS

a) Concept of least common multiple and greatest common factor
b) Find quotient and remainder when a three-digit is divided by a two-digit number
c) Quick review of operations (+, −, x, ÷)
d) Literal problems using single operations across curriculum
e) Develop concept of order of operation (addition, subtraction, multiplication, division)

3. FRACTIONS AND DECIMALS

a) Add and subtract like denominators
b) Add and subtract with unlike denominators
c) Multiply decimals to tenths
d) Practice locating decimal points in products
e) Develop concept of proper and improper fractions
f) Develop concept of percent in multiple of five
g) Continue addition and subtraction of fractions with like and unlike denominators
h) Change improper fractions to mixed number
i) Compare fractions to fractions and decimals to decimals
j) Addition and subtraction of decimals with hundredths and thousandths
k) Multiply and divide decimals to hundredths
l) Multiply and divide decimals by powers of 10
m) Round off decimals to thousandths
n) Use pictures and/or graphic illustrations to demonstrate multiplication and division of fractions
o) Practice writing equivalent forms of common fractions and decimals ($^1/_2$ = .5)
p) Multiplication of fractions
q) Multiplication and mixed numbers and division of fractions

4. PROBABILITY AND STATISTICS

a) Use compass and protractors to construct circle graphs
b) Develop concept of average (arithmetic mean)
c) Continue to explore methods of collecting and analyzing data
d) Use tables, graphs, and diagrams to represent collected data
e) Compare bar, line, and circle graphs which represent same information
f) Determine probabilities of independent events
g) Make arrangements and combinations

5. GEOMETRY AND MEASUREMENT

a) Learn how to use a compass and protractor
b) Use rulers, protractors and compasses to construct plane geometric figures (circles, squares, etc.)
c) Use terms such as polygon, circle, chord, radius, angle, diameter, face edge, vertex, line segment, point, parallel and perpendicular and intersecting
d) Extend work in coordinate geometry to both positive and negative coordinates
e) Be familiar with common metric units used in everyday life
f) Continue to study perimeter and area using paper and manipulatives
g) Develop formulas for the area and perimeter of squares and rectangles
h) Measure area and perimeter of rectangles, triangles, and irregular polygons using blocks, geoboards, graph paper, etc.
i) Continue to measure volume (prisms with manipulatives)
j) Continue to measure temperature using Celsius and Fahrenheit thermometers
k) Continue to draw and measure plane figures using rulers, protractors, and compasses
l) Use pictures to explore similar and congruent figures; symmetry

6. PROBLEM SOLVING (ONGOING)

a) Use models, facts and relationships to draw conclusions
b) Use statements “and” or “not”
c) Use patterns and relationships to analyze math situations
d) Be able to justify answers, math checks
e) Use logical reasoning to reach simple conclusions
f) Apply a variety of reasoning strategies
g) Make conclusions based on inductive reasoning
h) Justify conclusions involving simple and compound

VIII. Course Benchmarks

IX. Units of Study

Unit One

Numbers and Numeration

A. Unit Benchmarks

Students will be able to;

1. read and write numbers to one billion
2. investigate powers of 10 in place value (hundreds place is 10 squared or 10 x 10)
3. express numbers in expanded notation using powers of 10
4. round off numbers to nearest 10,000
5. use number line as aid in understanding negative concept

B. Unit Assessment

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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

F. References and Resources

Unit Two

Operations with Whole Numbers and Integers

A. Unit Benchmarks

Students will be able to;

1. Use concept of least common multiple and greatest common factor
2. find quotient and remainder when a three-digit is divided by a two-digit number
3. use operations (+, −, x, ÷)
4. complete literal problems using single operations across curriculum
5. develop concept of order of operation (addition, subtraction, multiplication, division)

B. Unit Assessment

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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

F. References and Resources

Unit Three

Fractions and Decimals

A. Unit Benchmarks

Students will be able to;

1. add and subtract like denominators
2. add and subtract with unlike denominators
3. multiply decimals to tenths
4. practice locating decimal points in products
5. develop concept of proper and improper fractions
6. develop concept of percent in multiple of five
7. continue addition and subtraction of fractions with like and unlike denominators
8. change improper fractions to mixed number
9. compare fractions to fractions and decimals to decimals
10. add and subtract decimals with hundredths and thousandths
11. multiply and divide decimals to hundredths
12. multiply and divide decimals by powers of 10
13. round off decimals to thousandths
14. use pictures and/or graphic illustrations to demonstrate multiplication and division of fractions
15. practice writing equivalent forms of common fractions and decimals ($^1/_2$ = .5)
16. multiply fractions
17. multiply mixed numbers and divide of fractions

B. Unit Assessment

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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

F. References and Resources

Unit Four

Probability and Statistics

A. Unit Benchmarks

Students will be able to;

1. use compass and protractors to construct circle graphs
2. develop concept of average (arithmetic mean)
3. continue to explore methods of collecting and analyzing data
4. use tables, graphs, and diagrams to represent collected data
5. compare bar, line, and circle graphs which represent same information
6. determine probabilities of independent events
7. make arrangements and combinations

B. Unit Assessment

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

Application Level:

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E. Vocabulary

F. References and Resources

Unit Five

Geometry and Measurement

A. Unit Benchmarks

Students will be able to;

1. learn how to use a compass and protractor
2. use rulers, protractors and compasses to construct plane geometric figures (circles, squares, etc.)
3. use terms such as polygon, circle, chord, radius, angle, diameter, face edge, vertex, line segment, point, parallel and perpendicular and intersecting
4. extend work in coordinate geometry to both positive and negative coordinates
5. be familiar with common metric units used in everyday life
6. continue to study perimeter and area using paper and manipulatives
7. develop formulas for the area and perimeter of squares and rectangles
8. measure area and perimeter of rectangles, triangles, and irregular polygons using blocks, geoboards, graph paper, etc.
9. continue to measure volume (prisms with manipulatives)
10. continue to measure temperature using Celsius and Fahrenheit thermometers
11. continue to draw and measure plane figures using rulers, protractors, and compasses
12. use pictures to explore similar and congruent figures; symmetry

B. Unit Assessment

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
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3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

Application Level:

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3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
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E. Vocabulary

F. References and Resources

Unit Six

Problem Solving

A. Unit Benchmarks

Students will be able to;

1. use models, facts and relationships to draw conclusions
2. use statements “and” or “not”
3. use patterns and relationships to analyze math situations
4. justify answers with math checks
5. use logical reasoning to reach simple conclusions
6. apply a variety of reasoning strategies
7. make conclusions based on inductive reasoning
8. justify conclusions involving simple and compound problem solving

B. Unit Assessment

C. Rubric

D. Activities

1. Teacher Constructed Activities:

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

Application Level:

1: Knowledge
2: Apply in Discipline
3: Apply Across Disciplines
4: Apply to Real World Predictable Situations
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3. Computer Assisted Instruction

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

Application Level:

1: Knowledge
2: Apply in Discipline
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5: Apply to Real World Unpredictable Situations

4. Cross Disciplinary

Activity	Benchmark	Standard	Application Level
a. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

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:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
b. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
c. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	
d. *Materials:*		HPEHE: MST: ELA: Arts: LOTE: CDOS: SS:	

Application Level:

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E. Vocabulary

F. References and Resources

X. Course Assessment

XI. Curriculum Review Process