Implementation and Resource Guide

Mathematics, Science, and Technology Education Partnership

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Mathematics, Science, and Technology Education Partnership

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Mathematics, Science, and Technology Education Partnership

Preface

"Our mission is to change how instruction becomes more learner-centered and to foster context-based learning and quantitative thinking. Our approach is to develop mathematical literacy among middle school students in the context of their science and technology studies."

The above MSTP [Mathematics, Science and Technology Education Partnership] mission statement for enriching middle school students' study of mathematical concepts and their applications is implemented via a number of intervention strategies. This Implementation and Resource Guide [IRG] provides a set of "best practices" ideas and programs for achieving the following project goals:

- Improvement of teaching and learning in middle-level mathematics in New York State
- Improvement of curriculum alignment among the MST disciplines
- Enhancement of middle school mathematics, science, and technology teachers' understanding of mathematics content and pedagogy
- Development of a program model that increases the diversity of New York State's teaching workforce
- Development of a program model that increases parent involvement in the schools
- Enhancement of university faculty's understanding of middle school reform, learning standards, and assessments

The first sections of the IRG provide curriculum and instructional resources that are designed in order to engage students in integrated and context-based learning. We start with examples of the scope and sequence of mathematics and science curriculum from participating school districts. We also provide an example off how one of the selected National Science Foundation-sponsored curriculum projects entitled "Connected Math" is aligned with the New York State Learning Standards.

In Section II, we describe a unique professional development program for assisting MST teachers to develop and test new curriculum materials designed to address the new Mathematics Learning Standards. The A/B workshop model integrates an action research component for assessing student learning via analysis of student work. In Section IV, we feature sample curriculum units that were developed using the project designed curriculum development templates.

Sections V-VIII provide descriptions of how additional human and community resources were used to achieve some of the above project objectives. The Parent Leadership Institute focused on strategies for involving parents who in the past have not participated in school programs. The CSTEP Internship Program provided an opportunity for MST college students to serve as interns in participating middle schools. These interns were excellent role models and were able to explore teaching as a career option. Teachers and students were able to experience "Big Science" at the Brookhaven National Laboratory [BNL] and learned how the scientists applied MST concepts. Finally, the IRG provides examples of how university STEM faculty can play a significant role in pre-college programs.

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Implementation and Resource Guide

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Mathematics, Science, and Technology Education Partnership

IRG Section I

Curriculum Alignment : Scope and Sequence

Table of Contents

Overview

6th Grade Mathematics Scope and Sequence, 2007-2008, at Edmund W. Miles Middle School (Amityville) using Glencoe Materials

7th Grade Mathematics Scope and Sequence, 2007-2008, at Edmund W. Miles Middle School (Amityville) using Glencoe Materials

8th Grade Mathematics Scope and Sequence, 2007-2008, at Edmund W. Miles Middle School (Amityville) using Glencoe Materials

8th Grade Science Scope and Sequence, 2005-2006, at Edmund W. Miles Middle School (Amityville) using Math in Context Materials

Overview of Curriculum Alignment : Scope and Sequence

One of the goals of the MSTP Project is to assist participating school districts in two types of "curriculum alignment." First, the mathematics curriculum in grades 5-8 needed to be aligned to New York State's new learning standards and suggested content for mathematics instruction. Second, the school districts needed to align the mathematics curriculum with the science and technology curricula. With well designed curriculum materials that aligned with each other, mathematics teachers are better able to collaborate with science and technology teachers to enhance the learning of mathematics in the context of real world situations and problems.

A "scope and sequence" is a plan for instruction that broadly describes the curriculum at various grade levels with a focus on identification of unifying concepts. What distinguishes a scope and sequence from a topical outline is that the scope and sequence is a tool that focuses on **curriculum articulation**. It can indicate how a particular curriculum articulates with same-discipline curriculum at earlier or later grade levels (vertical articulation); and can also illustrate how a curriculum articulates with curricula of other disciplines at the same grade level (horizontal articulation). Often a scope and sequence depicts curriculum units, lengths of time, and suggested activities.

As an example, the Amityville school district's scope and sequence for mathematics and how it articulates with the New York State Learning Standards is included in this section. Specifically, the mathematics learning outcomes are outlined for grades 6 – 8. At the end of this section, the 8th grade science scope and sequence is provided to demonstrate how the science curriculum can be linked to "Math in Context" (MIC) curriculum materials. MSTP schools developed grade-by-grade scope and sequence charts aligned to the new New York State standards.

6th grade

Scope and Sequence

Glencoe

Level 2

2007-2008

PRE-MARCH

Decimal Patterns and Algebra (Chapter 1)

Dates	# of Days	Lessons	Standards
9/5,6,7	3	Review place value(rounding and estimating)	6N1
	Lab	Problem Solving (1-1)	6N2,3
9/10	1	Exponents (1-2)	6N2,4
9/11	1	Order of Operations(1-3)	6N2,5
9/12	1	Assessments	
9/17,18	2	Variables and Expressions (1-4)	6A2, 5A3
	Lab	Problem Solving "Guess and Check" (1-5a)	6PS1,2
9/19,20	2	Equations (1-5)	5A4
9/21	1	Writing Expressions and Equations (4-1)	6A1,3 5A4
9/24	1	Assessments	
9/25	1	Properties (1-6)	6N2, 3,4,5
9/26	1	Sequencing (1-7)	6PS14
9/27	1	Assessment	

Statistics/Analyzing Data (Chapter 2)

Dates	# of Days	Lessons	Standards
9/28	1	Frequency Tables (2-1)	6S2
	Lab	Problem Solving –using a graph	6S7
10/1	1	Making Predictions (2-2)	6S8
10/2	1	Line Plots (2-3)	6S7
10/3	1	Assessments	
10/4,5	2	Mean, Median, Mode and Range (2-4)	6S5
	Lab	Hands-on Lab (2-4b)	6S5
10/9	1	Stem and Leaf Plot (2-5)	6S7
10/10	1	Assessment	
10/11	1 (plus a lab)	Bar graphs and Histograms (2-7)	6S4
10/12	1	Circle graphs (not from text)	6CN4, CR1

Integers (Chapter 4)

Dates	# of Days	Lessons	Standards
10/15	1	Integers and Absolute Value (3-1)	6N13
10/16	1	Comparing and Ordering Integers (3-2)	6N14,15
10/17,18	2	Coordinate Plane (3-3)	6G10
10/19	1	Assessment	

Linear Equations and Functions (Chapter 4)

Dates	# of Days	Lessons	Standards
10/22, 23	2	Addition and Subtraction of Equations (4-2)	5A5
10/24	1	Multiplication and Division of Equations (4-3)	5A5
10/25	1	Assessment	
Lab	1	problem solving-working backwards (4-4a)	6PS21
10/26,29	2	Solving 2 step equations (4-4)	6A4
10/30	1	Assessment	

Fractions, Decimals, Percents (Chapter 5)

Dates	# of Days	Lessons	Standards
10/31	2	Prime Factorization (5-1)	6PS15, 7N10
Lab	1	Problem Solving Strategies (5-2a)	6PS15
11/2, 5	2	Greatest Common Factor (5-2)	6S3
11/7	1	Assessment	
11/8, 9	2	Ratio Table (Not in Text)	
End of Quarter			
11/14	1	Fractions and Decimals (5-4)	6N21
11/20	1	Assessment	

Thanksgiving Recess			
11/26, 27	2	Fractions and Percents (5-5)	6N21
11/28, 29	2	Percents and Decimals (5-6)	6N21
11/30	1	Assessment	
12/3,4	2	Least Common Multiple (5-7)	5N13
12/5, 6	2	Compare and Order Rational Numbers (5-8)	6N15
12/7	1	Assessment	

Applying Fractions (Chapter 6)

Dates	# of Days	Lessons	Standards
12/10, 11, 12, 13	4	Adding and Subtracting Fractions and Mixed Numbers (6-2,3)	6N16,18
12/14	1	Assessment	
Lab	1	Problem Solving (6-3b)	6PS22
12/17,18	2	Multiplying Fractions and Mixed Numbers (6-4)	6N17, 18
12/19	1	Solving Equations: Reciprocal (6-5)	6N19
12/20	1	Assessment	
12/21	1	Dividing Fractions and Mixed Numbers (6-6)	6N17, 18
Christmas Break			
1/2	1	Dividing Fractions and Mixed Numbers cont. (6-6)	6N17, 18
1/3	1	Assessment	
1/4, 7	2	Perimeter and Area (6-8)	6A6, 6G2
1/8	1 plus 1 lab	Areas of Triangles and Trapezoids (11-5)	6G2
1/9	1 plus 1 lab	Perimeter and Area of Irregular Polygons (11-7)	6G2
Lab	1	Assessment	
Lab	1	Hands on Lab (circumference) (6-9a)	6G9
1/10,11	2	Circles and Circumference (6-9)	6G5,6,7
1/14	1	Assessment	

Ratios and Proportions (Chapter 7)

Dates	# of Days	Lessons	Standards
(ELA Exam 1/15-17)			
1/18,22	2	Ratios (7-1)	6N7
1/23	1	Rates (7-2)	6N6, 8, 10
1/24	1	Assessment	
1/28,29	2	Solving Proportions (7-3)	6N9, 10, 6A5
Lab	1 plus 1 lab	Problem Solving: Ratios (7-4a)	6PS11
1/30	1	Scale Drawing (7-4)	6A5
1/31	1	Assessment	
2nd Quarter Ends			
2/1, 4	2	Fractions, Decimals and Percents (7-5)	6N21
2/5,6	2	Percent of a Number (7-7)	6N12
2/7	1	Review Circle Graphs (not from text)	6S7, 6R1
Lab	1 plus 1 lab		
2/8	1	Assessment	

Geometry (Chapter 10)

Dates	# of Days	Lessons	Standards
2/11	1	Angles (10-1)	5M8
Lab	1	Hands on Lab (10-1b) Measuring Angles	5M8, 6CN8
2/12	1	Angle Relationships (10-3)	8G1,2,3
2/13	1	Triangles (10-4)	5G6
2/14	1	Assessment	
2/15	1	Quadrilaterals (10-5)	5G4
WINTER RECESS			
2/25	1	Similar Figures (10-6)	5G4
2/26	1	Polygons (10-7)	6RP5
2/27	1	Assessment	

Probability (Chapter 9)

Dates	# of Days	Lessons	Standards
2/29	1	Simple Events (9-1)	5S7

3/3	1	Tree Diagrams (9-2)	6S9
3/4	1	Counting Principle (9-3)	6S11
3/5	1	Assessment	

Exam Review

Dates	# of Days	Lessons	Standards
3/6,7,10	3	Review for State Assessment	ALL
3/11,12,13	3	State Assessment Administered	
3/14	1	Review State Assessment	

Post March

Probability (Chapter 9 cont.)

Dates	# of Days	Lessons	Standards
3/17	1	Permutations (9-4)	6S11
3/18	1	Hands on Lab (9-5a)	6S11
3/19	1	Combinations (9-5)	6S9
Easter Break			
3/25	1	Problem Solving (Acting it Out) (9-6)	7S12
3/26	1	Assessment	
3/27	1	Theoretical and Experimental Probability (9-6)	7S12
3/28	1	Independent and Dependent Events (9-7)	6S10
3/31	1	Assessment	

Integers (Chapter 3)

Dates	# of Days	Lessons	Standards
4/1	1	Addition of Integers (3-4)	7N13, 6N14
4/2	1	Hands-on Lab (3-5a)	7N13, 6R1
4/3	1	Subtraction of Integers (3-5)	7N13, 6N14, 6R5
4/4	1	Assessment	
4/7	1	Problem Solving and	6PS14, 7N12

		Patterns (3-6a)	
4/8	1	Multiplication of Integers (3-6)	6A2,5, 7N12
4/9	1	Division of Integers (3-7)	7N12, 6A2,5
4/10	1	Assessment	

Geometry: Measuring Two-Dimensional Figures (Chapter 11)

Dates	# of Days	Lessons	Standards
4/11	1	Squares and Square Roots (11-1)	6N2,5, 7N15
4/14	1	Estimating Square Roots (11-2)	7N16, 7N18
4/15	1	Pythagorean Theorem (11-3)	7G8, 9
4/16	1	Area of Parallelogram (11-4)	6A6, 6G2
3rd Quarter Ends			
4/17	1	Assessment	
Passover Break			
4/22	Lab	Hands on Lab-Triangles and Trapezoids (11-5a)	6G2, 6A6, 6M7
4/23	1	Area of Triangles and Trapezoids (11-5)	6G2, 6A6, 6M7
4/24	1	Area of Circles (11-6)	6A6, 6G7
4/25	1	Assessment	
4/28	1	Area of Complex Figures (11-7)	6G3
4/29	1	Unit Assessment	

Linear Equations and Functions (Chapter 4)

Dates	# of Days	Lessons	Standards
4/30	1	Inequalities (4-5)	7A5
5/1	1	Functions and Linear Equations (4-6)	7A7
5/2	1	Lines and Slope (4-7)	8G13
5/5	1	Assessment	

Geometry- Measuring 3-Dimensional Figures (Chapter 12)

Dates	# of Days	Lessons	Standards
5/6	1	Drawing 3-Dimensional Figures (12-1)	7G3

5/7	1	Volume of Rectangular Prism (12-2)	6M1, 6G4
5/8	1	Volume of Cylinders (12-3)	6A6
5/9	1	Assessment	
5/12	1	Surface Area of Rectangular Prisms (12-4)	7G4
5/13,14	2	Surface Area of Cylinders (12-5)	7G4
5/15	1	Assessment	
5/16,19	2	Measurement Precision (12-6)	6M6
5/20	1	Changing Customary Units (6-7)	6M2, 6M3, 6M9
5/21	1	Changing Metric Units (1-8)	6M4, 6M5
5/22	1	Assessment	
Memorial Day Recess			
5/27-6/17	Final Exam Review		
6/18	Final Exams		
6/27	End of 4th Quarter		

7th grade

Scope and Sequence

2007-2008

Glencoe

Pre-March

Number Theory (9/10-10/12) 4 ½ weeks

Topics	*Chapters*	*Standards*
Place Value	Prerequisite	
Scientifics Notation	2.9	
Prime and Composite Numbers	Prerequisite	
Prime Factorization (Trees)	Prerequisite	
Greatest Common Factor	Prerequisite	
Least Common Multiple	Prerequisite	
Square Roots, Perfect Squares and non-perfect	3.1, 3.2	
Rational and Irrational Numbers	3.3	
Unit Exam 10/11 and 10/12		

Mathematical Properties and Integers (10/15-11/9) 4 weeks

Order of Operations	1.2	
Evaluate Algebraic Expressions	1.2	
Integers and Absolute Value	1.3	
Adding Integers	1.4	
Subtracting Integers	1.5	
Multiplying and Dividing Integers	1.6	
Unit Exam 11/8 and 11/9		
11/9 1st quarter ends		

Algebra (11/13-11/30) 2 ½ weeks

Writing Expressions and Equations	1.7	
Solving One Step equations using addition and subtraction	1.8	
Solving One Step equations using multiplication and division	1.9	
Solving Inequalities (one step and positive only)	10.6, 10.7	
Graphing Inequalities	10.5	
Unit Exam 11/29 and 11/30		

Measurement (12/3-12/20) 3 weeks

Identifying Customary and Metric Units (length, mass, capacity)	Prerequisite	
Determine the tool and technique to measure appropriate level of precision	Prerequisite	
Convert mass within a given system	Prerequisite	
Convert capacities and volume within a given system	Prerequisite	
Unit Exam 12/20		
12/24-1/1 Winter Break		

Geometry (1/2-1/18) 2 ½ weeks

Coordinate Plane	3.6	
Draw and Measure angles with a protractor	Page 615	
Find missing angles (triangles and quadrilaterals with no variables)	6.2	
Classifying Polygons	Prerequisite	
Find Area and Perimeter	Page 613	
Calculate the radius and diameter given the circumference and area of a circle	7.2	
Unit Exam 2/18		

Geometry Part 2 (1/22-2/1) 2 weeks

3 Dimensional figures and their nets (prisms, cylinders, cones and pyramids)	7.7a	
Identify face, vertex and edge	Prerequisite	
Finding volume of rectangular prisms and cylinders	7.6	
Total surface area of rectangular prisms and cylinders	7.7	
Unit Exam (2/1)		
2/1 2nd quarter ends		

Statistics and Probability (2/4-3/4) 3 ½ weeks

Mean, Median, Mode and Range	9.4	
Identify and collect data	9.1	
Read and interpret data graphically	9.1-9.3	
Bar Graphs, Histograms, Line Graphs, Circle Graphs	Prerequisite	
Create Frequency Tables	9.1	
Draw central angles in a given circle using a protractor	Supplement	
Stem and Leaf plot	9.3	
Unit Exam 3/4		

Math Assessment Review and Administration (3/5-3/21) 2 weeks

POST MARCH

Algebra Continued (3/25-4/17) 4 weeks

Add and Subtract monomials/combining like terms	12.3	7A2
Identify polynomials as algebraic expressions	12.3	7A3
Solving two step equations	10.2	7A4
Draw graphic representation from an equation or table	11.3, 12.2	7A7
Create algebraic patterns using charts and tables	11.1	7A8
Write a function rule from a table of values	11.2	7A10
Unit Exam 4/16		
3rd quarter ends 4/16		

Geometry Continued (4/22-5/16) 4 weeks

Classifying Polygons	6.4	7A9
Finding the missing angles of polygons	6.4	7G7
Identifying the sides of a right triangle	3.4	7G5
Explore the relationship of side lengths (Pythagorean Theorem)	3.4	7G6
Find unknown side (Pythagorean Theorem)	5	7G8
Determine whether a triangle is right (Pythagorean Theorem)	3.5	7G9
Unit Exam 5/15		

Measurement Continued 5/19-6/6 3 weeks

Calculate the distance using a map scale	4.6	7M1
Calculate unit price using proportions	4.1	7M5
Compare unit prices	4.1	7M6
Convert money between currencies	4.1	7M7
Unit Exam 6/6		
Review for final Exam 6/9-6/17		
Final Exam week of 6/18		

8th grade

Scope and Sequence

Glencoe

2007-2008

Pre March

Dates	Topics	Sections	Pages	Performance Indicators (Standards)
9/7-9/10	The Real Number System	9.2	441-445	7N1,2
	-Natural Numbers			
	-Whole Numbers			
	-Integers			
	-Rational Numbers	5.2	205-225	7N1
	-Irrational Numbers			
	-Real Numbers			

9/11-9/12	**Properties of Real Numbers**	1-4	23-27	6N2
	-Commutative			
	-associative			
	-distributive			
	-identity			
	-inverse			

9/13-9/21	**Integers**			
	-Introduction	2-1	56-60	6N13
	-absolute value	2-1	56-60	6N13
	-multiply and divide	2-4	75	7N12
	-add and subtract	2-2	62-74	7N13
	-evaluate expressions	3-2	103	8A1,2

9/24-10/5	**Algebraic equations**	1-2,2	12-21	8A1,2
	-Translating verbal expressions			
	-Solving equations by adding and subtracting	1-5, 3-1	28-32, 98-136	8PS3,6 and 6A3
	-Solving equations by multiplying and dividing	7-1,2	330-339	7A4

	-solving 2 step equations			
	-solving equations with parenthesis			
	-solving equations with variables on both sides			

10/9-10/12	**Algebraic Inequalities**	7-4,5	354-354	8A1
	-graphing on a number line			
	-translating verbal expressions			

10/15-10/19	**Measurement**	6-3	276-280	8M1
	-converting within us standard system			
	-converting with the metric system			
	-temperature conversions			
	-comparing unit prices			
	-converting money with different currencies			

10/22-10/23	**Ratios and Proportions**	6-1,2,3	242-275	6N8
	-writing and simplifying ratios			
	-solving proportions			

11/1-11/2 review for quarterly exam

11/5-11/9 quarterly exam

11/13-11/30	**Percents**	6-4,5,6,7,8	281-320	8N3,4,5,6
	-converting fractions to decimals and vice versa			
	-converting fractions to percents and vice versa			
	-converting decimals to percents and vice versa			
	-percent of a number			
	-percent of change			
	-discount, tax, tip			
	-commission			
	-simple interest			
	-word problems			

12/3-12/14	**Angle Relationships**	10-1,2	492-505	8A12
	-vocabulary			
	-complementary angles			
	-supplementary angles			
	-vertical angles			
	-parallel lines cut by a transversal			
	-find measures of missing angles			
	-algebraic applications			

12/17-12/21	**Pythagorean Theorem**	9-5	458-464	7G8,9
	-Finding the square root			
	-finding a missing hypotenuse			
	-finding missing legs			
	-word problems/applications			

Winter Break 12/22-1/2

1/2-1/18	**Graphing**	1-6,8-1, 10-3	33-38, 369-374, 506-512	8A4,5, 8G7-12
	-plotting ordered pairs			
	-graphing lines from a table of values			
	-determine function rule from a table			
	-describe and identify transformations			8G7
	-draw the image of a figure under a reflection over a given line			8G9
	-draw the image of a figure under a translation			8G10
	-draw the image of a figure under rotations of 90 and 180 degrees			8G8
	-Draw the image of a figure under a dilation			8G11
	-identify properties preserved and not preserved under each transformation			8G12
1/22-1/24	Midterms			

1/28-2/15	**Polynomials**	13-1,4	666-686	
	-identify and classify polynomials			8A7
	-add and subtract monomials			8A7
	-multiply and divide monomials			8A6
	-add and subtract polynomials			8A7
	-multiply and divide			8A9

	polynomials by binomials			
	-multiply binomials			8A8
	-factor algebraic expressions using GCF			8A10
	-factoring trinomials where the leading coefficient =1			8A11
2/25-3/10	Review for State Assessment			
3/11-3/14	State Assessment			

Post March

3/15-4/4	**Inequalities**			
	-solving 1 step inequalities		345-354	8A13
	-solving 2 step inequalities		355-359	
	-solving inequalities by combining like terms			8A14
	-solving inequalities with a variable on each side			
	-solving inequalities using the distributive property			
	-graphing solution sets on the number line			8A13
	-include multiplying and dividing by regular numbers			8A14

4/7-4/11 3rd quarterly exam and review

4/14-5/9	**Functions**		369-373	8G14

	-relations and functions: graphs, tables, maps			
	-domain and range :tables and graphs		35-38	
	-graphing a line from an equation		375-379	
	-determine y-intercept from a graph and explain		381-385	
	-slope		387-391	8G13
	-determine slope from graph			
	-slope as rate of change		393-397	
	-determine the equation of a line given the slope and the y-intercept		404-408	8G16
	-graph a line using slope and intercept			8G17
	-solving systems of linear equations by graphing (y=mx+b, no vertical or horizontal lines)		414-417	
	-graphing linear inequalities		419-422	
	-systems of linear inequalities			
	-non-linear functions		687-691	8G20
	-recognize quadratic functions from tables, graphs and equations		692-696	8G21

5/10-5/22	**Constructions**		498-499	8G0
	-using a straight edge and a compass to construct:			
	-segments			

	congruent to a segment			
	-angles congruent to an angle			
	-perpendicular bisectors			
	-angle bisectors			

5/27-6/17 Review for Final Exam

Suggestions for Supplemental Topics:

-Quadratic Expressions

-Trigonometry of a right triangle

-Spreadsheets

-Arithmetic and geometric sequences

		EIGHTH GRADE SCIENCE SCOPE AND SEQUENCE					
Weeks	**Month/wk**	**Science Category**	**Science Topic**	**Sci. PIs**	**MIC Unit**	**MIC Topic**	**MIC Page**
1 and 2	9/6/-9/16 **2005**	SCIENCE SKILLS	Scientific Method				
3	9/19-9/23		Graphing, histogram,line graph	SI 1,.2,.3	Graphing Equations	Slope	p.15
4	9/26-9/30		Measurement, Metric	8M.A.3;SM.A.4 8M.A.19/SI 3	Triangles and Beyond/It's All the Same Number Tools	Metric Measurement	Whole Books NT: Sect G
5	10/3-10/7*		Metric System		Triangles and Beyond/It's All the Same Number Tools	Metric Measurement	Whole Books NT: Sect G
6 and 7	10/10-10/21		Length, volume, mass		Package & Polygons	Polyhedrans	Sect. E
8	10/24-10/28		Density, exponents		Facts and Factors	Powers of Ten	TBD
9	10/31-11/4	PHYSICS	Motion	M8.N.1 8.N.2	Number Tools	Rounding of dec.	Sect - Decm
10	11/7-11/11*		Forces and Motion	PS 4.4	Building Formulas	Using Formulas	p. 37
11	11/14-//18		Fluid; work, power and machines	PS 4.5			
12	11/21-11/23*		Energy				
13	11/28-12/2		Thermal Energy	PS 4.1-4.2	Building Formulas	Temperatures	Sect D
14	12/5-12/9	CHEMISTRY	Properties of Matter				
25	12/12-12/16		States of Matter	PS 3.1	Ratios and Rates	RandR: Scale factors, rates,ratios.	Sect E p.31-41
15					Number Tools	Ratios	Sect B. ratio tables
16	12/19-12/23		Atomic Structure***	PS 4.2	Facts and Factors	Powers of Ten	TBD
17	1/3-1/6 **2006**		Periodic Table	PS 3.3	Building Formulas	Recognizing patterns	Sect. B
18	1/9-1/13		Chemical Bonds	PS 3.3	Algebra Tools	Algebra in Balance	pps. 45-46
19	1/16-1/20		Chemical Reactions	PS	Ups and Downs	Surface Area	Sect. C
20	1/23-1/27		Solutions, acids, and bases	PS 3.2	Insights into Data	Interpreting Graphs	whole book
21	1/30-2/3	EARTH SCIENCE	Earth's Interior	PS 4.2; 3.3	More or Less	Recognizing and using %	Sect C
22	2/6-2/10		Earth's Surface	PS 2.1	More or Less	Recognizing and using %	Sect C
23	2/13-2/17		Weather and Climate	PS 2.2	Ups and Downs	Cycles	Sect D
24	2/27-3/3		The Solar System	PS 2.2	Facts and Factors	Powers of Ten	TBD
25	3/6-3/10		Exploring the Universe	PS 1	Facts and Factors	Powers of Ten	TBD
	3/13-4/9	PERFORMANCE REVIEW					
	4/18-4/20,/2006	**PERFORMANCE TEST**	***** Ratios and Rates and Number Tools to be used for scale factor, rates and ratios.**				
	4/18-5/11/06	WRITTEN TEST REVIEW					
	5/12/2006	**WRITTEN TEST**					
	***Note:** This period includes a 3-day week			6/30/2005			