

Bellevue Public Schools
Math & Technology Integration Guide



Sixth Grade

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Rationale

This guide was created as an aid for teachers. It is hoped by the Bellevue Public Schools' Technology Team that teachers will use this as a guide when working with their students in the building computer lab and in the classroom. The team understands that busy teachers find it difficult to find time to work with programs. This guide is only a beginning. Teachers may find more activities that integrate with given objectives. It is our hope that these activities will be forwarded to the team for inclusion in this guide. We will put the guide on the district Curriculum, Instruction, and Assessment website. Upgrades will be posted on the site and these can be printed.

Information About Program Use

Math Trek 123

Math Trek 123 is a primary program that can be used by students with or without teachers creating a class and adding student names. The program talks to students. To view directions for a given activity, students click on the mouse head. It shows them how to play the activity.

Math Trek 456

Math Trek 456 can be used by students with or without teachers adding their names to the program management system. Typing student names into the management system is useful for two reasons. The first reason is so the teacher can obtain a record of student achievement using the program. The second reason is that it allows teachers to hold students accountable for the time spent on the computer. A guide for setting-up the record-keeping component can be found at the back of this guide. Students can select **Guest** to use the program if their names have not been added to the management system.

Cornerstone Math and Language Arts

Cornerstone Level A (for 3rd and 4th grades) can **only** be used after creating a class and student names have been added to the student management system. The directions for setting up a class can be found at the back of this guide.

Code Used for Programs

MT = Math Trek 456 (Student can enter as Guests or teacher can create a class and add students)

CS(A) = Cornerstone Level A (Class must be created and students entered)

CS(B) = Cornerstone Level B (Class must be created and students entered)

Chapter 1 Problem Solving Together				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
1.1	4	Looking for a Pattern	CS (B) Using Whole Numbers...9 Patterns and Sequences MT Patterning and Algebra-Tutorials-Patterns & Number Patterns (Do both)	
1.2	8	Reading and Making a Table		
1.3	12	Making a List		
1.4	16	Using a Graph	CS (B) Working with Data-1 Bar Graphs and 4 Circle Graphs	
1.5	22	Drawing a Diagram		
1.6	28	Algebra and Equations	CS (B) Whole Numbers-8 Equations	
1.7	34	Working Backwards		
1.8	38	Solving a Simpler Problem		
1.9	44	A Summary of problem Solving Strategies		

Chapter 2 Place-Value Systems and Operations				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s) Note: Practice items have many different problems that can be done over and over as a skill and practice activity	Essential Objective(s)
2.1	60	The Base-Ten Place-Value System	CS (B) Understanding Numbers-1 Place Value MT -Number Sense and Numeration-Tutorials-Place Value-Introducing Place Value, Place Value, and Large Numbers. MT - Number Sense and Numeration – Practice 9, 10, 37, & 48	
2.2	66	Geometry Connection: Addition and Subtraction	CS (B) Use Whole Numbers- 3 Addition, 4 subtraction MT Number Sense & Numeration-Tutorials-Basic Operations-Addition and Subtraction MT - Number Sense & Numeration – Practice 1,2,3,4,17,18,32,22	EO 5
2.3	72	Geometry Connection: Multiplication and Area	CS (B) Use Whole Numbers – 5 Multiplication MT Number Sense & Numeration – Basic Operations – Multiplication MT – Number Sense & Numeration – Practice 20 & 34	No decimals but has Multiplication practice
2.4	78	Exploring Whole-Number Division (writing quotients as fractions)	CS (B) Use Whole Numbers – 7 Division MT - Number Sense & Numeration – Practice 21, 22, 35, & 36	
2.5	84	Order of Operations	MT Number Sense & numeration – Tutorials – Basic Operations – Order of Operations MT – Number Sense & Numeration – Practice 43	EO 2
2.6	88	Algebra Connection: The Distributive Property		
2.7	96	Exploring Different Bases		

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Chapter 3 Decimals and Percent				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
3.1	112	Exploring Decimal Representations	MT Number Sense & Numeration-Tutorials-Place Value-Place Value & Decimals (Do both activities) MT Number Sense & Numeration – Practice 13 & 14	EO 4
3.2	116	Measuring Length: The Metric system	MT –Measurement – Tutorial – Linear Measurement – Activity –Linear Estimation & Measurement	
3.3	124	Modeling Decimals	MT Number Sense & Numeration – Tutorials – Place Value – Place Value & Decimals MT – Number Sense & Numeration – Practice 11, 14, 15,24, & 25	
3.4	128	Algebra Connection: Decimals, Fractions, and Percents	CS (B) Using Fractions & Percent MT Number Sense & Numeration – Tutorials – Counting – Counting Decimals MT – Number Sense & Numeration – Practice 13 & 30	
3.5	134	Comparing and Ordering Decimals	MT Number Sense & Numeration – Tutorials – Counting – Counting Decimals MT – Number Sense & Numeration – Practice 49, 50, 51, 52, 53, & 54	EO 4
3.6	138	Rounding Decimals	MT Number Sense & Numeration – Tutorials – Counting – Counting Decimals MT Number sense & Numeration – Practice 46 & 47	
3.7	144	Algebra Connection: Powers and Exponents	NOTE: Cornerstone Level C has some activities on place value and scientific notation in Understanding Numbers. Activities 1 & 2 (probably for gifted students)	
3.8	148	Using Decimals, Fractions, and Percents	MT Number Sense & Numeration – Tutorials –Fractions – Comparing Fractions and Decimals MT – Number Sense & Numeration – Practice 13, 25, 30, & 41	EO 4

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Chapter 4 Applications of Decimals and Percent				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
4.1	166	Adding Decimals	CS (B) Use Decimals – 1 Addition of Decimals MT – Number Sense & Numeration – Activities – Preservation Path (begin with lower levels & work up to higher levels)	EO 5
4.2	170	Subtracting Decimals	CS (B) Use Decimals, 2 Subtraction of Decimals MT – Number Sense & Numeration – Activities – Preservation Path (begin with lower levels & work up to higher levels)	EO 5
4.3	176	Estimating Sums and Differences	CS (B) Whole Numbers –2 Estimating by Rounding & 1 Front-end Estimation MT – Number Sense & Numeration – Tutorials – Rounding – Rounding Decimals & Extension (Do both)	
4.4	182	Decimal Multiplication and Percent	MT – Number Sense & Numeration – Activities – Preservation Path – Try more difficult level (5 or 6)	EO 6
4.5	188	Dividing a Decimal by a Whole Number	CS (B) Use Decimals, 4 Division of Decimals	
4.6	192	Algebra connection: Using Powers of Ten to Multiply and Divide		
4.7	200	Dividing with Decimals	CS (B) Use Decimals – 4 Division of Decimals	
4.8	204	Problems Solving with Decimals and Percents	MT – Number Sense & Numeration – Activities – Real Life Problems (Level 1 (easiest) and move up to level 4 (more difficult)) MT – Number Sense & Numeration – Activity – Preservation Path (begin with level 1 and work up)	

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Chapter 5 Statistics and Graphs				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
5.1	220	Line Plots		
5.2	224	Stem-and Leaf Plots		
5.3	232	Computing Averages		
5.4	236	Exploring Median and Mode		
5.5	242	Bar Graphs	CS (B) working with Data – 1 Bar Graphs MT – Data Management & Probability – Tutorial – Data Management	
5.6	246	Algebra Connection: Line Graphs	CS (B) Work with Data – 2 Line Graphs MT – Data Management & Probability – Tutorial – Data Managements	
5.7	252	Choosing an Appropriate Graph	MT Data Management and Probability – Tutorial Data Management MT Data Management and Probability – Activities –Coin Survey, Eye Color Survey, Student Heights, and Homework Pictograph MT Data Management and Probability – Practice – Do Numbers 1, 2, 3, 4, 5,	

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Chapter 6 Fractions, Ratios, and Proportions				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
6.1	268	Fundamental Fraction Concepts	MT – Number Sense & Numeration – Tutorial – Fractions – Intro Fractions & Equivalent Fractions CS (B) Fractions and Percents – 1 Equivalent Forms	EO 7
6.2	272	Exploring Division and Ratios		
6.3	278	Equivalent Fractions and Ratios	MT Number Sense & Numeration – Tutorials – Fractions – Equivalent Fractions MT Number Sense & Numeration – Practice 28, 29, 58 CS (B) Using Fractions and Percents – 1 Equivalent Forms	
6.4	282	Exploring Proportions		
6.5	290	Comparing and Ordering Fractions	MT – Number Sense & Numeration – Tutorials – Fractions – Comparing Fractions & Decimals MT – Number Sense & Numeration – Activities – In Search of the Reptile MT – Number Sense & Numeration – Practice 12, 26, 40	EO 7
6.6	296	Modeling Fractions Greater Than One		EO 7
6.7	302	Introduction to Probability	MT – Data Management –Tutorials – Probability MT – Data Management & Probability – Activity – Exploring Probability & Spinner Probability	

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Chapter 7 Adding and Subtracting Fractions				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
7.1	318	Measuring Length in the U.S. Customary System		
7.2	322	Least Common Denominators	MT – Number Sense & Numeration – Tutorials – Fractions – Simplifying Fractions	
7.3	330	Adding and Subtracting Fractions	CS (B) Use Fractions & Percents, 2 Addition of Fraction and Sub tractions MT Number Sense & Numeration – Tutorials – Fractions – Adding and Subtraction Fractions	
7.4	336	Adding and Subtracting Mixed Numbers		EO 8
7.5	342	Subtracting and Regrouping: Common Denominators	CS (B) Fractions & Percents – 3 Subtraction of Fractions (Note: There are some problems with different denominators) MT - Number Sense & Numeration –Tutorial – Fractions – Simplifying Fractions	
7.6	348	Subtracting and Regrouping: Different Denominators	CS (B) – Fractions & Percents – 3 Subtraction of Fractions MT – Number Sense & Numeration – Tutorial – Fractions – Simplifying Fractions MT – Number Sense & Numeration – Tutorial – Adding and Subtracting Fractions.	
7.7	354	Problem Solving with Fractions and Decimals		

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Chapter 8 Multiplying and Dividing Fractions				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
8.1	370	Multiplying Fractions and Whole Numbers	CS (B) Fractions and Percents – 4 Multiplying Fractions MT – Number Sense & Numeration – Tutorials – Fractions – Multiplying and Dividing Fractions	
8.2	376	Multiplying Fractions	CS (B) Fractions and Percents – 4 Multiplying Fractions MT – Number Sense & Numeration – Tutorials – Fractions – Multiplying and Dividing Fractions	
8.3	384	Multiplying Mixed Numbers	MT Number Sense & Numeration – Tutorial – Fractions – Multiplying and Dividing Fractions.	
8.4	390	Dividing Fractions with Common Denominators	CS (B) Fractions and Percents – 5 Division of Fractions MT – Number Sense & Numeration – Tutorials – Fractions – Multiplying and Dividing Fractions MT - Number Sense & Numeration – Practice - 27	
8.5	396	Using Reciprocals to Divide Fractions		
8.6	400	Dividing with Mixed Numbers		
8.7	406	Geometry Connection: Exploring the Area of a Right Triangle	MT Measurement – Tutorial – Perimeter & Area (Lesson 13 has specific problem information, but whole tutorial is good)	

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Chapter 9 Geometry and Patterns				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
9.1	420	Exploring Geometric Figures	MT Geometry – Tutorial- Geometric Figures –Introducing Geometry MT Geometry – Activities – Polygon Match MT Geometry – Problems 1-5, 24, 27	
9.2	424	Investigating Turns and Angles	MT Geometry – Tutorials- Geometric Figures – Triangles MT Geometry and Spatial Sense – Tutorial – Coordinate and Motion Geometry – Transformations MT Geometry – Problems 16-18, 23	
9.3	432	Exploring Congruent and Similar Figures	MT Geometry – Tutorials – Geometric Figures – Congruence MT Geometry – Tutorials –Coordinate & Motion Geometry – Congruence & Symmetry MT Geometry – Problems – 1-5	
9.4	438	Line Symmetry	MT - Geometry – Tutorials- Coordinate & Motion Geometry – Transformations and ALSO Congruence and Symmetry MT Geometry – Problems 29	
9.5	446	Algebra Connection: Slides in a Coordinate Plane	MT Geometry – Tutorials – Coordinate & Motion Geometry – Transformations MT Geometry – Problems 6-9, 20	
9.6	450	Triangles	MT Geometry – Tutorials – Geometric Figures – Triangles MT Geometry – Activities – Triangle Search MT Geometry – Problems 16-19, 25, 26	
9.7	456	Exploring the Angles of a Triangle	MT Geometry – Tutorials – Geometric Figures – Triangles MT Geometry – Activities – Triangle Search MT Geometry Problems 11-15, 26	

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Chapter 10 Geometry and Measurement				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
10.1	474	Parallel, Intersecting, and Perpendicular Lines	MT Geometry & Spatial Sense – Geometric Figures-Introducing Geometry MT Geometry & Spatial Sense – Problems 21	
10.2	480	Angles	MT Geometry & Spatial Sense – Geometric Figures-Introducing Geometry and Triangles MT Geometry & Spatial Sense – Problems 22 & 23	
10.3	386	Parallelograms	MT Geometry & Spatial Sense – Geometric Figures – Quadrilaterals MT Geometry & Spatial Sense – Problems 19, 21, 24, 27	
10.4	492	Area of a Triangle		
10.5	500	Circumference of a Circle	MT Geometry & Spatial Sense – Tutorials – Geometric Figures -Circles MT Geometry & Spatial Sense – Practice 28	
10.6	506	Area of a Circle		
10.7	512	Statistics and Circle Graphs	MT Geometry & Spatial Sense – Data Management & Probability- Data Management CS (B) Work with Data – 4 Circle Graphs	
10.8	516	Solids, Surface Area, and Volume	MT Geometry & Spatial Sense – Tutorials – Geometric Figures – Geometric Solids MT Geometric & Spatial Sense – Activities – Cube Nets & Pentomino Puzzle MT Geometry & Spatial Sense – Problems 4, 5, 10 & 30	

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Chapter 11 Integers and the Coordinate Plane				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
11.1	532	Graphing Integers on a Number Line		
11.2	538	Adding Integers		
11.3	546	Subtracting Integers		
11.4	554	The Coordinate Plane	MT Geometry & Spatial Sense – Tutorial- Coordinate & Motion Geometry – Coordinate Geometry MT Geometry & Spatial Sense –Problems 20	
11.5	558	Algebra Connection: Patterns in the Coordinate Plane	MT Geometry & Spatial Sense – Tutorial- Coordinate & Motion Geometry – Coordinate Geometry MT Geometry & Spatial Sense –Problems 20	
11.6	564	Geometry Connection: Coordinate Geometry	MT Geometry & Spatial Sense – Tutorial- Coordinate & Motion Geometry – Coordinate Geometry MT Geometry & Spatial Sense –Problems 20	

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Chapter 12 Algebra: Equations and Probability				
Chapter-Lesson	TE Pg. #	Lesson Objective	Computer Program(s)	Essential Objective(s)
12.1	580	Algebra Connection: Addition Equations	MT Patterning and Algebra - Algebra	
12.2	584	Algebra Connection: Subtraction Equations	MT Patterning and Algebra - Algebra	
12.3	590	Algebra Connection: Equation with fractions and Decimals	MT Patterning and Algebra - Algebra	
12.4	596	Algebra Connection: Exploring Functions	MT Patterning and Algebra - Algebra	
12.5	602	Counting Techniques	MT Number Sense & Numeration – Counting – Introduction to Counting, Counting Larger Numbers, & Counting Decimals	
12.6	608	Additional Probability Concepts	MT Data Management & Probability - Probability	

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