



CONNECTICUT
Mathematics Curriculum Framework
Content Standards Grades 5-8
Mathematics: Applications and Concepts Courses 1, 2, and 3 © 2004

OBJECTIVES	PAGE REFERENCES		
	<i>COURSE 1</i>	<i>COURSE 2</i>	<i>COURSE 3</i>
CONTENT STANDARD 1: Number Sense <i>Students will use numbers to count, measure, compare, order, scale, locate and label, and use a variety of numerical representations to present, interpret, communicate and connect various kinds of numerical information.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> use real-life experiences, physical materials and technology to construct meanings for whole numbers, commonly used fractions, decimals and money amounts, and extend these understandings to construct meanings for integers, rational numbers, percents, exponents, roots, absolute value and scientific notation; 	SE: 7 (e.g. #1), 18-21, 110 #26, 126 #10, 136 (e.g. #5), 294-298, 365 #21-#22 <i>Hands-On Mini Lab</i> 186, 242 <i>Web Quest</i> 3, 97 TWE: A 138, 412 DI 236, 294 NS 200	SE: 43-45, 106-108, 110 #9 & #10, 147 #11, 210, 223 #34-37, 319-321 <i>Web Quest</i> 3, 103, 193 TWE: A 473 B 43 DI 255, 471 PC 104 F PS 235	SE: 17 (WHEN), 94 #31, 98-101, 104-107, 116-119, 125-129, 151 #9 <i>Web Quest</i> 3 TWE: A 107 TNT 24

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> model, represent and use numbers in a variety of equivalent forms (integer, fraction, decimal, percent, exponential and scientific notation) as they arise from real-world situations; 	SE: 18-21, 136 (e.g. #5), 182-185, 202-205, 206-209, 294-298, 400-403, 404-406 <i>Web Quest 3, 97</i> TWE: A 138 PC 174 PS 213 TNT 203	SE: 12 #40-#41, 43-45, 106-107, 194, 216, 220, 312-315 <i>Hands-On Lab 196</i> <i>Web Quest 3, 103, 193</i> TWE: A 45, 213 B 10, 106, 312 PS 235	SE: 17-21, 62-66, 98-101, 104-107, 127-129, 206-207, 212 (e.g. #7), 220 (Concept Summary) <i>Hands-On Mini Lab 216</i> <i>Web Quest 3</i> TWE: DI 99, 105 ICE 18, 105 TNT 24
<ul style="list-style-type: none"> use the equivalence of fractions, decimals and percents to select appropriate and efficient ways to write, order, compare, estimate and compute; 	SE: 108-111, 116-119, 182, 198, 202-205, 206-209, 212 #42-#57, 256-258, 400-403, 404-406 TWE: A 105, 258 PC 174 F PS 213	SE: 210-213, 216-219, 220-223, 227-231, 234, 312-315, 556 <i>Web Quest 193</i> TWE: A 219 DI 211 PS 235	SE: 67-70, 125-129, 206-209, 210-214, 220-223, 228-231 <i>The Game Zone 225</i> <i>Web Quest 3</i> TWE: A 66, 214 B 228 DI 68, 211 TNT 211
<ul style="list-style-type: none"> develop and use a sense of order and magnitude of fractions, decimals, integers, powers and roots; and 	SE: 18-21, 119 #38, 198-201, 207 (e.g. #3), 209 #39-#42, 266 #3, 281 #9, 342 #35 <i>Hands-On Mini Lab 219</i> TWE: A 110, 258 DI 220	SE: 10-13, 109-111, 205 #30-31, 237 #18-19, 227-231, 295 #27-28, 367 #8, 380 #16, 509 #20 <i>Web Quest 3, 193</i> TWE: A 231 B 109 DI 139, 228, 441 ICE 228	SE: 44 #8, 49 #42-#43, 112 #5, 145 #22, 169 #20, 222 #37 TWE: B 492 DI 237
<ul style="list-style-type: none"> develop and apply number theory concepts (primes, factors, multiples and divisibility rules), as appropriate, in various real-world problem situations. 	SE: 10-13, 14-17, 27 #46, 47 #26, 147 #41, 177-180, 189 #59 & #62, 194-197 TWE: B 14 DI 11 ICE 11, 15	SE: 197-200, 203-206, 224-226, 232-233, 554 <i>Hands-On Lab 196</i> TWE: A 315 DI 228 PC 194 F	SE: 61, 88 (e.g. #1), 89 (e.g. #2), 124 #8, 608-610 TWE: B 116

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
CONTENT STANDARD 2: Operations <i>Students will add, subtract, multiply and divide with whole numbers, fractions, decimals and integers and develop strategies for selecting the appropriate computational and operational methods for solving problems.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> maintain proficiency with basic addition, subtraction, multiplication and division facts through the use of a variety of strategies and contexts; 	SE: 25 #6, 131 #17, 136 (e.g. #5), 253 #17, 275 #43 <i>Problem-Solving Strategy</i> 125-126 <i>Study Skill</i> 38, 239 TWE: DI 25 TNT 145, 277	SE: 14-17, 50 #1, 209 #34-37, 560, 562 <i>Hands-On Lab</i> 196 <i>Problem-Solving Strategy</i> 22-23, 132-133, 496-497 TWE: A 243 DI 133, 249 PC 332 F PS 235 TNT 245	SE: 8 (e.g. #2), 80 #37, 82 (WHEN) <i>Prerequisite Skills</i> 5 <i>Problem-Solving Strategy</i> 96, 176, 226, 488 <i>Web Quest</i> 3
<ul style="list-style-type: none"> develop, use and explain procedures for performing calculations with whole numbers, decimals, fractions and integers; 	SE: 7 (e.g. #1), 121-124, 131 #17, 300-303, 305 <i>Hands-On Mini Lab</i> 152, 228, 240, 304, 310 <i>Study Skill</i> 239 TWE: A 126 DI 136, 262 PC 254 F	SE: 14-17, 120-124, 134-137, 244-247, 264-266 <i>Hands-On Lab</i> 118-119, 126-127 <i>The Game Zone</i> 263 TWE: DI 135 ICE 121, 135 PC 332 F TNT 121	SE: 8 (e.g. #2), 23-27, 34-35, 83 (WHEN), 206-209, 210-214 <i>Hands-On Mini Lab</i> 28, 71 TWE: DI 24, 29, 72, 77 ICE 207
<ul style="list-style-type: none"> understand the concepts of powers and roots, and apply them in problem situations; 	SE: 18-21, 136 (e.g. #5) TWE: DI 19	SE: 10-13, 43-45, 47 #8-16, 63 #18, 147 #13, 470-473, 477 #37-39 <i>The Game Zone</i> 487 TWE: DI 471 ICE 11	SE: 98-101, 104-107, 116-119 TWE: A 107 ICE 105

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> select and use an appropriate method for computing from among mental math, estimation, paper-and-pencil and calculator methods; and 	SE: 7 (e.g. #1), 8 (e.g. #2), 131 #16-#17, 136 (e.g. #5), 206-207 #1 & #2 <i>Study Skill</i> 38 <i>Study Tip</i> 19, 236, 404 TWE: A 38, 126 DI 125, 136 TNT 277	SE: 33 #40, 210 (e.g. #1), 211 (e.g. #3, #4), 242 #2, 320 #2, 476 (e.g. #2), 493 (e.g. #2), 561 <i>Spreadsheet Investigation</i> 361 <i>Study Tip</i> 11, 44 TWE: DI 198, 211 TT 361	SE: 8 (e.g. #2), 67 (e.g. #1), 27 #53-#54, 75 (Extending the Lesson), 117 (e.g. #4), 127 (e.g. #7), 134 (e.g. #3), 228-231 TWE: DI 68, 221
<ul style="list-style-type: none"> use relationships among operations and properties of operations (associative, commutative and distributive) as well as order of operations and inverses to simplify computations. 	SE: 24-27, 333-336, 339, 342 (#42-#43), 353 <i>Hands-On Lab</i> 270-271, 332 TWE: B 333 DI 25 ICE 334	SE: 14-17, 30-33, 50 #6, 121, 124 #52-57, 156, 258 <i>Study Tip</i> 38, 198 TWE: A 33 ICE 31, 259	SE: 11-15, 25, 35, 58 #3, 59 #8, 85 #33 TWE: A 15, 53, 477 PS 57, 111
CONTENT STANDARD 3: Estimation and Approximation <i>Students will make estimates and approximations, and judge the reasonableness of results.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> develop, apply and explain a variety of estimation strategies in problem situations involving quantities and measures; 	SE: 116-119, 154 #37, 221 #31-#35, 223-225, 416-417, 468 #32-#35, 472 #31-#32, 592 <i>Data Update</i> 441 <i>Problem-Solving Strategy</i> 125-126 TWE: A 119 B 116, 223 DI 125, 142, 220	SE: 21 #43, 223 #34-37, 240-243, 295 #23, 337, 477 #32 <i>Hands-On Lab</i> 301, 344 <i>Problem-Solving Strategy</i> 252-253, 338-339 TWE: DI 241, 335	SE: 27 #52, 65 #40, 85 #44, 228-231, 600-601 <i>Problem-Solving Strategy</i> 226-227 TWE: A 122 DI 93

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> use estimation to predict outcomes and determine reasonableness of results; 	SE: 6-7, 116-119, 122 (e.g. #5), 154 #37, 221 #31-#35, 223-225, 253 #17, 416 (e.g. #3), 477 (e.g. #5) <i>Data Update</i> 441 <i>Problem-Solving Strategy</i> 125-126 TWE: A 119 DI 125, 156, 220	SE: 7 (e.g. #1), 50 #3, 295 #23, 343 #31, 366 #7 <i>Hands-On Lab</i> 301, 344 <i>Problem-Solving Strategy</i> 252-253 TWE: B 370 DI 375 ICE 375 PS 405	SE: 6, 8 (e.g. #2), 27 #52, 59 #11, 229 (e.g. #7), 251 #15-#16 <i>Hands-On Lab</i> 22 <i>Problem-Solving Strategy</i> 226-227 TWE: DI 226
<ul style="list-style-type: none"> recognize when estimation is appropriate and understand the usefulness of an estimate as distinct from an exact answer; and 	SE: 6, 116-119, 154 #37, 415 (WHEN), 416 (e.g. #3), 472 #32, 487 #27 <i>Problem-Solving Strategy</i> 125-126, 156-157 TWE: A 258 B 125, 141 DI 142 ICE 117	SE: 50 #3, 223 #34-37, 240-243, 334, 477 #32 <i>Hands-On Lab</i> 301 <i>Problem-Solving Strategy</i> 252-253, 338-339	SE: 6, 27 #52, 122 #35, 129 #49-#50, 223 #43, 229 (e.g. #7), 251 #15 <i>Problem-Solving Strategy</i> 226-227
<ul style="list-style-type: none"> determine whether a given estimate is an overestimate or underestimate. 	SE: 7 (e.g. #1), 119 #38, 221, #8-#9 <i>Problem-Solving Strategy</i> 125-126 TWE: A 222, 258 NS 221	SE: 295 #23, 334 <i>Hands-On Lab</i> 301 <i>Problem-Solving Strategy</i> 338-339 TWE: DI 338 NS 336	SE: 251 #16 <i>Web Quest</i> 253 TWE: T 215

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
CONTENT STANDARD 4: Ratios, Proportions and Percents <i>Students will use ratios, proportions and percents to represent relationships between quantities and measures and solve problems involving ratios, proportions and percents.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> understand and use ratios, proportions and percents in a wide variety of situations; 	SE: 380-383, 386-389, 391-393, 395-397, 423 #21 <i>Hands-On Lab</i> 394 <i>Spreadsheet Investigation</i> 390 <i>The Game Zone</i> 399 TWE: DI 381, 387 ICE 381 TNT 392	SE: 237 #19, 288-291, 297-300, 304-308, 323-325, 350-353, 440-441, 495 #26-27 <i>Hands-On Lab</i> 296, 301 TWE: BBS 286 C DI 289	SE: 27 #43-#44, 156-159, 170-173, 184-187, 188-191, 206-209, 220-223, 232-235 <i>Study Skill</i> 215 TWE: A 173 DI 206 ICE 185, 207
<ul style="list-style-type: none"> develop, apply and explain methods for solving problems involving proportions and percents; 	SE: 386-389, 391-393, 395-397, 409-412, 423 #21 <i>Hands-On Lab</i> 394, 407-408 <i>Spreadsheet Investigation</i> 390 <i>Web Quest</i> 377 TWE: DI 387 PS 421	SE: 297-300, 304-308, 319-321, 323-325, 345-347, 441 <i>Hands-On Lab</i> 301 TWE: B 323 DI 298, 355 ICS 286 D PS 329 TNT 298	SE: 10 #16, 160-164, 170-173, 184-187, 188-191, 216-219, 220-223 TWE: A 173 DI 179 ICE 161, 185
<ul style="list-style-type: none"> use and differentiate between fractional parts and ratios when comparing quantities; and 	SE: 380-383, 418 TWE: A 185	SE: 214 #12, 227-231, 237 #19, 288-291 TWE: DI 289	SE: 67-70, 91 #36-#40, 156-159 <i>Study Tip</i> 160, 170 TWE: A 182 DI 157 TNT 157

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> use dimensional analysis to identify and find equivalent rates. 	SE: 381 (e.g. #3), 383 #28, 391-393, 418 <i>Hands-On Lab</i> 384-385 TWE: A 412 DI 391	SE: 292-295, 329 #11 TWE: B 292	SE: 73 (e.g. #5), 78 (e.g. #6), 140 #20, 187 #18-#19
CONTENT STANDARD 5: Measurement <i>Students will make and use measurements in both customary and metric units to approximate, measure and compute length, area, volume, mass, temperature, angle and time.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> estimate, make and use measurements to describe and compare phenomena, and explore the structure and use of systems of measurement, including converting units within systems; 	SE: 31 #49-#51, 279 #42-#43, 462, 465-468, 470-473, 476-479, 490-493, 500, 503 #21 <i>Hands-On Lab</i> 474-475 <i>The Game Zone</i> 483 <i>Web Quest</i> 461 TWE: A 473 B 470 DI 471 PC 462 F PS 501	SE: 38-41, 139 (e.g. #4), 169 #40 & #41, 267-269, 273 #35-38, 308 #23, 431 #24 <i>Web Quest</i> 193 TWE: DI 139	SE: 14 #40, 15 #41-#42, 52 #36-#39, 169 #20, 173 #39-#42, 338 #27-#29 <i>Web Quest</i> 253 TWE: A 95
<ul style="list-style-type: none"> select and use appropriate measurement units and tools to make measurements to the degree of accuracy required by the situation; 	SE: 21 #41, 215 #14, 264 #45, 318 #26, 363, (e.g. #3), 465-468, 470-473, 476-479, 502 #10 <i>Hands-On Lab</i> 474-475 <i>Hands-On Mini Lab</i> 165 TWE: A 468 B 465 DI 145, 471	SE: 38-41, 169 #40-41, 205 #30-31, 218 #15, 248, 267-269, 526 #27, 542-545 <i>Spreadsheet Investigation</i> 309 TWE: A 273 TNT 419	SE: 10 #16, 107 #37-#40, 113 #13, 121 (e.g. #2), 145 #23, 186 #15, 338 #27-#29, 358-362, 520 #28 TWE: TNT 320, 360

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> solve problems involving the concept of, calculation of, and relationships among length, perimeter, area, volume, angle measure, capacity, weight, mass and temperature; and 	SE: 17 #53, 21 #41, 39-41, 465-466, 476-479, 544, 546-549, 551-554, 570-573 <i>Hands-On Lab</i> 464, 474-475, 550 <i>Spreadsheet Investigation</i> 469 TWE: B 18 PC 462 F, 544 F	SE: 100 #7, 108 #34, 168 #39, 200 #44-47, 270-273, 415, 480, 483-485, 489-492 <i>Web Quest</i> 3, 193 TWE: A 415 B 109	SE: 31 #43-#44, 101 #43, 133 (e.g. #1 & #2), 149 #17, 251 #10, 314-318, 335-339 <i>Problem-Solving Strategy</i> 177 #14 TWE: A 95 ICE 133
<ul style="list-style-type: none"> develop and use formulas and procedures for solving measurement problems. 	SE: 17 #53, 39-41, 158-160, 161-164, 171 #16, 193 #8, 268 #18, 546-549, 556-559, 575-578 <i>Hands-On Lab</i> 384, 550 <i>Spreadsheet Investigation</i> 469 TWE: A 549 B 570 PC 544 F	SE: 28 #18, 179 (e.g. #3), 191 #20, 261 #37, 270-271, 468, 477 #34 <i>Hands-On Lab</i> 274, 488 TWE: A 273 PC 510 F	SE: 15 #41-#42, 53 #46, 86 #17, 122 #35, 129 #49-#50, 314-318, 613 TWE: A 95 DI 242, 315
CONTENT STANDARD 6: Spatial Relationships and Geometry <i>Students will analyze and use spatial relationships and basic concepts of geometry to construct, draw, describe and compare geometric models and their transformations, and use geometric relationships and patterns to solve problems.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> investigate, explore and describe the geometry in nature and real-world applications; 	SE: 504, 536 #15-#16, 544, 549 #18, 554 #18, #19 <i>Hands-On Lab</i> 394, 534 TWE: DI 507, 564 PC 504 F PS 169, 581 TNT 507	SE: 200 #44-47, 270-273, 303 #11, 366 #4, 388 (e.g. #2), 430 #5-7, 431 #24-25, 576 #22 <i>Web Quest</i> 409 TWE: A 415 PS 549	SE: 95 #41, 113 #20, 184-187, 188-191, 197 #23-#24 <i>Web Quest</i> 253 TWE: DI 185 ICE 185 PS 309, 367

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> identify, visualize, model, describe and compare properties of and relationships among 2- and 3-dimensional shapes; 	SE: 504, 515-517, 522-525, 544, 564-566, 576, 578 (Extending the Lesson) <i>Hands-On Lab</i> 567, 574 <i>Hands-On Mini Lab</i> 575 TWE: A 565 DI 564 PS 541 TNT 576	SE: 283 #16, 428-431, 434-437, 463 #15-17, 514-517 <i>Hands-On Lab</i> 416-417, 426-427 <i>Study Skill</i> 11, 474 <i>The Game Zone</i> 529 <i>Web Quest</i> 409 TWE: A 437 DI 515 PA 515 PC 510 F PS 549	SE: 95 #41, 320, 347, 348, 352, 353, 368 #8 <i>Hands-On Lab</i> 346 <i>Hands-On Mini Lab</i> 342 TWE: A 350 TNT 347
<ul style="list-style-type: none"> describe and use fundamental concepts and properties of, and relationships among, points, lines, planes, angles and shapes, including incidence, parallelism, perpendicularity, congruence, similarity and the Pythagorean theorem; 	SE: 504, 506-509, 515 (e.g. #1), 528-531, 534-536, 540 #24-#31, 542 #7-#8, 543 #18 <i>Hands-On Lab</i> 513-514, 526-527, 550 TWE: DI 520, 529 PS 541 TNT 528	SE: 413-415, 422-425, 434-437, 440-443, 478-482 <i>Hands-On Lab</i> 416-417, 426-427, 478 <i>Web Quest</i> 409 TWE: A 415, 437 B 413, 422 ICE 423	SE: 113 #20, 132-136, 137-140, 178-182, 256-260, 272-275, 279-282 <i>Hands-On Lab</i> 261, 271, 278, 283 TWE: A 182, 275 DI 257 PS 149, 201 TNT 138
<ul style="list-style-type: none"> construct, analyze and apply the effects of reflections, translations, rotations and dilations on various shapes; 	SE: <i>Hands-On Lab</i> 532-533, 537	SE: 446-450, 451-454, 456-459, 467 #18, 473 #48-49 <i>Hands-On Lab</i> 460-461 <i>Spreadsheet Investigation</i> 455 <i>Web Quest</i> 409	SE: 188-191, 203 #15, 251 #14, 290-294, 296-299, 300-303, 311 #17 <i>Hands-On Lab</i> 304-305 TWE: A 294 DI 189 ICE 297, 301
<ul style="list-style-type: none"> relate 2- and 3-dimensional geometry using shadows, perspectives, projections and maps; and 	SE: 544, 564-566, 580 #13-#15, 581 #8-#10 <i>Hands-On Lab</i> 567 TWE: A 565 DI 564 PS 581	SE: 112-113, 205 #30-31, 329 #11, 440-443, 453 #12 <i>Problem-Solving Strategy</i> 518-519 TWE: PC 286 F PS 549	SE: 143 (e.g. #2), 188-191, 194-197, 203 #14 <i>Web Quest</i> 153 TWE: DI 195 ICE 185, 195

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> solve real-world problems using geometric concepts. 	SE: 504, 536 #15-#16, 544, 549 #18, 554 #18-#19 <i>Hands-On Lab</i> 384-385, 394, 537 <i>Problem-Solving Strategy</i> 520-521 TWE: PS 541, 581 TNT 507	SE: 200 #44-47, 271 (e.g. #3), 303 #11, 366 #4, 388 (e.g. #2), 430 #5-7, 526 #22 <i>Web Quest</i> 409 TWE: A 415 PS 549	SE: 95 #41, 113 #20, 184-187, 188-191, 197 #23-#24 <i>Web Quest</i> 153, 253 TWE: PS 367
CONTENT STANDARD 7: Probability and Statistics <i>Students will use basic concepts of probability and statistics to collect, organize, display and analyze data, simulate events and test hypotheses. Educational experiences in Grades 5-8 will assure that students:</i>			
<ul style="list-style-type: none"> make conjectures; design simulations and samplings; generate, collect, organize and analyze data; and represent the data in tables, charts, graphs and creative data displays; 	SE: 48, 50-53, 56-59, 72-75, 438-441 <i>Hands-On Lab</i> 426-427 <i>Problem-Solving Strategy</i> 54-55 <i>Web Quest</i> 3, 97, 377 TWE: A 53, 429 DI 51 ICE 439 TNT 183	SE: 54-57, 85-89, 101 #16 <i>Hands-On Lab</i> 344 <i>Problem-Solving Strategy</i> 58-59, 391-392 <i>Spreadsheet Investigation</i> 90-91 <i>Web Quest</i> 3, 103, 193 TWE: A 79 B 76 DI 66 PC 368 F	SE: 66 #49, 406-409, 420-424, 430-433, 450-453, 454-458 <i>Graphing Calculator Investigation</i> 404-405 <i>Hands-On Lab</i> 434 <i>Problem-Solving Strategy</i> 123-124, 378-379, 537-538 <i>Spreadsheet Investigation</i> 165 <i>Web Quest</i> 3, 153, 371
<ul style="list-style-type: none"> make inferences and formulate and evaluate hypotheses and conclusions based on data from tables, charts and graphs; 	SE: 48, 66-69, 75 #30-#32, 86-89, 438-441 <i>Hands-On Mini Lab</i> 62 <i>Problem-Solving Strategy</i> 54-55, 192-193 <i>Web Quest</i> 3, 97, 291 TWE: B 66 DI 87 ICE 88 TT 79	SE: 51 #11, 60-63, 101 #15 & #16, 345-347, 357 #38 <i>Problem-Solving Strategy</i> 58-59, 201-202 <i>Web Quest</i> 3, 103, 193 TWE: DI 59, 346 ICE 61	SE: 163 #11-#14, 420-424 <i>Hands-On Lab</i> 22 <i>Problem-Solving Strategy</i> 44 #13, 123-124, 276-277, 418-419, 537-538 <i>Web Quest</i> 153, 371 TWE: PS 413

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> describe the shape of the data using range, outliers, and measures of central tendency, including mean, median and mode; 	SE: 76-78, 80-83, 89 #15, 92 #20-#21, 131 #12, 313 #52, 459 #11 <i>Spreadsheet Investigation</i> 79 TWE: A 83 ICE 77, 81	SE: 65-67, 69-72, 76-79, 94 #9-11, 100 #6, 129 (e.g. #6), 141 #36 <i>Hands-On Lab</i> 73 <i>The Game Zone</i> 75 TWE: DS 66 PC 52 F	SE: 416, 435-438, 442-445, 446-449 <i>Spreadsheet Investigation</i> 439 TWE: DI 436, 451
<ul style="list-style-type: none"> select and construct appropriate graphical representations and measures of central tendency for sets of data; 	SE: 76-78, 80-83, 88 #8-#10, 297 #51 <i>Spreadsheet Investigation</i> 79 <i>Web Quest</i> 3, 377 TWE: A 83, 89 ICE 77, 81 TT 79	SE: 69-72, 79 #19-21, 83 #14-15 <i>Graphing Calculator Investigation</i> 84 <i>Hands-On Lab</i> 73 TWE: A 72	SE: 416, 435-438 <i>Spreadsheet Investigation</i> 439 TWE: DI 436
<ul style="list-style-type: none"> determine the probability of simple and compound events; 	SE: 424, 428-431, 435 #16-#18, 450-453, 457 #13-#15, 458-459 <i>The Game Zone</i> 443 TWE: DI 443 PS 457	SE: 370-373, 374-377, 378-380, 398-401 <i>Problem-Solving Strategy</i> 391-392 TWE: A 380 B 391 DI 371 ICE 371	SE: 372, 374-377, 380-383, 384-387, 388-389, 396-399 <i>Hands-On Lab</i> 392-393 TWE: A 391 TNT 375
<ul style="list-style-type: none"> model probabilistic situations using both simulations and theoretical methods; 	SE: 428-431, 454 <i>Hands-On Lab</i> 426-427, 432 <i>The Game Zone</i> 443 TWE: A 429 DI 429, 451 ICE 429 PS 457	SE: 393-396 <i>Hands-On Lab</i> 397 <i>Problem-Solving Strategy</i> 391-392 TWE: A 395 PS 405	SE: 400-403 <i>Graphing Calculator Investigation</i> 404-405 TWE: A 403

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> make predictions that are based on experimental and theoretical probabilities; and 	SE: 428-431, 438-441, 442 #12, 455 #22-#24 <i>Hands-On Lab</i> 426-427, 432 <i>The Game Zone</i> 191, 443 TWE: A 441 B 438 DI 438 ICE 439 PS 457	SE: 393-396, 401 #27, 407 #16-17 <i>Hands-On Lab</i> 176, 397 <i>Problem-Solving Strategy</i> 391-392	SE: 400-403, 406-409 TWE: DI 400 PS 413 TNT 408
<ul style="list-style-type: none"> draw conclusions from data and identify fallacious arguments or claims. 	SE: 86-89, 95 #15, 105 #50, 438-441, 455 <i>Hands-On Lab</i> 437 TWE: A 441 DI 63, 87, 429, 438	SE: 92-95, 345-347 <i>Hands-On Lab</i> 301, 344 <i>Web Quest</i> 103 TWE: A 347 DI 92 ICE 93 PS 99	SE: 406-409, 429 #16, 450-453 <i>Hands-On Lab</i> 22 <i>Problem-Solving Strategy</i> 276-277 <i>Web Quest</i> 371 TWE: A 409 B 406 DI 407
CONTENT STANDARD 8: Patterns <i>Students will discover, analyze, describe, extend and create patterns and use patterns to describe mathematical and other real-world phenomena.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> describe, analyze, create and extend a wide variety of patterns; 	SE: 8 (e.g. #3), 10-13, 171 #9, 194 (WHEN), 282-284, 543 #19 <i>Hands-On Lab</i> 139-140, 360-361, 537 <i>Problem-Solving Strategy</i> 157 #6, 280-281 <i>Web Quest</i> 291 TWE: A 284 B 280 DI 282	SE: 34-36, 51 #17, 136 #45, 147 #12, 454 #13-14 <i>Hands-On Lab</i> 37 <i>Hands-On Mini Lab</i> 18 <i>Problem-Solving Strategy</i> 132-133 <i>Spreadsheet Investigation</i> 523	SE: 7 (e.g. #1), 9 #8-#9, 90 #10, 113 #13 <i>Hands-On Lab</i> 102-103, 304-305, 392-393 <i>Problem-Solving Strategy</i> 96-97, 378-379, 489 #6 <i>Web Quest</i> 371, 457

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> represent and describe mathematical relationships using tables, rules, simple equations and graphs; 	SE: 21 #42-#47, 171 #9, 197 #29, 209 #43, 362-365, 366-369 <i>Hands-On Lab</i> 181, 337-338 <i>Web Quest</i> 291 TWE: A 59, 284 DI 351 NS 263 TNT 434	SE: 8 (e.g. #2), 51 #17, 88 #14-16, 140 #35, 179 #2, 226 #21 <i>Hands-On Lab</i> 119, 154-155, 176 <i>Hands-On Mini Lab</i> 18 <i>Problem-Solving Strategy</i> 58-59, 132-133 <i>Spreadsheet Investigation</i> 523 TWE: NS 256	SE: 7 (e.g. #1), 113 #13, 173 #48 <i>Hands-On Lab</i> 102-103, 392-393, 516 <i>Hands-On Mini Lab</i> 116 <i>Problem-Solving Strategy</i> 96-97, 378-379, 418-419, 489 #6 <i>Web Quest</i> 371
<ul style="list-style-type: none"> use patterns and relationships to identify the nth term in a sequence; 	SE: 8 (e.g. #3), 9 #7, 21 #42-#46, 193 #13, 196 #23, 282-284, 288 #8 <i>Problem-Solving Strategy</i> 157 #6 TWE: A 284 B 66, 194 DI 282	SE: 8 (e.g. #2), 10, 34-36, 48, 51 #17, 147 #12 <i>Hands-On Lab</i> 37, 176 <i>Spreadsheet Investigation</i> 523 TWE: ICE 35	SE: 9 #8-#9, 10 #18, 90 #10, 512-515 <i>Hands-On Lab</i> 516 <i>Problem-Solving Strategy</i> 97 #13 TWE: A 515
<ul style="list-style-type: none"> construct and analyze tables and graphs to identify patterns and relationships; and 	SE: 8 (e.g. #3), 21 #42-#46, 47 #25, 50-53, 67 #3-#6, 171 #9, 185, 366-369, 389 #34-#35 <i>Web Quest</i> 291, 309	SE: 8 (e.g. #2), 10, 51 #17, 88 #14-16, 392 #10 <i>Problem-Solving Strategy</i> 132-133 <i>Spreadsheet Investigation</i> 523	SE: 113 #13, 380, 384 (e.g. #1), 515 (e.g. #28-#32) <i>Hands-On Lab</i> 516 <i>Problem-Solving Strategy</i> 378-379, 418-419, 537-538 <i>Web Quest</i> 371
<ul style="list-style-type: none"> use patterns and relationships to represent and solve problems. 	SE: 8 (e.g. #3), 47 #25, 171 #9, 194 (WHEN), 209 #43, 282-284, 366-369, 543 #19	SE: 51 #17, 88 #14-16, 140 #35, 147 #12, 454 #13-14 <i>Hands-On Mini Lab</i> 18 <i>Problem-Solving Strategy</i> 132-133 <i>Spreadsheet Investigation</i> 523	SE: 10 #18, 90 #10, 384 (e.g. #1), 512-515, 539-542 <i>Hands-On Lab</i> 102-103, 392-393, 516 <i>Hands-On Mini Lab</i> 116, 380 <i>Web Quest</i> 371

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
CONTENT STANDARD 9: Algebra and Functions <i>Students will use algebraic skills and concepts, including functions, to describe real-world phenomena symbolically and graphically, and to model quantitative change.</i> Educational experiences in Grades 5-8 will assure that students:			
<ul style="list-style-type: none"> use variables, expressions, equations and inequalities to describe and represent numerical situations; 	SE: 28-31, 37 (Extending the Lesson & #40-#43), 339-342 <i>Hands-On Lab</i> 337-338, 343, 354 <i>Problem-Solving Strategy</i> 358-359 TWE: A 354 B 515 DI 29, 351	SE: 18-21, 24-27, 49 #25, 101 #9, 150-152, 172-175, 186, 191 #19-20 TWE: B 24 DI 19, 25, 275 ICE 151 PS 49	SE: 11-15, 48 #40-#41, 145 #27, 469-473, 492-495 <i>Hands-On Lab</i> 482-483 <i>Hands-On Mini Lab</i> 45 TWE: A 49 PS 507
<ul style="list-style-type: none"> use concrete materials, tables, graphs, verbal rules and symbolic expressions to represent situations and patterns; 	SE: 10-13, 21 #42-#46, 28-31, 47 #25, 194 (WHEN) <i>Problem-Solving Strategy</i> 280-281, 358-359	SE: 8 (e.g. #2), 51 #17, 140 #35, 150-152, 177-181, 226 #21 <i>Hands-On Lab</i> 37, 126-127, 154-155, 176 TWE: A 133	SE: 11-15, 39-42, 145 #27, 469-473 <i>Hands-On Lab</i> 468 <i>Problem-Solving Strategy</i> 96-97 TWE: A 42 B 39 DI 40 PS 507 TNT 40

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<ul style="list-style-type: none"> analyze functional relationships to explain how a change in one quantity is associated with a change in another; 	SE: 41 #21, 159 #2, 164 #24, 366-369, 383 #33-#35, 389 #34-#35 <i>Hands-On Lab</i> 360-361, 464 <i>Spreadsheet Investigation</i> 469 TWE: TNT 367	SE: 177-181, 182-185, 188, 191 <i>Hands-On Lab</i> 176, 196, 296 <i>Hands-On Mini Lab</i> 258, 493 <i>Problem-Solving Strategy</i> 58-59, 132-133, 302-303 <i>Web Quest</i> 3, 103 TWE: A 133, 291, 373 PC 194 F TNT 121	SE: 166-169, 173 #47, 510, 517-520, 522-525, 561-562 <i>The Game Zone</i> 531 <i>Hands-On Lab</i> 516 TWE: A 519 B 166
<ul style="list-style-type: none"> construct and interpret data points on number lines and the coordinate plane; and 	SE: 57 (e.g. #2), 320-323, 329 (#17-#19), 366-369 TWE: A 323 DI 321 TNT 367	SE: 25, 106-107, 112-115 TWE: ICE 113 TNT 121	SE: 18 (e.g. #5), 59 #14, 142-145, 166-169 <i>Hands-On Lab</i> 22, 521 <i>Spreadsheet Investigation</i> 165 TWE: A 27 B 446 DI 24, 143
<ul style="list-style-type: none"> solve simple linear equations using concrete, informal, graphical, tabular and formal methods. 	SE: 323 (Critical Thinking), 366-369 can be used as equations to solve for this objective.	SE: 177-181, 182-185 TWE: A 181 DI 177	SE: 166-169, 517-520, 522-525, 534, 560-563 <i>Graphing Calculator Investigation</i> 532 TWE: A 563 B 560 ICE 561

OBJECTIVES	PAGE REFERENCES		
	COURSE 1	COURSE 2	COURSE 3
<p>CONTENT STANDARD 10: Discrete Mathematics <i>Students will use the concepts and processes of discrete mathematics to analyze and model a variety of real-world situations that involve recurring relationships, sequences, networks, combinations and permutations.</i> Educational experiences in Grades 5-8 will assure that students:</p>			
<ul style="list-style-type: none"> use systemic listing and counting strategies, including simple combinations and permutations; 	SE: 177, 414 #8, 433-436, 442 #7, 455 #16-#18, 459 #18, 521 #13 <i>Problem-Solving Strategy</i> 192-193, 448-449 <i>Study Skill</i> 176 TWE: A 176, 436 DI 192, 433 PC 504 F	SE: 199 #36-38, 374-376, 378-380, 381-383, 387-390, 406 #6 <i>Hands-On Lab</i> 386 <i>Problem-Solving Strategy</i> 201-202, 444-445 <i>Web Quest</i> 285 TWE: DI 381 ICE 375	SE: 372, 380 (e.g. #1), 381-382, 384-387, 388-391, 415 #12 & #14 <i>Hands-On Lab</i> 392-393 <i>Problem-Solving Strategy</i> 378-379 <i>Web Quest</i> 3, 153, 253, 371 TWE: A 383, 387 DI 379
<ul style="list-style-type: none"> use recursive processes, including iteration, to explore and solve problems; and 	SE: 282-284, 433-436 <i>Web Quest</i> 291 TWE: DI 282, 433 TNT 434	SE: 34-37, 41 #47-50, 50 #7, 51 #17, 447, 449 #24, 454 #13 <i>Problem-Solving Strategy</i> 132-133 TWE: DI 35, 447 ICE 35	SE: 113 #13, 279 (WHEN) <i>Hands-On Lab</i> 304-305 <i>Problem-Solving Strategy</i> 97 #5 <i>Web Quest</i> 153, 253
<ul style="list-style-type: none"> devise, describe and test algorithms for solving optimization problems. 	SE: 65 #15, 74 #21-#23, 253 #17, 289 #17 <i>Problem-Solving Strategy</i> 32-33, 192-193, 314-315 <i>Web Quest</i> 173, 377, 397 TWE: A 512 DI 142	SE: 6-9, 319, 449 #24 <i>Problem-Solving Strategy</i> 164-165, 252-253 <i>Study Skill</i> 42 <i>Web Quest</i> 103, 193, 285 TWE: A 273, 321 DI 167, 252, 355 PC 148 F	SE: 9 #4-#6, 15 #59, 21 #67 <i>Hands-On Lab</i> 6 <i>Problem-Solving Strategy</i> 378-379 <i>Web Quest</i> 3, 153, 253, 371 TWE: DI 7 TNT 7

Codes Used for TWE Codes

Course 1

A	Assess
B	Bellringer
DI	Daily Intervention
ICE	In-Class Examples
NS	Number Sense
PC	Project Criss
PS	Portfolio Suggestion
TNT	Tips for New Teachers
TT	Teaching Tip

Course 2

A	Assess
B	Bellringer
BBS	Bulletin Board Starters
DI	Daily Intervention
DS	Data Sense
ICE	In-Class Examples
ICS	In-Class Speaker
NS	Number Sense
PA	Practice/Apply
PC	Project Criss
PS	Portfolio Suggestion
TNT	Tips for New Teachers
TT	Teaching Tip

Course 3

A	Assess
B	Bellringer
DI	Daily Intervention
ICE	In-Class Examples
PS	Portfolio Suggestion
T	Teach
TNT	Tips for New Teachers