

Glencoe MathScape: Seeing and Thinking Mathematically Course 3 © 2005
Correlated to
NH, ME, VT, and RI GLE's
Grade 8

NH, ME, VT, RI Local and NECAP Grade Level Expectations	PAGE(S) WHERE TAUGHT (If submission is not a book, cite appropriate location(s))
NUMBER AND OPERATION	
M(N&O)-8-1 Demonstrates conceptual understanding of rational numbers with respect to absolute values, perfect square and cube roots, and percents as a way of describing change (percent increase and decrease) using explanations, models, or other representations.	SE/TE Looking Behind the Numbers: 6-7, 34 What Comes Next? 150-151, 163, 171 Roads and Ramps: 246-247, 250, 251, 264, 265 TE Roads and Ramps: 241 Technology www.mathscape3.com
M(N&O)-8-2 Demonstrates understanding of the relative magnitude of numbers by ordering or comparing rational numbers, common irrational numbers, numbers with whole number or fractional bases and whole number exponents, square roots, absolute values, integers, or numbers represented in scientific notation using number lines or equality and inequality symbols.	SE/TE Looking Behind the Numbers: 32 What Comes Next? 150-151, 163, 171 Exploring the Unknown: 192-193, 214 Roads and Ramps: 228, 238-239, 261, 262 Family Portraits: 277, 294-301, 311-313 TE Looking Behind the Numbers: 25 Family Portraits: 269H, 294-295 Technology www.mathscape3.com
M(N&O)-8-4 Accurately solves problems involving proportional reasoning (percent increase or decrease, interest rates, markups, or rates); multiplication or division of integers; and squares, cubes, and taking square or cube roots.	SE/TE Mathematics of Motion: 52-55, 71, 72-75, 79, 86, 88 Shapes and Spaces: 120-121, 133 Roads and Ramps: 244-245, 246-247, 263, 264 TE Mathematics of Motion: 68 Roads and Ramps: 241 Technology www.mathscape3.com
M(N&O)-8-6 Mentally calculates benchmark perfect squares and related square roots; determines the part of a number using benchmark percents and related fractions.	SE/TE Looking Behind the Numbers: 6-7, 34 What Comes Next? 150-151, 163, 171 Roads and Ramps: 246-247, 251, 264, 265 Technology www.mathscape3.com

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<p>M(N&O)-8-7 Makes estimates in a given situation (including tips, discounts, tax, and the value of a non-perfect square root as between two whole numbers) by identifying when estimation is appropriate, selecting the appropriate method of estimation, determining the level of accuracy needed given the situation, analyzing the effect of the estimation method on the accuracy of results, and evaluating the reasonableness of solutions appropriate to grade level GLEs across content strands.</p>	<p>SE/TE Looking Behind the Numbers: 6-7, 22-23, 34, 41 Mathematics of Motion: 52-53, 72-73, 79 What Comes Next? 144-145, 150-151, 154-155, 158-165, 169, 174-177 Roads and Ramps: 246-247, 251, 264, 265</p> <p>Technology www.mathscape3.com</p>
<p>M(N&O)-8-8 Applies properties of numbers (odd, even, remainders, divisibility, and prime factorization) and field properties (commutative, associative, identity (including the multiplicative property of one), distributive, and additive inverses) to solve problems and to simplify computations, and demonstrates conceptual understanding of field properties as they apply to subsets of the real numbers when addition and multiplication are not defined in the traditional way.</p>	<p>SE/TE What Comes Next? 144-145, 169 Exploring the Unknown: 197, 198-199, 216, 217</p> <p>Technology www.mathscape3.com</p>
GEOMETRY AND MEASUREMENT	
<p>M(F&A)-8-1 Identifies and extends to specific cases a variety of patterns (linear and nonlinear represented in models, tables, sequences, graphs, or in problem situations; and generalizes a linear relationship (non-recursive explicit equation); generalizes a linear relationship to find a specific case; generalizes a nonlinear relationship using words or symbols; or generalizes a common nonlinear relationship to find a specific case.</p>	<p>SE/TE Mathematics of Motion: 54-57, 80, 81 What Comes Next? 140-145, 148-149, 150-151, 152-155, 158-165, 167-169, 170-171, 172-177 Family Portraits: 278-285, 305-307</p> <p>TE What Comes Next? 135G, 135H, 147, 156 Family Portraits: 279</p> <p>Technology www.mathscape3.com</p>
<p>M(F&A)-8-2 Demonstrates conceptual understanding of linear relationships as a constant rate of change by solving problems involving the relationship between slope and rate of change; informally and formally determining slopes and intercepts represented in graphs, tables, or problem situations; or describing the meaning of slope and intercept in context; and distinguishes between linear relationships (constant rates of change) and nonlinear relationships (varying rates of change) represented in tables, graphs, equations, or problem situations; or describes how changes in the value of one variable relates to change in the value of a second variable in problem solving situations with constant and varying rates of change.</p>	<p>SE/TE Mathematics of Motion: 60-61, 82 Shapes and Spaces: 162-163, 176 Exploring the Unknown: 204-209, 219-221, Family Portraits: 275, 277, 278-285, 303, 304, 305-307</p> <p>TE Exploring the Unknown: 200 Family Portraits: 269G, 278, 279</p> <p>Technology www.mathscape3.com</p>

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<p>M(F&A)-8-3 Demonstrates conceptual understanding of algebraic expressions by evaluating and simplifying algebraic expressions (including those with square roots, whole number exponents, or rational numbers); or by evaluating an expression with an equation.</p>	<p>SE/TE What Comes Next? 140-145, 148-151, 166-167, 170, 171 Exploring the Unknown: 192-193, 202-203, 204-209, 214, 218-221 Family Portraits: 274-275, 276-277, 280-283, 284-285, 290-291, 294-301, 303, 304, 306, 307, 309, 311</p> <p>TE Exploring the Unknown: 200 Roads and Ramps: 223G, 241 Family Portraits: 269G, 270, 271, 279, 286</p> <p>Technology www.mathscape3.com</p>
<p>M(F&A)-8-4 Demonstrates conceptual understanding of equality by showing equivalence between two expressions (expressions consistent with the parameters of the left- and right-hand sides of the equations being solved at this grade level) using models or different representations of the expressions, solving formulas for a variable requiring one transformation; by solving multi-step linear equations with integer coefficients; by showing that two expressions are or are not equivalent by applying commutative, associative, or distributive properties, order of operations, or substitution; and by informally solving problems involving systems of linear equations in a context.</p>	<p>SE/TE What Comes Next? 140-145, 148-151, 163, 166-167, 170, 171 Exploring the Unknown: 192-193, 197, 198-199, 202-203, 204-209, 214, 216-217, 218-221, 228 Roads and Ramps: 262 Family Portraits: 274-275, 276-277, 280-283, 284-285, 290-291, 294-301, 303, 304, 306, 307, 309, 311, 312, 313</p> <p>TE Exploring the Unknown: 200 Roads and Ramps: 223G, 241 Family Portraits: 269G, 270, 271, 279, 286</p> <p>Technology www.mathscape3.com</p>
DATA, STATISTICS, AND PROBABILITY	
<p>M(DSP)-8-1 Interprets a given representation (circle graphs, scatter plots, histograms, or box-and-whisker plots) to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems.</p>	<p>SE/TE Looking Behind the Numbers: 7, 18-23, 34, 39-41 What Comes Next? 144-145, 152-155, 158-165, 169, 172, 174-177 Family Portraits: 272-273, 278-285, 302, 305-307</p> <p>TE Looking Behind the Numbers: 3H, 14 What Comes Next? 136 Family Portraits: 271</p> <p>Technology www.mathscape3.com</p>

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<p>M(DSP)-8-2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determine or using measures of central tendency (mean, median, or mode), dispersion (range or variation), outliers, quartile values, or estimated line of best fit to analyze situations, or to solve problems; and evaluates the sample from with the statistics were developed (bias, random, or non-random).</p>	<p>SE/TE Looking Behind the Numbers: 6-7, 8-9, 10-11, 12-13, 17, 21, 22-23, 34, 35, 36, 37, 38, 39, 40, 41 What Comes Next? 173</p> <p>TE Looking Behind the Numbers: 3G, 3H, 4, 5</p> <p>Technology www.mathscape3.com</p>
<p>M(DSP)-8-3 Organizes and displays data using scatter plots to answer questions related to the data, to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems; or identifies representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M(DSP)-8-1.</p>	<p>SE/TE Looking Behind the Numbers: 18-19, 20-21, 22-23, 39, 40, 41, What Comes Next? 138-139, 144-145, 158-165, 166, 169, 174-177 Family Portraits: 311</p> <p>TE Looking Behind the Numbers: 3H, 14, 15 What Comes Next? 136</p> <p>Technology www.mathscape3.com</p>
<p>M(DSP)-8-4 Uses counting techniques to solve problems in context involving combinations or permutations using a variety of strategies.</p>	<p>SE/TE Looking Behind the Numbers: 27, 28-29, 30-33, 42, 43, 44, 45</p> <p>TE Looking Behind the Numbers: 24, 25</p> <p>Technology www.mathscape3.com</p>

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<p>M(DSP)-8-5 For a probability event in which the sample space may or may not contain equally likely outcomes, determines the experimental or theoretical probability of an event in a problem-solving situation; and predicts the theoretical probability of an event and tests the prediction through experiments and simulations; and compares and contrasts theoretical and experimental probabilities..</p>	<p>SE/TE Looking Behind the Numbers: 22-23, 26, 27-29, 30-31, 41, 42, 43, 44, 45 Shapes and Spaces: 94-95, 122 What Comes Next? 138-139, 144-145, 151, 154-155, 158-165, 166, 169, 171, 173, 174-177 Family Portraits: 310</p> <p>TE Looking Behind the Numbers: 24-25 Shapes and Spaces: 93 What Comes Next? 136</p> <p>Technology www.mathscape3.com</p>
<p>M(DSP)-8-6 In response to a teacher of student generated question or hypotheses decides the most effective method (e.g., survey, observation, experimentation) to collect the data (numerical or categorical) necessary to answer the question; collects, organizes, and appropriately displays the data; analyzes the data to draw conclusions about the question or hypothesis being tested while considering the limitations that could affect interpretations; and when appropriate makes predictions; and asks new questions and makes connections to real world situations..</p>	<p>SE/TE Looking Behind the Numbers: 6-7, 18-23, 26, 34, 39-41, 42 Mathematics of Motion: 54-57, 58-67, 72-73, 80, 81, 82-85, 87 What Comes Next? 152-155, 158-161, 172 Family Portraits: 272-273, 278-285, 298-299, 302, 305-307, 305-307</p> <p>TE Looking Behind the Numbers: 3H, 24 Mathematics of Motion: 57 Shapes and Spaces: 99</p> <p>Technology www.mathscape3.com</p>