

A Correlation of

**SCOTT FORESMAN ■ ADDISON WESLEY**

**Mathematics**

to the

Missouri Mathematics  
Grade-Level Expectations

**Grades K - 6**



G/M-223

## Introduction

This document demonstrates the high degree of success students will achieve when using **Scott Foresman – Addison Wesley Mathematics** in meeting the objectives of the Missouri Grade Level Expectations. Correlation page references are to the Teacher Edition, which contains facsimile Pupil Edition pages.

**Scott Foresman – Addison Wesley Mathematics** was carefully developed to reflect the specific needs of students and teachers at every grade level, while maintaining an overall primary goal: to have math make sense from every perspective. This program is based on scientific research that describes how children learn mathematics well and on classroom-based evidence that validates proven reliability.

### ● Reaching All Learners

**Scott Foresman – Addison Wesley Mathematics** addresses the needs of every student through structured instruction that makes concepts easier for students to grasp. Lessons provide step-by-step examples that show students how to think about and solve the problem. Built-in leveled practice in every lesson allows the teacher to customize instruction to match students' abilities. Reaching All Learners, featured in the Teacher Edition, helps teachers meet the diverse needs of the classroom with fun and stimulating activities that are easy to incorporate directly into the lesson plan.

### ● Test Prep

**Scott Foresman - Addison Wesley Mathematics** builds understanding through connections to prior knowledge, math strands, other subjects and the real world. It provides practice for maximum results and offers assessment in a variety of ways. Besides carefully placed reviews at the end of each Section, an important Test Prep strand runs throughout the program. Writing exercises prepare students for open-ended and short-or extended-response questions on state and national tests. Spiral review in a test format help students keep their test-taking skills sharp.

### ● Priority on problem solving:

Problem-solving instruction is systematic and explicit. Reading connections help children with problem-solving skills and strategies for math. Reading for Math Success encourages students to use the reading skills and strategies they already know to solve math problems.

### ● Instructional Support

In the Teacher Edition, the Lesson Planner provides an easy, at-a-glance planning tool. It identifies objectives, math understandings, focus questions, vocabulary, and resources for each lesson in the chapter. Professional Development at the beginning of each chapter in the Teacher Edition includes a Skills Trace as well as Math Background and Teaching Tips for each section in the chapter.

Ancillaries help to reach all learners with practice, problem solving, hands-on math, language support, assessment and teacher support. Technology resources for both the student and the teacher provide a whole new dimension to math instruction by helping to create motivating and engaging lessons.

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**Scott Foresman – Addison Wesley Mathematics  
to the  
Missouri Mathematics Grade-level Expectations**

**Kindergarten**

**NUMBER AND OPERATIONS**

**1. Understand numbers, ways of representing numbers, relationships among numbers and number systems**

**A. Read, write and compare numbers**

**rote counts to 100**

**SE/TE:** 53A-B, 53-54, 55A-B, 55-56, 57A-B, 57-58, 59A-B, 59-60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 73-74, 75I, 77A-B, 77-78, 79A-B, 79-80, 81A-B, 81-82, 83A-B, 83-84, 85A-B, 85-86, 97, 99-100, 101I-J, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109A-B, 109-110, 111A-B, 111-112, 113-114, 115A-B, 115-116, 117A-B, 117-118, 121A-B, 121-122, 127A-B, 127-128, 129-130, 285I-J, 285K-L, 287A-B, 287-288, 289A-B, 289-290, 291A-B, 291-292, 293A-B, 293-294, 295A-B, 295-296, 297A-B, 297-298, 299A-B, 299-300, 301, 302

**C. Compose and Decompose numbers**

**connect number words (orally) and quantities they represent**

**SE/TE:** 53A-B, 53-54, 55A-B, 55-56, 57A-B, 57-58, 59A-B, 59-60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 73-74, 75I, 77A-B, 77-78, 79A-B, 79-80, 81A-B, 81-82, 83A-B, 83-84, 85A-B, 85-86, 97, 99-100, 101I-J, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109A-B, 109-110, 111A-B, 111-112, 113-114, 115A-B, 115-116, 117A-B, 117-118, 121A-B, 121-122, 127A-B, 127-128, 129-130, 285I-J, 285K-L, 287A-B, 287-288, 289A-B, 289-290, 291A-B, 291-292, 293A-B, 293-294, 295A-B, 295-296, 297A-B, 297-298, 299A-B, 299-300, 301, 302; number words spelled out (in letters) in the SE: 55, 59, 61, 81, 85, 105, 107, 109, 111

**3. Compute fluently and make reasonable estimates**

**A. Describe or represent mental strategies**

**recognize numerals up to 31**

**SE/TE:** 51K-L, 53A-B, 53-54, 55A-B, 55-56, 57A-B, 57-58, 59A-B, 59-60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 73-74, 75I, 75K-L, 77A-B, 77-78, 79A-B, 79-80, 81A-B, 81-82, 83A-B, 83-84, 85A-B, 85-86, 97, 99-100, 101I-J, 101K-L, 103A-B, 103-

104, 105A-B, 105-106, 107A-B, 107-108, 109A-B, 109-110, 111A-B, 111-112, 113-114, 115A-B, 115-116, 117A-B, 117-118, 121A-B, 121-122, 127A-B, 127-128, 129-130, 285I-J, 285K-L, 287A-B, 287-288, 289A-B, 289-290, 291A-B, 291-292, 293A-B, 293-294, 295A-B, 295-296, 297A-B, 297-298, 299A-B, 299-300, 301, 302

## ALGEBRAIC RELATIONSHIPS

### 1. Understand patterns, relations and functions

#### A. Recognize and extend patterns

**recognize or repeat sequences of sounds or shapes**

**SE/TE:** 25J, 25L, 35A-B, 35-36, 37A-B, 37-38, 39A-B, 39-40, 41A-B, 41-42, 43A-B, 43-44, 45A-B, 45-46, 48, 50, 297A-B, 297-298

#### B. Create and analyze patterns

**create and continue patterns**

**SE/TE:** 25J, 25L, 35A-B, 35-36, 37A-B, 37-38, 39A-B, 39-40, 41A-B, 41-42, 43A-B, 43-44, 45A-B, 45-46, 48, 50, 95A-B, 95-96, 123A-B, 123-124, 293A-B, 293-294, 295A-B, 295-296, 297A-B, 297-298, 299A-B, 299-300, 301, 302

#### C. Classify objects and representations

**sort objects by size**

**SE/TE:** 133A-B, 133-134, 135A-B, 135-136, 137A-B, 137-138, 145A-B, 145-146, 149A-B, 149-150

### 3. Use mathematical models to represent and understand quantitative relationships

#### A. Use mathematical models

**model situations that involve whole numbers, using pictures, objects or symbols**

**SE/TE:** 223I-J, 223K-L, 225A-B, 225-226, 227A-B, 227-228, 229A-B, 229-230, 231A-B, 231-232, 233A-B, 233-234, 235A-B, 235-236, 237A-B, 237-238, 239A-B, 239-240, 241-242, 243I, 245A-B, 245-246, 247A-B, 247-248, 249A-B, 249-250, 251A-B, 251-252, 253A-B, 253-254, 255A-B, 255-256, 257A-B, 257-258, 259-260, 263I, 263K-L, 265A-B, 265-266, 267A-B, 267-268, 269A-B, 269-270, 271A-B, 271-272, 273A-B, 273-274, 275A-B, 275-276, 277A-B, 277-278, 279A-B, 279-280, 281A-B, 281-282, 283-284

**GEOMETRIC AND SPATIAL RELATIONSHIPS**

**1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships**

**A. Describe and use geometric relationships**

**sort 2- and 3-dimensional shapes using physical models (circle, rectangle, triangle, sphere, rectangular prism, cylinder, pyramid)**

**SE/TE:** 1J, 1K-L, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 24, 195I, 197A-B, 197-198, 199A-B, 199-200, 201A-B, 201-202, 203A-B, 203-204, 205A-B, 205-206, 209A-B, 209-210, 211A-B, 211-212

**2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems**

**A. Use coordinate systems**

**describe, name and interpret relative positions in space (above, below, front, behind)**

**SE/TE:** 1K-L, 3A-B, 3-4, 5A-B, 5-6, 7A-B, 7-8, 9A-B, 9-10, 21A-B, 21-22, 23, 195J, 207A-B, 207-208

**4. Use visualization, spatial reasoning and geometric modeling to solve problems**

**A. Recognize and draw three-dimensional representations**

**recognize geometric shapes in the student's environment (stop sign, number cube, ball)**

**SE/TE:** 195K-L, 197A-B, 197-198, 219A-B, 219-220

**MEASUREMENT****1. Understand measurable attributes of objects and the units, systems and processes of measurement****A. Determine unit of measurement****compare and order objects according to their size or weight****SE/TE:** 131I-J, 131K-L, 133A-B, 133-134, 135A-B, 135-136, 137A-B, 137-138, 145A-B, 145-146, 149A-B, 149-150, 155A-B, 155-156, 157-158**C. Tell and use units of time****describe passage of time using terms such as today, yesterday, tomorrow****SE/TE:** 159I-J, 159K-L, 161A-B, 161-162, 163A-B, 163-164, 165A-B, 165-166, 167A-B, 167-168, 169A-B, 169-170, 171A-B, 171-172, 173A-B, 173-174, 175A-B, 175-176, 177A-B, 177-178, 191A-B, 191, 193**D. Count and compute money****identify and know the value of a penny, nickel and dime****SE/TE:** 159K-L, 179A-B, 179-180, 181A-B, 181-182, 183A-B, 183-184, 185A-B, 185-186, 187A-B, 187-188, 189A-B, 189-190, 192, 193-194, 243J, 257A-B, 257-258, 263J, 277A-B, 277-278, 287B**2. Apply appropriate techniques, tools and formulas to determine measurements****A. Use standard or non-standard measurement****measure with multiple copies of a unit of the same size (e. g., paper clips laid end to end)****SE/TE:** 139A-B, 139-140, 141A-B, 141-142, 143A-B, 143-144, 147A-B, 147-148, 151A-B, 151-152, 158**DATA AND PROBABILITY****1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them****A. Formulate questions****pose questions and gather data about themselves and their surroundings****SE/TE:** 47A-B, 125A-B, 125-126

**B. Classify and organize data**

**sort items according to their attributes**

**SE/TE:** 1I-J, 1K-L, 1N, 11A-B, 11-12, 13A-B, 13-14, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 24, 25K71A-B, 71-72, 259A-B, 281A-B

**C. Represent and interpret data**

**represent data using physical objects**

**SE/TE:** 25K, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33A-B, 33-34, 47A-B, 47, 49, 67A-B, 67-68



**Scott Foresman – Addison Wesley Mathematics  
to the  
Missouri Mathematics Grade-level Expectations**

**Grade One**

**NUMBER AND OPERATIONS**

**1. Understand numbers, ways of representing numbers, relationships among numbers and number systems**

**A. Read, write and compare numbers**

**recognizes “how many” in a set of objects**

**SE/TE:** R1-R8, 1K-L, 3A-B, 3-4, 5A-B, 5-6, 7A-B, 7-8, 9A-B, 9-10, 11-12, 13A-B, 13-14, 15, 16, 17A-B, 17-18, 19A-B, 19-20, 41, 241A-B, 243A-B, 243-244, 247A-B, 247-248, 249A-B, 249-250, 253, 272, 281A-B, 281-282, 283A-B, 283-284, 285A, 285-286, 287A, 287-288, 291A-B, 291-292, 303B, 303-304, 305-306, 319B, 319-320, 328B

**C. Compose and Decompose numbers**

**compose or decompose numbers using known facts, doubles and close to doubles**

**SE/TE:** 89I-J, 91A-B, 91-92, 93A-B, 93-94, 95A-B, 95-96, 97A-B, 97-98, 99A-B, 99-100, 101, 102, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109-110, 111A-B, 111-112, 113A-B, 113-114, 115, 116, 123I-J, 123K-L, 125A-B, 125-126, 127A-B, 127-128, 129A-B, 129-130, 131-132, 133A-B, 133-134, 135, 136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143A-B, 143-144, 145A-B, 145-146, 147, 148, 149, 150, 151, 152, 153-154, 154A-B, 417A-B, 417-418, 419A-B, 419-420, 421A-B, 421-422, 423A-B, 423-424, 425A-B, 425-426, 427A-B, 427-428, 433, 434, 435A-B, 435-436, 437A-B, 437-438, 439A-B, 439-440, 441A-B, 441-442, 443A-B, 443-444, 449, 450

**2. Understand meanings of operations and how they relate to one another**

**A. Represent Operations**

**represent a given situation involving addition**

**SE/TE:** 43I, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 55-56, 57A-B, 57-58, 59, 60, 79B, 79, 82, 83, 87-88, 88A-B, 89I-J, 91A-B, 91-92,

93A-B, 93-94, 95A-B, 95-96, 97A-B, 97-98, 99A-B, 99-100, 101, 102, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109-110, 111A-B, 111-112, 113A-B, 113-114, 115, 116, 149, 150, 151, 152, 153-154, 154A-B, 317-318

### 3. Compute fluently and make reasonable estimates

#### A. Describe or represent mental strategies

**describe or represent the mental strategy used to compute an addition problem**

**SE/TE:** 89I-J, 91A-B, 91-92, 93A-B, 93-94, 95A-B, 95-96, 97A-B, 97-98, 101, 102, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109-110, 111A-B, 111-112, 113A-B, 113-114, 115, 116, 149, 150, 151, 152, 153-154, 154A-B, 417A-B, 417-418, 419A-B, 419-420, 421A-B, 421-422, 423A-B, 423-424, 425A-B, 425-426, 427A-B, 427-428, 433, 434, 435A-B, 435-436, 437A-B, 437-438, 439A-B, 439-440

#### B. Develop and demonstrate fluency

**develop fluency with basic number relationships of addition and subtraction for sums up to 20**

**SE/TE:** 89I-J, 91A-B, 91-92, 93A-B, 93-94, 95A-B, 95-96, 97A-B, 97-98, 99A-B, 99-100, 101, 102, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109-110, 111A-B, 111-112, 113A-B, 113-114, 115, 116, 123I-J, 123K-L, 125A-B, 125-126, 127A-B, 127-128, 129A-B, 129-130, 131-132, 133A-B, 133-134, 135, 136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143A-B, 143-144, 145A-B, 145-146, 147, 148, 149, 150, 151, 152, 153-154, 154A-B, 180, 196, 218, 232, 238A-B, 254, 272, 294, 295B, 328B, 415J, 415, 417A-B, 417-418, 419A-B, 419-420, 421A-B, 421-422, 423A-B, 423-424, 425A-B, 425-426, 427A-B, 427-428, 433, 434, 435A-B, 435-436, 437A-B, 437-438, 439A-B, 439-440, 441A-B, 441-442, 443A-B, 443-444, 449, 450, 455-456, 470

## ALGEBRAIC RELATIONSHIPS

### 1. Understand patterns, relations and functions

#### A. Recognize and extend patterns

**extend patterns of sound, shape, motion or a simple numeric pattern**

**SE/TE:** 1I, R11-R14, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33A-B, 33-34, 35, 36, 37, 42, 154A, 245-246, 255A-B, 255-256, 257A-B, 257-258, 259-260, 261A-B, 261-262, 266, 269A-B, 269-270, 271, 273, 274, 275, 277-278, 304

**B. Create and analyze patterns****describe how simple repeating patterns are generated****SE/TE:** 1I, R11-R14, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33A-B, 33-34, 35, 36, 42, 154A**C. Classify objects and representations****classify objects by size or number****SE/TE:** 155I, 169A-B, 169-170, 238B, 307A-B, 307-308, 321, 363I, 371B, 385-386, 387B, 387-388, 391-392**2. Represent and analyze mathematical situations and structures using algebraic symbols****A. Represent mathematical situations****represent a mathematical situation as an expression or number sentence****SE/TE:** 43I, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 55-56, 57A-B, 57-58, 59, 60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 67A-B, 67-68, 69A-B, 69-70, 71A-B, 71-72, 73, 74, 75A-B, 75-76, 77A-B, 77-78, 79A-B, 79-80, 81, 82, 83, 85, 87-88, 88A-B, 89I-J, 91A-B, 91-92, 93A-B, 93-94, 95A-B, 95-96, 97A-B, 97-98, 99-100, 101, 102, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109-110, 111A-B, 111-112, 113A-B, 113-114, 115, 116, 123I-J, 123K-L, 125A-B, 125-126, 127A-B, 127-128, 129A-B, 129-130, 131-132, 133A-B, 133-134, 135, 136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143A-B, 143-144, 145A-B, 145-146, 147, 148, 149, 150, 151, 152, 153-154, 154A-B, 317-318, 322, 328, 349-350, 351-352, 362, 400, 414A, 415I, 417A-B, 417-418, 419A-B, 419-420, 421A-B, 421-422, 423A-B, 423-424, 425A-B, 425-426, 427A-B, 427-428, 433, 434, 435A-B, 435-436, 437A-B, 437-438, 439A-B, 439-440, 441A-B, 441-442, 443A-B, 443-444, 445A-B, 445-446, 447A-B, 447-448, 449, 450, 451, 471A-B, 471-472, 473A-B, 473-474, 475A-B, 475-476, 477A-B, 477-478, 483-484, 485-486, 491**3. Use mathematical models to represent and understand quantitative relationships****A. Use mathematical models****model situations that involve the addition of whole numbers, using pictures, objects or symbols****SE/TE:** 43I, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 55-56, 57A-B, 57-58, 59, 60, 79B, 79, 89I-J, 91A-B, 91-92, 93A-B, 93-94, 95A-B, 95-

96, 97A-B, 97-98, 99-100, 101, 102, 103A-B, 103-104, 105A-B, 105-106, 107A-B, 107-108, 109-110, 111A-B, 111-112, 113A-B, 113-114, 115, 116, 149, 150, 151, 152, 153-154, 154A-B, 317-318, 328, 349-350, 351-352, 362, 400, 414A, 415I, 417A-B, 417-418, 419A-B, 419-420, 421A-B, 421-422, 423A-B, 423-424, 425A-B, 425-426, 427A-B, 427-428, 433, 434, 435A-B, 435-436, 437A-B, 437-438, 439A-B, 439-440, 445A-B, 445-446, 457I-J, 459A-B, 459-460, 461A-B, 461-462, 463A-B, 463-464, 465A-B, 465-466, 469, 470, 483-484, 489-490

## **GEOMETRIC AND SPATIAL RELATIONSHIPS**

**1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships**

**A. Describe and use geometric relationships**

**recognize and name 2- and 3-dimensional shapes using physical models (circle, triangle, trapezoid, rectangle, rhombus, sphere, rectangular prism, cylinder, pyramid)**

**SE/TE:** R9, 155I, 157A-B, 157-158, 159A-B, 159-160, 161A-B, 161-162, 163, 164, 165A-B, 165-166, 167A-B, 167-168, 169A-B, 169-170, 171A-B, 171-172, 173A-B, 173-174, 179, 180, 193A-B, 193-194, 196, 197, 198, 201-201, 232, 238A

**2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems**

**A. Use coordinate systems**

**describe, name and interpret relative positions in space (left, right)**

**SE/TE:** R10, 315A-B, 315-316, 317A-B, 317-318, 328, 400

**3. Apply transformations and use symmetry to analyze mathematical situations**

**A. Use transformations on objects**

**Use manipulatives to model slides and turns**

**SE/TE:** 173A-B, 173-174, 196, 198, 492B

**4. Use visualization, spatial reasoning and geometric modeling to solve problems****A. Recognize and draw three-dimensional representations**

**recognize geometric shapes and structures in the student's environment and specify the shape's location**

**SE/TE:** 157A-B, 157, 165A-B, 193A-B, 193-194

**MEASUREMENT****1. Understand measurable attributes of objects and the units, systems and processes of measurement****A. Determine unit of measurement**

**select the appropriate tool for the attribute being measured**

**SE/TE:** 365A-B, 365-366, 371A-B, 371-372, 373A-B, 373-374, 375A-B, 375-376, 379A-B, 379-380, 381, 382, 383A-B, 383-384, 385A-B, 385-386, 387A-B, 387-388, 389A-B, 389-390, 391A-B, 391-392, 393A-B, 393-394, 395A-B, 395-396, 397A-B, 397-398, 399, 400, 405A-B, 409, 411, 412, 413-414, 492A

**C. Tell and use units of time**

**tell time to the nearest hour**

**SE/TE:** 205A-B, 205-206, 207A-B, 207-208, 209A-B, 209-210, 211A-B, 211-212, 213-214, 215A-B, 215-216, 217, 223, 229A-B, 229-230, 232, 233, 234, 236, 237-238, 238A, 322, 328A, 400

**D. Count and compute money**

**count money to fifty cents, including quarters and half dollars**

**SE/TE:** 329I-J, 329K-L, 329, 330, 331A-B, 331-332, 333A-B, 333-334, 335A-B, 335-336, 337A-B, 337-338, 339A-B, 339-340, 341, 342, 343A-B, 343-344, 345A-B, 345-346, 347A-B, 347-348, 351A-B, 353A-B, 353-354, 355, 356, 357, 358, 359, 360, 361-362, 382, 414A-B, 470, 484, 492B

**2. Apply appropriate techniques, tools and formulas to determine measurements****A. Use standard or non-standard measurement**

**use repetition of a single unit to measure something larger than the unit, (e. g., measuring the length of the room with a single meter stick)**

**SE/TE:** 365A-B, 365-366, 371A-B, 371-372, 373A-B, 373-374, 375A-B, 375-376, 379A-B, 379-380, 381, 382, 383A-B, 383-384, 385A-B, 385-386, 387A-B, 387-388, 389A-B, 389-390, 391A-B, 391-392, 393A-B, 393-394, 399, 400, 408, 409, 413

**DATA AND PROBABILITY****1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them****A. Formulate questions**

**pose questions and gather data about themselves and their surroundings**

**SE/TE:** 177A-B, 177-178, 309A-B, 309-310, 311A-B, 311-312, 313A-B, 313-314, 319A, 403, 412

**B. Classify and organize data**

**sort and classify items according to their attributes**

**SE/TE:** R15-R16, 307A-B, 307-308, 319-320, 321, 431A-B, 431-432, 433

**C. Represent and interpret data**

**represent data using pictures and bar graphs**

**SE/TE:** R15-R16, 175-176, 191-192, 218, 251A-B, 251-252, 309A-B, 309-310, 311A-B, 311-312, 319A, 321, 324, 328, 385B, 414A, 479-480, 481A-B, 481-482

**Scott Foresman – Addison Wesley Mathematics  
to the  
Missouri Mathematics Grade-level Expectations**

**Grade Two**

**NUMBER AND OPERATIONS**

**1. Understand numbers, ways of representing numbers, relationships among numbers and number systems**

**A. Read, write and compare numbers**

**read, write and compare whole numbers less than 100**

Students read and write whole numbers throughout the course. The following references are to place value and comparison of whole numbers.

**SE/TE:** 15A-B, 15-16, 21, 37, 55-56, 79I, 81A-B, 81-82, 83A-B, 83-84, 85A-B, 85-86, 91A-B, 91-92, 93, 95B, 95-96, 97A-B, 97-98, 107, 108, 131-132, 162, 166, 203, 209J, 238, 391A-B, 391-392, 393A-B, 393-394, 395A-B, 395-396, 397A-B, 397-398, 399A-B, 399-400, 407A-B 407-408, 409A-B, 409-410, 416, 417, 419, 423-424, 424A, 498A

**B. Represent and use rational numbers**

**recognize  $\frac{1}{2}$ ,  $\frac{1}{3}$  and  $\frac{1}{4}$  of a shape**

**SE/TE:** 245I, 269A-B, 269-270, 271A-B, 271-272, 273A-B, 273-274, 275A-B, 275-276, 277A-B, 277-278, 281, 283, 288, 332, 338B, 372, 382, 404, 418

**C. Compose and Decompose numbers**

**compose or decompose numbers by using a variety of strategies, such as using known facts, tens or landmark numbers to solve problems**

**SE/TE:** 1I-J, 1K-L, 1-2, 3A-B, 3-4, 5A-B, 5-6, 7-8, 9A-B, 9-10, 11, 12, 13A-B, 13-14, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 21, 22, 23A-B, 23-24, 25A-B, 25-26, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33, 34, 35, 36, 37, 38, 39-40, 41I-J, 41K-L, 41-42, 43A-B, 43-44, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 55, 57A-B, 57-58, 59, 60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 67A-B, 67-68, 69A-B, 69-70, 71, 72, 73, 74, 75, 76, 77-78, 78A-B, 79I, 81A-B, 81-82, 83A-B, 83-84, 85A-B, 85-86, 91A-B, 91-92, 93, 131-132, 159A-B, 159-160, 162, 166, 172A, 173J, 175A, 175, 177, 179, 202, 211A, 211, 213, 215A, 215, 224, 231, 238, 254, 308, 338B, 391A-B, 391-392, 393A-B, 393-394, 395A-B, 395-396, 397A-B, 397-398, 401A-B, 401-402, 403, 423, 431A-B, 431, 433A, 435A-B, 447A-B, 447, 449A

**D. Classify and describe numeric relationships****skip count by 2s, 5s and 10s**

**SE/TE:** 99A-B, 99-100, 107, 109A-B, 109-110, 111-112, 113-114, 125, 132, 196, 244A, 320, 413A, 413-414, 417, 467A-B, 467-468, 493

**2. Understand meanings of operations and how they relate to one another****A. Represent Operations****represent a given situation involving addition or subtraction**

**SE/TE:** 1I-J, 1K-L, 1-2, 3A-B, 3-4, 5A-B, 5-6, 7-8, 9A-B, 9-10, 11, 12, 13A-B, 13-14, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 21, 22, 23A-B, 23-24, 25A-B, 25-26, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33, 34, 35, 36, 37, 38, 39-40, 41I-J, 41K-L, 41-42, 43A-B, 43-44, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 57A-B, 57-58, 59, 60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 67A-B, 67-68, 69A-B, 69-70, 71, 72, 73, 74, 75, 76, 77-78, 78A-B, 119B, 120, 133I-J, 133K-L, 133, 134, 135A-B, 135-136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143, 144, 145A-B, 145-146, 147A-B, 147-148, 149A-B, 149-150, 151, 152, 155A-B, 155-156, 157A-B, 157-158, 159A-B, 159-160, 16A-B, 161-162, 163A-B, 163-164, 165, 166, 169, 170, 171-172, 172A, 173I-J, 173K-L, 173, 174, 175A-B, 175-176, 177A-B, 177-178, 179A-B, 179-180, 181A-B, 181-182, 183, 184, 185A-B, 185-186, 187A-B, 187-188, 189A-B, 189-190, 191A-B, 191-192, 193A-B, 193-194, 197A-B, 197-198, 199A-B, 199-200, 201, 202, 203, 204, 205, 206, 207-208, 209I-J, 209K-L, 209, 210, 211A-B, 211-212, 213A-B, 213-214, 215A-B, 215-216, 217A-B, 217-218, 219, 220, 221A-B, 221-222, 223, 224, 225A-B, 225-226, 227A-B, 227-228, 229B, 230, 233A-B, 233-234, 235A-B, 235-236, 237, 242, 243-244, 244B, 268, 277-278, 279A, 279, 377-378, 385, 425K-L, 431A, 432, 436, 439, 442, 448, 450, 451, 455-456, 457-458, 459, 461, 462, 463-464, 498B

**3. Compute fluently and make reasonable estimates****A. Describe or represent mental strategies****describe or notate the mental strategy used to compute addition or subtraction of whole numbers, including 2- digit numbers**

**SE/TE:** 1I-J, 1K-L, 1-2, 3A-B, 3-4, 5A-B, 5-6, 7-8, 9A-B, 9-10, 11, 12, 13A-B, 13-14, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 21, 22, 23A-B, 23-24, 25A-B, 25-26, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33, 34, 35, 36, 37, 38, 39-40, 41I-J, 41K-L, 41-42, 43A-B, 43-44, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 57A-B, 57-58, 59, 60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 67A-B,



67-68, 69A-B, 69-70, 71, 72, 73, 74, 75, 76, 77-78, 78A-B, 119B, 120, 133I-J, 133K-L, 133, 134, 135A-B, 135-136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143, 144, 145A-B, 145-146, 147A-B, 147-148, 149A-B, 149-150, 151, 152, 155A-B, 155-156, 157A-B, 157-158, 159A-B, 159-160, 161A-B, 161-162, 165, 166, 172A-B, 184, 201, 216, 224, 228, 231, 235A-B, 237, 238, 241, 338B, 382, 427A-B, 427-428, 441-442, 451

## B. Develop and demonstrate fluency

**demonstrate fluency with basic number relationships of addition and subtraction for sums up to 20**

**SE/TE:** 1I-J, 1K-L, 1-2, 3A-B, 3-4, 5A-B, 5-6, 7-8, 9A-B, 9-10, 11, 12, 13A-B, 13-14, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 21, 22, 23A-B, 23-24, 25A-B, 25-26, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33, 34, 35, 36, 37, 38, 39-40, 41I-J, 41K-L, 41-42, 43A-B, 43-44, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 57A-B, 57-58, 59, 60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 67A-B, 67-68, 69A-B, 69-70, 71, 72, 73, 74, 75, 76, 77-78, 78A-B, 119B, 120, 144, 152, 166, 172A, 184, 195, 202, 219, 224, 235A, 235, 308, 332, 338A, 498A

## C. Compute problems

**apply and describe the strategy used to compute 2-digit addition or subtraction problems**

**SE/TE:** 135A-B, 135-136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143, 145A-B, 145-146, 147A-B, 147-148, 149A-B, 149-150, 151, 152, 155A-B, 155-156, 161A-B, 161-162, 165, 167, 168, 171-172, 172B, 173I-J, 173K-L, 173, 174, 175A-B, 175-176, 177A-B, 177-178, 179A-B, 179-180, 181A-B, 181-182, 183, 185A-B, 185-186, 187A-B, 187-188, 189-190, 193A-B, 193-194, 197A-B, 197-198, 199B, 199-200, 201, 202, 203, 204, 205, 206, 207-208, 209I-J, 209K-L, 209, 210, 211A-B, 211-212, 213A-B, 213-214, 215A-B, 215-216, 217A-B, 217-218, 220, 221A-B, 221-222, 223, 224, 225A-B, 225-226, 227A-B, 227-228, 229B, 229, 231A-B, 231-232, 233-234, 235B, 235-236, 237, 238, 239, 240, 241, 243-244, 244A-B, 268, 282, 308, 332, 338B, 362, 492

## ALGEBRAIC RELATIONSHIPS

### 1. Understand patterns, relations and functions

#### A. Recognize and extend patterns

**describe and extend simple numeric patterns and change from one representation to another**

**SE/TE:** 99A-B, 99-100, 107, 109A-B, 109-110, 111-112, 113-114, 125, 132, 157A-B, 157-158, 182, 196, 244A, 413A-B, 413-414, 417, 420, 443B, 443-444, 467A-B, 467-468, 476, 493

**B. Create and analyze patterns****describe how simple growing patterns are generated****SE/TE:** 99A-B, 99-100, 107, 109A-B, 109-110, 111-112, 113-114, 125, 132, 157A-B, 157-158, 182, 196, 244A, 413A-B, 413-414, 417, 420, 443B, 443-444, 467A-B, 467-468, 476**C. Classify objects and representations****classify objects by size, number or other attributes****SE/TE:** 245, 246, 247A-B, 247-248, 249A-B, 249-250, 251A-B, 251-252, 253, 255A-B, 255-256, 257A-B, 257-258, 265A-B, 265-266, 267, 279B, 282, 284, 285, 286, 287-288, 308, 318, 332, 342, 343A-B, 345A, 357B, 362, 363A-B, 363, 365A-B, 365, 367B, 367, 379A-B, 379-380, 382**2. Represent and analyze mathematical situations and structures using algebraic symbols****A. Represent mathematical situations****represent a mathematical situation as an expression or number sentence****SE/TE:** 1I-J, 1K-L, 1-2, 3A-B, 3-4, 5A-B, 5-6, 7-8, 9A-B, 9-10, 11, 12, 13A-B, 13-14, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 21, 22, 23A-B, 23-24, 25A-B, 25-26, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33, 34, 35, 36, 37, 38, 39-40, 41I-J, 41K-L, 41-42, 43A-B, 43-44, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 57A-B, 57-58, 59, 60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 67A-B, 67-68, 69A-B, 69-70, 71, 72, 73, 74, 75, 76, 77-78, 78A-B, 119B, 120, 133I-J, 133K-L, 133, 134, 135A-B, 135-136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143, 144, 145A-B, 145-146, 147A-B, 147-148, 149A-B, 149-150, 151, 152, 155A-B, 155-156, 157A-B, 157-158, 159A-B, 159-160, 16A-B, 161-162, 163A-B, 163-164, 165, 166, 169, 170, 171-172, 172A, 173I-J, 173K-L, 173, 174, 175A-B, 175-176, 177A-B, 177-178, 179A-B, 179-180, 181A-B, 181-182, 183, 184, 185A-B, 185-186, 187A-B, 187-188, 189A-B, 189-190, 191A-B, 191-192, 193A-B, 193-194, 197A-B, 197-198, 199A-B, 199-200, 201, 202, 203, 204, 205, 206, 207-208, 209I-J, 209K-L, 209, 210, 211A-B, 211-212, 213A-B, 213-214, 215A-B, 215-216, 217A-B, 217-218, 219, 220, 221A-B, 221-222, 223, 224, 225A-B, 225-226, 227A-B, 227-228, 229B, 230, 233A-B, 233-234, 235A-B, 235-236, 237, 242, 243-244, 244B, 254, 268, 277-278, 279A, 279, 320, 377A, 381, 385, 425K-L, 431A, 432, 436, 439, 442, 448, 450, 451, 455-456, 457-458, 459, 461, 462, 463-464, 496

**B. Describe and use mathematical manipulation****investigate commutative principle with whole numbers****SE/TE:** 23A-B, 23-24, 465J, 473A-B, 473-474**3. Use mathematical models to represent and understand quantitative relationships****A. Use mathematical models****model situations that involve addition and subtraction of whole numbers, using pictures, objects or symbols****SE/TE:** 1I-J, 1K-L, 1-2, 3A-B, 3-4, 5A-B, 5-6, 7-8, 9A-B, 9-10, 11, 12, 13A-B, 13-14, 15A-B, 15-16, 17A-B, 17-18, 19A-B, 19-20, 21, 22, 23A-B, 23-24, 25A-B, 25-26, 27A-B, 27-28, 29A-B, 29-30, 31A-B, 31-32, 33, 34, 35, 36, 37, 38, 39-40, 41I-J, 41K-L, 41-42, 43A-B, 43-44, 45A-B, 45-46, 47A-B, 47-48, 49A-B, 49-50, 51A-B, 51-52, 53A-B, 53-54, 57A-B, 57-58, 59, 60, 61A-B, 61-62, 63A-B, 63-64, 65A-B, 65-66, 67A-B, 67-68, 69A-B, 69-70, 71, 72, 73, 74, 75, 76, 77-78, 78A-B, 119B, 120, 133I-J, 133K-L, 133, 134, 135A-B, 135-136, 137A-B, 137-138, 139A-B, 139-140, 141A-B, 141-142, 143, 144, 145A-B, 145-146, 147A-B, 147-148, 149A-B, 149-150, 151, 152, 155A-B, 155-156, 157A-B, 157-158, 159A-B, 159-160, 16A-B, 161-162, 163A-B, 163-164, 165, 166, 169, 170, 171-172, 172A, 173I-J, 173K-L, 173, 174, 175A-B, 175-176, 177A-B, 177-178, 179A-B, 179-180, 181A-B, 181-182, 183, 184, 185A-B, 185-186, 187A-B, 187-188, 189A-B, 189-190, 191A-B, 191-192, 193A-B, 193-194, 197A-B, 197-198, 199A-B, 199-200, 201, 202, 203, 204, 205, 206, 207-208, 209I-J, 209K-L, 209, 210, 211A-B, 211-212, 213A-B, 213-214, 215A-B, 215-216, 217A-B, 217-218, 219, 220, 221A-B, 221-222, 223, 224, 225A-B, 225-226, 227A-B, 227-228, 229B, 230, 233A-B, 233-234, 235A-B, 235-236, 237, 242, 243-244, 244B, 277-278, 279, 377-378, 385, 425K-L, 431A, 432, 436, 439, 442, 448, 450, 451, 455-456, 457-458, 459, 461, 462, 463-464**4. Analyze change in various contexts****A. Analyze change****describe qualitative change, such as students growing taller****SE/TE:** 255A-B, 255-256, 259A-B, 259-260, 264, 267, 279B, 287, 306, 338A, 492

**GEOMETRIC AND SPATIAL RELATIONSHIPS**

**1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships**

**A. Describe and use geometric relationships**

**describe attributes and parts of 2-and 3-dimentional shapes (circle, triangle, trapezoid, rectangle, rhombus, sphere, rectangular prism, cylinder, pyramid)**

**SE/TE:** 245, 246, 247A-B, 247-248, 249A-B, 249-250, 251A-B, 251-252, 253, 254, 255A-B, 255-256, 257A-B, 257-258, 259A-B, 259-260, 261A-B, 261-262, 265A-B, 265-266, 267, 268, 2281, 282, 284, 285, 287-288, 308, 318, 332, 362, 384, 492

**2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems**

**A. Use coordinate systems**

**find and name locations with simple relationships on a map (coordinate system)**

**SE/TE:** 325A-B, 325-326, 331, 338, 498B

**3. Apply transformations and use symmetry to analyze mathematical situations**

**A. Use transformations on objects**

**use manipulatives to model flips**

**SE/TE:** 259A-B, 259-260, 267, 279B, 338A, 492

**C. Use symmetry**

**recognize and create shapes that have symmetry**

**SE/TE:** 261A-B, 261-262, 266, 267, 279B, 279-280, 286, 287, 332

**4. Use visualization, spatial reasoning and geometric modeling to solve problems**

**A. Recognize and draw three-dimensional representations**

**recognize and represent shapes from different perspectives**

**SE/TE:** 245I, 249A-B, 249-250, 251A-B, 251-252, 253, 318, 498A

**MEASUREMENT****1. Understand measurable attributes of objects and the units, systems and processes of measurement****A. Determine unit of measurement****select an appropriate unit and tool for the attribute being measured**

**SE/TE:** 289I, 297A-B, 297-298, 299A-B, 299-300, 305A-B, 305-306, 324, 329A-B, 329, 334, 336, 337, 339I, 339K-L, 339, 340, 341A-B, 341-342, 343A-B, 343-344, 345A-B, 345-346, 347A-B, 347-348, 350, 351A-B, 351-352, 353A-B, 355A-B, 355-356, 357A-B, 357-358, 359A-B, 361, 365A-B, 365-366, 367A-B, 367-368, 369A-B, 369-370, 371, 372, 379A-B, 379-380, 383, 386, 387-388, 458

**C. Tell and use units of time****tell time to the nearest half hour**

**SE/TE:** 289I, 289K-L, 289, 290, 291A-B, 291-292, 293A-B, 293-294, 295A-B, 295-296, 301B, 306, 307, 318, 329, 337, 362, 458

**D. Count and compute money****count money to a dollar**

**SE/TE:** 109A-B, 109-110, 111A-B, 111-112, 113A-B, 113-114, 115A-B, 115-116, 117A-B, 117-118, 119A-B, 119-120, 121A-B, 121-122, 123A-B, 123-124, 125, 127, 128, 130, 132, 254, 282, 318, 338B, 372

**2. Apply appropriate techniques, tools and formulas to determine measurements****A. Use standard or non-standard measurement****use tools to measure (size, temperature, time, weight) to the nearest inch, centimeter, degree, hour and pound**

**SE/TE:** 289I, 297A-B, 297-298, 303A-B, 303-304, 334, 336, 339, 341A-B, 341-342, 343A-B, 343-344, 345A-B, 345-346, 347A-B, 347-348, 353A-B, 355A-B, 361, 369A-B, 379A-B, 379, 386, 458

## DATA AND PROBABILITY

**1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them**

### A. Formulate questions

**pose questions and gather data about themselves and their surroundings**

**SE/TE:** 289J, 310, 311A, 313A-B, 313-314, 316, 319, 322, 323A-B, 336, 373A-B, 373, 375A-B, 375, 386

### B. Classify and organize data

**sort and classify items according to their attributes and organize data about the items**

**SE/TE:** 289J, 309-310, 311A, 311-312, 313A-B, 313-314, 315A-B, 315-316, 319A-B, 319-320, 321A-B, 321-322, 323A-B, 323-324, 331, 333, 335, 338, 373A-B, 373, 375A-B, 375, 386

### C. Represent and interpret data

**represent data using pictures and bar graphs**

**SE/TE:** 289J, 289, 319A-B, 319-320, 321A-B, 321-322, 323A-B, 323-324, 327A-B, 327-328, 331, 333, 338

**Scott Foresman – Addison Wesley Mathematics  
to the  
Missouri Mathematics Grade-level Expectations**

**Grade Three**

**NUMBER AND OPERATIONS**

**1. Understand numbers, ways of representing numbers, relationships among numbers and number systems**

**A. Read, write and compare numbers**

**read, write and compare whole numbers up to 3 digits**

Students read and write whole numbers throughout the course in virtually every lesson as they explore place value and operations on whole numbers and use whole numbers in a variety of applications. The following references are to place value and comparison of whole numbers.

**SE/TE:** 4A-B, 4-5, 6A-B, 6-7, 8A-B, 8-9, 10A-B, 10-11, 12A-B, 12-13, 16, 17, 18A-B, 18-21, 22A-B, 22-23, 27, 31, 34, 35, 46, 47, 50, 52, 53, 54, 97, 101, 125, 143, 167, 168A-B, 168-169, 172, 173, 175, 177, 178-179, 180, 181, 185, 189, 191, 195, 287, 291, 305, 358-359, 373, 397, 416, 445, 617, 629, 651, 668-669

**B. Represent and use rational numbers**

**represents commonly used fractions: halves, thirds and fourths**

**SE/TE:** 498A-B, 498-501, 502A-B, 502-503, 504A-B, 504-505, 506A-B, 506-509, 510A-B, 510-511, 512A-B, 512-513, 514, 515, 516A-B, 516-517, 518A-B, 518-519, 520A-B, 520-521, 522A-B, 522-525, 526-527, 530, 531, 533, 542B, 542-543, 547, 548, 550-551, 552, 554-555, 558-559, 562

**C. Compose and Decompose numbers**

**recognize equivalent representations for the same number and generate them by decomposing and composing numbers**

**SE/TE:** 2J, 6A-B, 6-7, 8A-B, 8-9, 10A-B, 10-11, 12-13, 16, 17, 21, 23, 50, 52, 53, 54, 56-57, 60-61, 80A-B, 80-81, 82A-B, 82-85, 92, 146A-B, 146-147, 149, 150A-B, 150, 152, 156A-B, 156, 158, 167, 186-187, 260A-B, 260-261, 304, 389, 630A-B, 630-631, 650A-B, 650-651, 668

**D. Classify and describe numeric relationships****classify numbers by their characteristics, including odd and even****SE/TE:** 24A-B, 24-27, 258I-J, 260A-B, 260-261, 262A-B, 262-265, 276A-B, 276-279, 280A-B, 280-281, 282A-B, 282-283, 288A-B, 288-291, 316A-B, 316-317, 318A-B, 318-319, 320A-B, 320-323, 324A-B, 324-327, 386A-B, 386-387, 388A-B, 388-389, 390A-B, 390-391, 392A-B, 392-393, 402A-B, 402-403, 476A, 629, 643, 646, 649, 665, 669**2. Understand meanings of operations and how they relate to one another****A. Represent Operations****represent a given situation involving multiplication****SE/TE:** 258-259, 260A-B, 260-261, 266A-B, 266-267, 268-269, 273, 274, 275, 276A-B, 276-277, 280A-B, 280-281, 282A-B, 282, 284B, 284-285, 286A, 286-287, 290, 293, 294A-B, 294-295, 297, 300, 302-303, 306-307, 309, 310-311, 314I, 317, 319, 322, 324A-B, 324-325, 339, 346A-B, 346-347, 348B, 348-349, 352-353, 356-357, 364-367, 369, 406A, 626A-B, 626-629, 630A-B, 630-631, 634, 637, 638A-B, 638-639, 640B, 640-641**B. Describe effects of operations****describe the effects of adding and subtracting whole numbers as well as the relationship between the two operations****SE/TE:** 64-65, 66A-B, 66-69, 70A-B, 70-71, 72A-B, 72-73, 74-75, 76A-B, 76-77, 78, 79, 80A-B, 80-81, 82A-B, 82-85, 92, 93, 94A-B, 94-95, 96A-B, 96-97, 101, 102B, 103, 104A-B, 106, 107, 108-109, 110-111, 112-113, 114, 116-119, 120-123, 124I-J, 124-125, 126A-B, 126-127, 128A-B, 128-131, 132A-B, 132-135, 136A-B, 136-137, 143, 144, 145, 147, 148A-B, 148-149, 150A-B, 150-151, 152A-B, 152-155, 156A-B, 156-157, 158, 159, 165, 166A-B, 166-167, 169, 170A-B, 172-173, 176-177, 178-179, 182-185, 186-189, 273, 304, 329, 350**C. Apply properties of operations****apply commutative and identity properties of addition to whole numbers****SE/TE:** 66B, 66-67, 70A-B, 70-71, 78, 79, 110, 115, 116, 120



**3. Compute fluently and make responsible estimates****B. Develop and demonstrate fluency**

**develop fluency with basic number relationships (12 X 12) of multiplication and division**

**SE/TE:** 258I-J, 260A-B, 260-261, 262A-B, 262-265, 267, 274, 275, 276A-B, 276-279, 280A-B, 280-281, 282A-B, 282-283, 286A-B, 286-287, 288A-B, 288-291, 292A-B, 292-293, 296, 297, 300-301, 302-303, 304, 306-309, 310-313, 314I-J, 314-315, 316A-B, 316-317, 318A-B, 318-319, 320A-B, 320-323, 324A-B, 324-327, 328A-B, 328-329, 335, 336, 337, 340-341, 342A-B, 342-343, 345, 348A-B, 350, 351, 352-353, 354-355, 356-357, 358, 360-363, 364-367, 369, 370A-B, 370-371, 372A-B, 372-373, 384A-B, 384-385, 386A-B, 386-387, 388A-B, 388-389, 390A-B, 390-391, 392A-B, 392-393, 394, 395, 396A-B, 396-397, 402A-B, 402-403, 408, 409, 412-413, 414-415, 418-421, 422-425, 443, 449, 473, 610-611, 670

**C. Compute problems**

**apply and describe the strategy used to compute up to a 3-digit addition or subtraction problem**

**SE/TE:** 64-65, 66A-B, 66-69, 70A-B, 70-71, 72A-B, 72-73, 74-75, 76A-B, 76-77, 78, 79, 80A-B, 80-81, 82A-B, 82-85, 92, 93, 94A-B, 94-95, 96A-B, 96-97, 101, 103, 104A-B, 106, 107, 108-109, 110-111, 112-113, 114, 116-119, 120-123, 124I-J, 124-125, 126A-B, 126-127, 128A-B, 128-131, 132A-B, 132-135, 136A-B, 136-137, 143, 144, 145, 147, 148A-B, 148-149, 150A-B, 150-151, 152A-B, 152-155, 156A-B, 156-157, 158, 159, 165, 166A-B, 166-167, 169, 170A-B, 172-173, 176-177, 178-179, 182-185, 186-189, 195, 248, 273, 283, 335, 339, 345, 358, 368, 401, 403, 427, 449, 453, 486, 537, 539, 631, 637

**D. Estimate and justify solutions**

**estimate and justify the results of addition and subtraction of whole numbers**

**SE/TE:** 64I-J, 86A-B, 86-89, 90A-B, 90-91, 92, 93, 95, 98A-B, 98-101, 102, 104B, 105, 106, 107, 109, 111, 112-113, 114, 118, 122-123, 125, 127, 131, 145, 152A, 160A-B, 160-161, 165, 182-185, 189

**ALGEBRAIC RELATIONSHIPS****1. Understand patterns, relations and functions****A. Recognize and extend patterns****extend geometric (shapes) and numeric patterns to find the next term****SE/TE:** 8A-B, 8-9, 24A-B, 24-27, 51, 52, 55, 58, 115, 135, 147, 174, 180, 191, 249, 259, 277, 280-281, 282, 286, 288, 299, 301, 303, 305, 307-308, 311, 319, 330-331, 332A-B, 332-335, 336, 337, 339, 340A-B, 340-341, 344A-B, 344-345, 350, 351, 352-353, 354-355, 356-357, 359, 361-363, 364-365, 401, 402A-B, 402-403, 417, 443, 464B, 492, 505, 553, 609, 612A-B, 612-615, 618A-B, 618-621, 641, 669, 685, 695**B. Create and analyze patterns****represent patterns using words, tables or graphs****SE/TE:** 24B, 24-25, 58, 115, 147, 259, 270A-B, 270-273, 279, 280, 282, 288, 299, 301, 303, 305, 307-308, 311, 314J, 315, 317, 330-331, 332A-B, 332-335, 336, 337, 340A-B, 340-341, 344A-B, 344-345, 350, 351, 352-353, 354, 356-357, 359, 361-363, 366-367, 401, 402A-B, 402-403, 417, 437-438, 447, 553, 588A-B, 588-589, 609, 669, 685, 695**2. Represent and analyze mathematical situations and structures using algebraic symbols****A. Represent mathematical situations****represent a mathematical situation as an expression or number sentence****SE/TE:** 181, 258-259, 260A-B, 260-261, 266A-B, 266-267, 268-269, 273, 274, 275, 276A-B, 276-277, 280A-B, 280-281, 282A-B, 282, 284B, 284-285, 286A, 286-287, 290, 293, 294A-B, 294-295, 297, 300, 302-303, 306-307, 309, 310-311, 314I, 316, 318, 320A-B, 320-322, 324A-B, 324-325, 342-343, 346A-B, 346, 348B, 350, 351, 352-353, 354, 356-357, 390, 392, 404A-B, 404-405, 406-407, 408, 413, 414-415, 425, 431, 439, 473, 487, 656, 677**B. Describe and use mathematical manipulation****apply the commutative property to addition of whole numbers****SE/TE:** 66B, 66-67, 70A-B, 70-71, 78, 79, 110, 115, 116, 120

### 3. Use mathematical models to represent and understand quantitative relationships

#### A. Use mathematical models

**model problem situations, including multiplication with objects or drawings**

**SE/TE:** 140A-B, 140-143, 179, 183, 187, 258-259, 260A-B, 260-261, 266A-B, 266-267, 268-269, 273, 274, 275, 276A-B, 276-277, 280A-B, 280-281, 282A-B, 282, 284B, 284-285, 286A, 286-287, 290, 293, 294A-B, 294-295, 297, 300, 302-303, 306-307, 309, 310-311, 314I, 314, 316A, 316, 318A-B, 318, 320A-B, 320-322, 324A-B, 324-325, 327, 338A, 342, 356-357, 358, 360-361, 363, 368I-J, 369, 370A-B, 370-371, 372B, 372-373, 374-377, 382, 383, 384-385, 386B, 390A-B, 392A-B, 394-395, 398A-B, 398-399, 402B, 406B, 409, 412-413, 414-415, 416, 418-419, 421, 610I, 626A-B, 626-629, 631, 632B, 632, 658A-B, 663, 664-665, 666-667, 671, 675, 687, 688B

### 4. Analyze change in various contexts

#### A. Analyze change

**describe quantitative change, such as students growing two inches in a year**

**SE/TE:** 24B, 24-25, 58, 115, 147, 259, 270A-B, 270-273, 279, 280, 282, 288, 299, 301, 303, 305, 307-308, 311, 314J, 315, 317, 330-331, 332A-B, 332-335, 336, 337, 340A-B, 340-341, 344A-B, 344-345, 350, 351, 352-353, 354, 356-357, 359, 361-363, 366-367, 401, 402A-B, 402-403, 417, 669, 685, 695

## GEOMETRIC AND SPATIAL RELATIONSHIPS

### 1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships

#### A. Describe and use geometric relationships

**compare 2- and 3-dimensional shapes by describing their attributes (circle, rectangle, rhombus, trapezoid, triangle, rectangular prism, cylinder, pyramid and sphere)**

**SE/TE:** 114, 180, 248, 304, 358, 426I, 426-427, 428A-B, 428-431, 432A-B, 432-433, 440, 441, 442A-B, 442-443, 444A-B, 444-445, 446A-B, 446-449, 450A-B, 450-453, 454A-B, 454-455, 456A-B, 456-459, 460A-B, 460-461, 462, 463, 464A-B, 464-467, 468A-B, 468-471, 472A-B, 472-473, 474A-B, 474-475, 476-477, 478, 479, 480-481, 482-483, 484-485, 486, 488-491, 492-495, 552, 587, 639, 668

**C. Compose and decompose shapes**

**predict the results of putting together or taking apart 2-and 3-dimensional shapes**

**SE/TE:** 449, 454B, 458, 465, 468B, 468-471, 472A-B, 472-473, 474B, 476B, 477, 478, 479, 480-481, 483, 485, 491, 492, 533, 560

**2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems****A. Use coordinate systems**

**describe location using common language and geometric vocabulary (forward, back, left, right, north, south, east, west)**

**SE/TE:** 218A-B, 218-221, 244, 246, 487

**3. Apply transformations and use symmetry to analyze mathematical situations****A. Use transformations on objects**

**determine if two objects are congruent through a slide, flip or turn**

**SE/TE:** 456A-B, 456-459, 462, 463, 483, 485, 490, 494

**C. Use symmetry**

**identify lines of symmetry in polygons**

**SE/TE:** 460A-B, 460-461, 467, 477, 483, 484, 490, 494

**MEASUREMENT****1. Understand measurable attributes of objects and the units, systems and processes of measurement****A. Determine unit of measurement**

**identify and justify the appropriate unit of measure (linear, time, weight)**

**SE/TE:** 114, 180, 190I, 198A-B, 198-199, 201, 202, 203, 242-243, 244, 246-247, 250, 254, 267, 358, 416, 426J, 464A-B, 464-467, 468B, 471, 485, 491, 495, 496J, 532A-B, 532-533, 534A-B, 534-535, 536A-B, 536-537, 538A-B, 538-539, 540, 544,

545, 546, 549, 550-551, 556-557, 560-561, 563, 582A-B, 582-583, 584A-B, 584-587, 590-591, 592, 593, 594-595, 597, 604-605, 607-609, 636B, 668, 680A-B, 680-683, 684A-B, 684-685, 690A-B, 690-693, 694A-B, 694-695, 698, 699

### **C. Tell and use units of time**

#### **tell time to the nearest five minutes**

**SE/TE:** 180, 190, 192A-B, 192-195, 196A-B, 196-197, 202, 203, 242-243, 246-247, 250, 254, 416, 600; elapsed time: 180, 190I, 198A-B, 198-199, 201, 202, 203, 242-243, 244, 246-247, 250, 254, 267, 552

### **D. Count and compute money**

#### **determine change from \$5.00 and add and subtract money values to \$5.00**

**SE/TE:** 40A-B, 40-41, 46, 47, 51, 53, 55, 59, 63, 157, 162A-B, 162-165, 180, 304, 312, 391, 486

## **2. Apply appropriate techniques, tools and formulas to determine measurements**

### **A. Use standard or non-standard measurement**

#### **use a referent for measures to make comparisons and estimates**

**SE/TE:** 238B, 305, 358, 496J, 535, 560, 562J, 582B, 582-583, 585, 592, 593, 599, 600, 609, 668, 678I, 682, 693, 694

### **C. Apply geometric measurements**

#### **determine the perimeter of polygons**

**SE/TE:** 114, 358, 426J, 464A-B, 464-467, 468B, 471, 475, 476B, 476, 478, 479, 480-481, 485, 486, 491, 495, 533, 552, 600, 636B, 668

## **DATA AND PROBABILITY**

### **1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them**

#### **A. Formulate questions**

##### **design investigations to address a given question**

**SE/TE:** 190J

**C. Represent and interpret data****read and interpret information from line plots and graphs (bar, line, pictorial)****SE/TE:** 95, 115, 161, 181, 208A-B, 208-211, 212A-B, 212-215, 216-217, 218A-B, 218-221, 222A-B, 222-223, 224, 225, 226A-B, 226-227, 228A-B, 228-231, 232A-B, 232-233, 234-235, 236A-B, 236-237, 245, 246-247, 249, 251-253, 255-257, 261, 285, 305, 312, 347, 359, 400, 417, 487, 553, 591, 601, 617, 654, 669**2. Select and use appropriate statistical methods to analyze data****A. Describe and analyze data****describe the shape of data and analyze it for patterns****SE/TE:** 115, 181, 268-269, 270A-B, 270-273, 305, 487, 553, 601**3. Develop and evaluate inferences and predictions that are based on data****A. Develop and evaluate inferences****discuss events related to students' experiences as likely or unlikely****SE/TE:** 181, 359, 553, 601, 678J, 700A-B, 700-701, 702A-B, 702-703, 704A-B, 704-707, 708A-B, 712, 713, 717, 718-719, 721, 725, 729

**Scott Foresman – Addison Wesley Mathematics  
to the  
Missouri Mathematics Grade-Level Expectations**

**Grade Four**

**NUMBER AND OPERATIONS**

**1. Understand numbers, ways of representing numbers, relationships among numbers and number systems**

**A. Read, write and compare numbers**

**read, write and compare decimals to the hundredths place and whole numbers up to 6 digits**

Students read and write whole numbers throughout the course in virtually every lesson as they explore place value and operations on whole numbers and use whole numbers in a variety of applications. The following references are to place value and comparison of whole numbers and to reading, writing, and comparing decimals.

**SE/TE:** 2I-J, 2-3, 4A-B, 4-7, 8A-B, 8-9, 10A-B, 10-11, 14, 15, 16A-B, 16-19, 20A-B, 20-21, 22A-B, 22-23, 26, 27, 28A-B, 28-29, 30A-B, 30-31, 32A-B, 32-33, 34A-B, 34-37, 40A-B, 40-41, 42, 43, 44-45, 46-47, 48-49, 50-51, 52-55, 56-59, 63, 67, 68, 71, 72A-B, 72-73, 79, 81, 85, 97, 108, 111, 112, 114-115, 127, 134-135, 147, 149, 178, 244, 302, 354, 422, 550, 589, 612, 622I-J, 622-623, 624A-B, 624-627, 628A-B, 628-629, 630A-B, 630-631, 632A-B, 632-633, 634, 635, 636A-B, 636-637, 638A-B, 638-641, 642A-B, 642-645, 650, 651, 653, 660, 665, 670, 672, 674-675, 676-677, 678-679, 680, 682-684, 691, 703, 711, 723, 725, 726

**B. Represent and use rational numbers**

**use models, benchmarks (0,  $\frac{1}{2}$  and 1) and equivalent forms to judge the size of fractions**

**SE/TE:** 498I-J, 499, 500A-B, 500-501, 502A-B, 502-503, 504A-B, 504-507, 508A-B, 508-509, 510, 514, 515, 516A-B, 516-519, 520A-B, 520-521, 522A-B, 522-523, 524A-B, 524-527, 528, 529, 530A-B, 530-533, 534A-B, 534-535, 536A-B, 537, 538A-B, 538-539, 540A-B, 540-541, 542, 543, 544-545, 546-547, 548-549, 550, 552-555, 556-559, 560, 562A-B, 564A-B, 564, 567, 568A-B, 568, 573, 574B, 574, 577, 578A, 578, 581, 563, 624A-B, 624-627, 629, 634, 635, 672, 674, 676, 678, 682, 687

**C. Compose and Decompose numbers**

**recognize equivalent representations for the same number and generate them by decomposing and composing numbers**

**SE/TE:** 2, 4A-B, 4-7, 8B, 9, 10A-B, 10-11, 14-15, 16A, 18, 19, 22A-B, 22-23, 26, 27, 28B, 28-29, 31, 33, 40A-B, 43, 46, 48-49, 52-53, 56, 58, 62B, 62-63, 64A-B, 64-65, 71, 81, 86, 90-91, 123, 124B, 124-127, 131, 132A-B, 132-134, 137, 145, 176, 180, 257, 262A-B, 262-263, 264A-B, 267, 269, 270A-B, 270, 292A, 304, 329

**D. Classify and describe numeric relationships**

**classify and describe numbers by their characteristics, including odd, even and multiples**

**SE/TE:** 124-125, 127, 128A-B, 128-131, 134, 146A, 174, 255, 256, 314A-B, 314-315, 402A-B, 402-403, 407, 411, 414, 415, 419, 420-421, 423, 427, 430, 467

**2. Understand meanings of operations and how they relate to one another****A. Represent Operations**

**represent and recognize multiplication using various models, including sets and arrays**

**SE/TE:** 123, 124A-B, 124-127, 128-129, 131, 132A-B, 132-133, 145, 146, 148A-B, 149, 164A-B, 164-165, 168A-B, 174, 178, 180-181, 184, 254J, 256B, 258B, 264A-B, 264-267, 270B, 270, 273, 288B, 292A-B, 300, 305, 309, 312J, 320A-B, 320-325, 329, 330, 332, 340B, 344A, 352-353, 357, 361

**C. Apply properties of operations**

**apply commutative and identity properties of multiplication to whole numbers**

**SE/TE:** 129-130, 145, 148A-B, 148-149, 158, 159, 176, 181, 185, 292B

**3. Compute fluently and make reasonable estimates****A. Describe or represent mental strategies**

**represent a mental strategy used to compute a given multiplication problem (up to 2-digit by 2-digit multiple of)**

**SE/TE:** 122I-J, 123, 124A-B, 124-127, 128A-B, 128-131, 132A-B, 132-135, 136A-B, 136-137, 143, 144, 145, 148A-B, 148-149, 151, 154A-B, 154-155, 158, 159, 174, 176-177, 178, 180-183, 184-187, 255, 256A-B, 256-257, 262A-B, 262-263, 267, 289, 300-301, 304, 306, 308, 312I, 314A-B, 314-315, 319, 330, 331, 338A-B, 338-339, 344B, 351, 352-353, 356, 360, 364, 377



**B. Develop and demonstrate fluency**

**demonstrate fluency with basic number relationships (12 X 12) of multiplication and division**

**SE/TE:** 122I-J, 124A-B, 124-127, 128A-B, 128-131, 132A-B, 132-135, 136A-B, 136-137, 143, 144, 145, 146A-B, 146-147, 148A-B, 148-149, 150A-B, 150-151, 152A-B, 152-153, 154A-B, 154-155, 158, 159, 164A-B, 164-165, 166A-B, 166-167, 168A-B, 168-169, 170, 171, 174-175, 176-177, 178, 180-183, 184-187, 254-255, 287, 300-301, 364I-J, 365, 379

**C. Compute problems**

**apply and describe the strategy used to compute a given**

- **multiplication problem up to a 2-digit by 2-digit**

**SE/TE:** 122I-J, 124A-B, 124-127, 128A-B, 128-131, 132A-B, 132-135, 136A-B, 136-137, 143, 144, 145, 148A-B, 148-149, 151, 154A-B, 154-155, 158, 159, 174-175, 176-177, 178, 180-183, 184-187, 254I-J, 254-255, 256A-B, 256-257, 262A-B, 262-263, 264A-B, 264-267, 268, 269, 270A-B, 270-273, 274A-B, 274-275, 281, 282A-B, 282-283, 284, 285, 286A-B, 286-287, 288A-B, 288-289, 294, 295, 300-301, 304-307, 308-311, 312I-J, 313, 314A-B, 314-315, 320A-B, 320-325, 330, 331, 332A-B, 332-335, 336A-B, 336-337, 338A-B, 338-339, 340A-B, 340-341, 346, 347, 352-353, 356-359, 360-363, 367

- **division problem up to a 3-digit by 1-digit**

**SE/TE:** 148A-B, 148-149, 150A-B, 150-151, 152A-B, 152-53, 154A-B, 154-155, 158, 159, 174, 176-177, 178, 181-182, 185-187, 287, 364I-J, 366A-B, 366-367, 372A-B, 372-373, 374A-B, 374-377, 378, 379, 380A-B, 380-383, 384A-B, 384-385, 386A-B, 386-389, 390A-B, 390-391, 392A-B, 392-393, 399, 400, 401, 402A-B, 402-403, 404A, 404-405, 406A-B, 406-407, 408A-B, 408-411, 414, 415, 418-419, 420-421, 424-427, 428-431

**D. Estimate and justify solutions**

**estimate and justify the results of multiplication of whole numbers**

**SE/TE:** 254I, 258A-B, 258-261, 263, 296-297, 298-299, 300-301, 304-305, 308-309, 313, 315, 316A-B, 316-319, 323, 330, 331, 335, 339, 340A-B, 352-353, 354, 356, 360, 365, 422

**ALGEBRAIC RELATIONSHIPS****1. Understand patterns, relations and functions****A. Recognize and extend patterns****describe geometric and numeric patterns**

**SE/TE:** 8A, 10A-B, 10-11, 37, 90A-B, 90-91, 92, 93, 97, 109, 110-111, 113, 116, 120, 128A-B, 128-131, 136B, 136, 140A-B, 140-143, 256, 275, 283, 312, 314A, 314, 335, 342-343, 351, 355, 363, 366A-B, 366-367, 378, 406B, 406, 423, 449, 454, 474B, 475, 641, 677, 680

**B. Create and analyze patterns****analyze patterns using words, tables and graphs**

**SE/TE:** 8A, 10A-B, 10-11, 90A-B, 90-91, 92, 93, 111, 113, 120, 128A-B, 128-131, 136B, 136, 140A-B, 140-143, 256, 303, 314A, 314, 342-343, 355, 363, 366A-B, 366-367, 406, 423, 474B, 475, 641, 647, 648-649, 680

**2. Represent and analyze mathematical situations and structures using algebraic symbols****A. Represent mathematical situations****represent a mathematical situation as an expression or number sentence**

**SE/TE:** 94A-B, 94-95, 96A-B, 96-97, 98A-B, 98-99, 100A-B, 100-101, 104, 105, 109, 110-111, 113, 117, 121, 123, 160A-B, 160-163, 166A-B, 166-167, 170, 171, 173, 175, 179, 183, 187, 191, 195, 261, 263, 281, 335, 337, 373, 383, 389, 396A-B, 396-398, 465, 469, 566, 571, 581, 690A-B, 690-691, 692A-B, 692-695, 698, 699, 722, 724-725, 727, 728, 731

**B. Describe and use mathematical manipulation****apply the commutative property of multiplication to whole numbers**

**SE/TE:** 129-130, 145, 148A-B, 148-149, 158, 159, 176, 181, 185, 292B

**3. Use mathematical models to represent and understand quantitative relationships****A. Use mathematical models**

**model problem situations, using representations such as graphs, tables or number sentences**

**SE/TE:** 101, 140A-B, 140-143, 166B 167, 173, 175, 177, 179, 181-183, 185-187, 188J, 189, 206A-B, 206-207, 208A-B, 208-21, 212A, 212-215, 216A-B, 216-219, 220-221, 222A-B, 222-223, 224, 225, 228-229, 230A-B, 230-231, 232A-B, 232-233, 234-235, 236, 237, 238-239, 241, 242-243, 245, 247-249, 250-253, 261, 303, 396A-B, 396-399, 400, 401, 415, 423, 426, 430, 536A-B, 536-537, 549, 551, 555, 559, 690A-B, 690-691, 692A-B, 692-695

**4. Analyze change in various contexts****A. Analyze change**

**describe mathematical relationships in terms of constant rates of change**

**SE/TE:** 692A-B, 692-695, 698, 699, 724, 727, 728, 731

**GEOMETRIC AND SPATIAL RELATIONSHIPS****1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships****A. Describe and use geometric relationships**

**identify and describe the attributes of 2- and 3-dimensional shapes (prisms, cones, parallelism, perpendicularity)**

**SE/TE:** 302, 342B, 354, 432I-J, 432, 434A-B, 434-437, 438A-B, 438-439, 440A-B, 440-443, 444A-B, 444-447, 448A-B, 448-449, 450, 451, 452A-B, 452-455, 456A-B, 456-457, 458A-B, 458-459, 460A-B, 460-461, 462, 463, 464A-B, 464-467, 468A-B, 468-471, 472-473, 474A-B, 474-475, 476A-B, 476-477, 478A-B, 478-479, 480, 481, 482-483, 484-485, 486-487, 488, 490-493, 494-497, 499, 548, 550, 612, 676, 726

**C. Compose and decompose shapes**

**describe the results of subdividing, combining and transforming shapes**

**SE/TE:** 432I-J, 434A, 435, 437, 447, 452B, 452-455, 456A-B, 456-457, 458B, 462, 463, 467, 468A-B, 468-471, 475, 476B, 476-477, 478B, 478-479, 482-483, 484-485, 486-487, 488, 494, 496-497, 499, 548, 550, 676, 726

**2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems****A. Use coordinate systems**

**describe movement using common language and geometric vocabulary (forward, back, left, right, north, south, east, west)**

**SE/TE:** 212A-B, 212-215, 216A-B, 216-219, 222A, 223, 224, 225, 229, 232, 234B, 238-239, 240-241, 242, 243, 245, 248-249, 252, 355, 686, 692A-B, 692-695, 698, 699, 709, 722, 724, 727, 728, 731

**3. Apply transformations and use symmetry to analyze mathematical situations****A. Use transformations on objects**

**predict the results of sliding/translating, flipping/reflecting or turning/ rotating around the center point of a polygon**

**SE/TE:** 452B, 452-455, 462, 463, 485, 486-487, 491, 495, 676

**C. Use symmetry**

**construct a figure with multiple lines of symmetry and identify the lines of symmetry**

**SE/TE:** 456A-B, 456-457, 459, 462, 463, 467, 478B, 478-479, 485, 486-487, 492, 495

**4. Use visualization, spatial reasoning and geometric modeling to solve problems****A. Recognize and draw three-dimensional representations given the picture of a prism, identify the shapes of the faces**

**SE/TE:** 432, 434A-B, 434-437, 439, 450, 451, 460A-B, 460-461, 473, 476A-B, 476-477, 480, 481, 484-485, 490, 492-493, 494, 496-497, 550, 676, 726

**MEASUREMENT****1. Understand measurable attributes of objects and the units, systems and processes of measurement****A. Determine unit of measurement**

**identify and justify the unit of linear measure including perimeter and (customary metric)**

**SE/TE:** 422, 464A-B, 464-467, 470-471, 472-473, 474A-B, 474-475, 477, 478A, 480, 481, 482-483, 487, 493, 496-497, 588A-B, 588-589, 590A-B, 590-591, 593, 596B, 596-599, 600B, 600-601, 602B, 602-603, 604, 605, 606, 609, 610, 612, 616, 620, 622J, 646, 648A, 648, 651, 652A-B, 652-653, 658A-B, 658-661, 666B, 666-667, 668, 669, 671, 673, 674-675, 676, 680-681, 684-685

**B. Identify equivalent measures**

**Identify equivalent linear measures within a system of measurement**

**SE/TE:** 588B, 588, 596B, 596-599, 600B, 601, 602B, 602-603, 604, 605, 606, 609, 611, 617, 621, 652B, 652-653, 658A-B, 658-661, 666B, 667, 668, 669, 680-681, 685

**C. Tell and use units of time**

**tell time to the nearest minute**

**SE/TE:** 190A-B, 190-191, 192A-B, 192-195, 202, 203, 242-243, 244, 246, 250, 354; elapsed time: 196A-B, 196-197, 198A-B, 198-199, 201, 202, 203, 234A, 234-235, 240, 244, 246, 250, 443, 488, 593, 612, 676

**D. Count and compute money**

**determine change from \$10.00 and add and subtract money values to \$10.00**

**SE/TE:** 32A-B, 32-33, 37, 42, 43, 47, 50, 55, 59, 64B, 329

**2. Apply appropriate techniques, tools and formulas to determine measurements****A. Use standard or non-standard measurement**

**select and use benchmarks to estimate measurements (linear, capacity, weight)**

**SE/TE:** 45, 588-589, 591, 592B, 592, 594A-B, 594, 600A-B, 600-601, 604, 607, 611, 617, 621, 623, 652B, 654A, 654, 656A, 669, 674, 676

**B. Use angle measurement**

**select and use benchmarks to estimate measurements of 0-, 45-, 90- degree angles**

**SE/TE:** 443

**C. Apply geometric measurements**

**determine the area of a polygon on a rectangular grid**

**SE/TE:** 468A-B, 468-471, 480, 481, 482-483, 487, 488, 497

**DATA AND PROBABILITY****1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them****A. Formulate questions**

**collect data using observations, surveys and experiments**

**SE/TE:** 230A-B, 230-231, 236, 237, 243

**C. Represent and interpret data**

**create tables or graphs to represent categorical and numerical data (including line plots)**

**SE/TE:** 140A-B, 140-143, 188J, 189, 204A-B, 204-205, 206A-B, 206-207, 208A-B, 208-211, 212A-B, 212-215, 216A-B, 216-219, 220-221, 222A-B, 222-223, 224, 225, 232A-B, 232-233, 238-239, 240-241, 242-243, 245, 247-249, 251-253, 303, 324-325, 326A-B, 326-329, 536A-B, 536-537, 704A-B, 704-705

**2. Select and use appropriate statistical methods to analyze data****A. Describe and analyze data****describe important features of the data set****SE/TE:** 13, 188J, 189, 204A-B, 204-205, 206A-B, 206-207, 208A-B, 208-211, 212A-B, 212-215, 216A-B, 216-221, 222A-B, 222-223, 224, 225, 226A-B, 226-229, 230A-B, 230-231, 232A-B, 232-233, 238-239, 240-241, 242-243, 245, 247-249, 251-253, 303, 337, 343, 355, 399, 401, 404B, 405, 415, 423, 536A-B, 536-537, 613, 663, 677**3. Develop and evaluate inferences and predictions that are based on data****A. Develop and evaluate inferences****given a set of data, propose and justify conclusions that are based on the data****SE/TE:** 13, 188J, 189, 204A-B, 204-205, 206A-B, 206-207, 208A-B, 208-211, 212A-B, 212-215, 216A-B, 216-221, 222A-B, 222-223, 224, 225, 226A-B, 226-229, 230A-B, 230-231, 232A-B, 232-233, 238-239, 240-241, 242-243, 245, 247-249, 251-253, 257, 303, 337, 343, 355, 399, 401, 415, 423, 536A-B, 536-537, 613, 663, 677

**Scott Foresman – Addison Wesley Mathematics  
to the  
Missouri Mathematics Grade-level Expectations**

**Grade Five**

**NUMBER AND OPERATIONS**

**1. Understand numbers, ways of representing numbers, relationships among numbers and number systems**

**A. Read, write and compare numbers**

**read, write, compare and order unit fractions and decimals to thousandths**

Students read and write fractions and decimals throughout the course as they perform operations on rational numbers and use them in a variety of applications.

The following references are to place value and comparison/ordering of fractions and decimals.

**SE/TE:** 2I, 8A-B, 8-11, 12A-B, 12-13, 17, 20, 21, 27, 39, 41, 44A, 49, 53, 55, 56, 60, 87, 167, 237, 248, 259, 316, 392I-J, 393, 394A-B, 394-397, 398A-B, 398-399, 400A-B, 400-401, 402A-B, 402-403, 404A-B, 404-405, 408, 409, 410A-B, 410-411, 412A-B, 412-413, 416A-B, 416-417, 418A-B, 418-419, 420A-B, 420-423, 424, 425, 426B, 426-427, 431, 434B, 440, 441, 444-445, 446, 447, 448, 450, 452, 454-457, 458-459, 460B, 545, 569, 582, 686, 690

**B. Represent and use rational numbers**

**recognize and generate equivalent forms of commonly used fractions, decimals and percents**

**SE/TE:** 2I, 8A-B, 12B, 13, 38A-B, 38, 40A-B, 40, 88A, 92A-B, 92-93, 97, 99, 124, 190, 337, 400A-B, 400-401, 403, 408, 409, 410A-B, 410-411, 412A-B, 412-413, 415, 416A-B, 416-417, 419, 424, 425, 426A-B, 426-429, 430A-B, 430-431, 437, 440, 441, 443, 444-445, 446-447, 448, 453, 456-457, 458I, 458-459, 460B, 462A-B, 462-463, 466A-B, 466-469, 472A-B, 478-479, 500B, 500, 549, 603, 644J, 644-645, 668A-B, 668-669, 670A-B, 670-671, 678, 679, 683, 684-685, 693, 740

**C. Compose and Decompose numbers**

**recognize equivalent representations for the same number and generate them by decomposing and composing numbers**

**SE/TE:** 4-5, 13, 14B, 14-17, 38A-B, 38, 40A-B, 40, 50, 52-53, 57, 60-61, 66B, 69, 70A-B, 70-71, 72A-B, 72, 77, 85, 88A, 97, 99, 110A, 116, 131, 148B, 190, 207, 265, 535



**D. Classify and describe numeric relationships**

**describe numbers according to their characteristics, including whole number factors, prime or composite, odd or even and square numbers**

**SE/TE:** 64I, 75, 103, 155, 162A-B, 162-163, 164A-B, 164-167, 170, 171, 186, 188-189, 190, 194, 198, 214B, 248, 273, 305, 382, 390, 393, 414A-B, 414-415, 416A-B, 416-417, 419, 424, 425, 426A, 437, 445, 452, 456, 464B, 464-465, 469, 470, 471, 501, 514-515, 516, 517, 518-519, 522, 583, 615, 636

**2. Understand meanings of operations and how they relate to one another****A. Represent Operations**

**represent and recognize division using various models, including quotative and partitive**

**SE/TE:** 132A-B, 132-135, 136A-B, 136-137, 141, 146, 147, 148A-B, 148-151, 156A-B, 170, 171, 175, 192, 196, 214A, 221, 224A, 234A, 234

**B. Describe effects of operations**

**describe the effects of multiplying and dividing whole numbers as well as the relationship between the two operations**

**SE/TE:** 64-65, 66A-B, 66-67, 68A-B, 68-69, 70A-B, 70-71, 72A-B, 72-75, 76A-B, 76-77, 82, 83, 84A-B, 84-85, 88A-B, 88-91, 93, 98, 99, 118-119, 122-123, 126-127, 130I-J, 132A-B, 132-135, 136A-B, 136-137, 141, 146, 147, 148A-B, 148-151, 152A-B, 152-155, 156A-B, 156-157, 158A-B, 158-159, 160A-B, 160-161, 163, 168A-B, 168-169, 170, 171, 175, 180A, 186-187, 192-194, 197-198, 200, 223, 229, 230A-B, 230-231, 233, 234-235, 238A-B, 392, 502B, 702A-B, 702-703, 742, 745

**C. Apply properties of operations**

**apply the distributive and associative properties to whole numbers**

**SE/TE:** 22-25, 66B, 66-67, 70A-B, 70-71, 75, 82, 83, 116, 120, 126

**3. Compute fluently and make reasonable estimates****A. Describe or represent mental strategies**

**describe a mental strategy used to compute a given division problem, where the quotient is a multiple of 10 and the divisor is a 1-digit number (e. g., 350/7)**

**SE/TE:** 136A-B, 136-137, 141, 146, 147, 151, 155, 189, 192, 196, 201, 203, 222, 250

**C. Compute problems**

**apply and describe the strategy used to compute a given division problem up to a 3-digit by 2-digit**

**SE/TE:** 130, 136A-B, 136-137, 141, 146, 147, 149-151, 152A-B, 152-155, 156A-B, 156-157, 158A-B, 158-159, 160A-B, 160-161, 163, 170, 171, 173, 180A, 188-189, 193-194, 197-198, 200I-J, 202A-B, 202-203, 212, 213, 214A-B, 214-217, 218A-B, 218-221, 222A-B, 222-223, 224A-B, 224-225, 228, 229, 230A-B, 230-231, 232A-B, 232-233, 234A-B, 234-237, 240, 241, 244-245, 246-247, 250-253, 254-257, 261, 265, 287, 305, 316, 355, 392, 411, 431, 479, 653, 686

**D. Estimate and justify solutions**

**estimate and justify the results of division of whole numbers**

**SE/TE:** 130I-J, 138A-B, 138-141, 146, 147, 180B, 188, 192-194, 196, 200I, 204A-B, 204-207, 212, 213, 221, 225, 233, 236, 247, 248, 250-252, 254, 279, 291

**ALGEBRAIC RELATIONSHIPS****1. Understand patterns, relations and functions****A. Recognize and extend patterns**

**make and describe generalizations about geometric and numeric patterns**

**SE/TE:** 14A-B, 14-17, 20, 21, 55, 66A-B, 66-67, 69, 84A-B, 84-85, 94A-B, 95, 98, 106A-B, 106-107, 121, 126, 136A-B, 136-137, 141, 142-143, 144A-B, 144-145, 146, 147, 151, 157, 179, 187, 189, 192, 196, 201, 202, 230, 237, 238A, 241, 243, 317, 350, 352A-B, 353-355, 356B, 367, 449, 492, 545, 583, 604, 609, 635, 637, 639, 645, 655, 683, 687, 688-689, 691, 720A-B, 720-721, 722, 723, 727

**B. Create and analyze patterns**

**represent and analyze patterns using words, tables and graphs**

**SE/TE:** 14A-B, 14-17, 55, 94A-B, 98, 106A, 106-107, 125, 136A-B, 136-137, 141, 142-143, 144A-B, 144-145, 146, 179, 187, 189, 192, 230, 238A, 241, 243, 350, 352A-B, 353-355, 356B, 492, 545, 645, 652A-B, 652-653, 655, 656, 657, 667, 681, 683, 684, 687, 688-689, 691, 694J, 720A-B, 720-721, 722, 723, 727, 728A-B, 728-729, 737

**2. Represent and analyze mathematical situations and structures using algebraic symbols****A. Represent mathematical situations**

**represent a mathematical situation as an expression or number sentence using a letter or symbol**

**SE/TE:** 71, 87, 97, 100A-B, 100-103, 104A-B, 104-105, 106B, 106-107, 108A-B, 108-109, 112, 113, 114-115, 117, 118-119, 121, 125, 129, 133-135, 137, 176A-B, 176-179, 182, 183, 187, 191, 195, 203, 207, 210-211, 230-231, 249, 259, 317, 337, 383, 401, 419, 449, 475, 479, 484A-B, 484-486, 505, 513, 540B, 540, 583, 615, 637, 687, 694I-J, 694-695, 696B, 696-698, 700A-B, 700-701, 702A-B, 702-703, 704-705, 706A-B, 706-709, 710, 711, 715, 728A-B, 728-729, 732, 733, 736-737, 738-739, 741, 742-744, 745, 747

**B. Describe and use mathematical manipulation**

**apply the distributive and associative properties to whole numbers**

**SE/TE:** 22-25, 66B, 66-67, 70A-B, 70-71, 75, 82, 83, 116, 120, 126

**3. Use mathematical models to represent and understand quantitative relationships****A. Use mathematical models**

**model problem situations and draw conclusions, using representations such as graphs, tables or number sentence**

**SE/TE:** 7, 11, 13, 16, 18A-B, 18-19, 21, 24-25, 27, 28B, 28, 30, 32B, 33, 35, 37, 39, 42B, 43, 44-45, 47, 49, 51, 55, 69, 70B, 71, 74-75, 77, 78-79, 80B, 90, 96, 100, 104B, 106A-B, 106-107, 109, 110B, 110-111, 112, 113, 115, 118-119, 129, 135, 140, 143, 151, 154, 158B, 162B, 169, 176B, 176, 180-181, 182, 183, 191, 195, 199, 203, 214B, 216, 223, 226B, 226-227, 229, 230B, 232B, 233, 236, 238-239, 247, 249, 256, 259, 262A-B, 262-265, 266A-B, 266-269, 270A-B, 270-273, 274-275, 276A-B, 276-279, 280, 281, 282A-B, 282-285, 286A-B, 286-287, 288A-B, 288-291, 292A-B, 292-293, 294, 295, 296A-B, 296-299, 307, 311, 317, 372-373, 383, 405, 406B, 407, 409, 417, 419, 425, 432-433, 434B, 434-437, 438B, 438-439, 440, 441, 442, 447, 449, 453, 457, 469, 482-483, 484A-B, 484-487, 504B, 505, 506-507, 510-511, 513, 539, 557, 564A-B, 564-567, 568A-B, 572B, 572-573, 620B, 621, 623, 626B, 626, 629, 637, 644I, 647, 648A, 652A-B, 652-653, 654A, 655, 657, 658-659, 660A-B, 660-661, 662, 664A-B, 664-665, 666, 667, 672B, 676B, 676-677, 679, 680-681, 687, 691-693, 703, 708, 722, 723, 730-731, 734-735, 741

#### 4. Analyze change in various contexts

##### A. Analyze change

**identify, model and describe situations with constant or varying rates of change**

**SE/TE:** 44, 51, 90, 107, 154, 158B, 180-181, 201, 216, 221, 225, 238A-B, 238-239, 243, 438-439, 636, 654A-B, 654-655, 656, 658-659, 689, 692, 710, 711, 747

### GEOMETRIC AND SPATIAL RELATIONSHIPS

#### 1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships

##### A. Describe and use geometric relationships

**analyze 2-and 3-dimensional shapes by describing the attributes**

**SE/TE:** 80A, 120, 190, 210B, 210-211, 213, 248, 316, 326I-J, 326-327, 328A-B, 328-331, 332A-B, 332-335, 336A-B, 336-337, 338, 339, 340A-B, 340-341, 342A-B, 342-345, 346A-B, 346-349, 351, 352A-B, 352-355, 356B, 356-357, 358, 359, 360A-B, 360-363, 364A-B, 364-367, 368A-B, 368-371, 372A-B, 374, 375, 378-379, 380-381, 382, 384-387, 388-391, 448, 516, 540-541, 542A-B, 542-545, 546, 547, 548A-B, 548-549, 550A-B, 550-551, 552A-B, 552-553, 554A-B, 554-555, 558A-B, 558-559, 560, 561, 563, 571, 572A-B, 576-577, 578-579, 580-581, 585-586, 588-590, 592-593, 594A-B, 594-597, 598A-B, 598-601, 602A-B, 602-603, 606A-B, 606-607, 608-609, 610A-B, 610-613, 618, 619, 625, 629, 632-633, 634, 635, 636, 638-639, 641-642, 647, 662B, 674, 686, 689, 709, 721, 740

##### B. Compose and decompose shapes

**predict and justify the results of subdividing, combining and transforming shapes**

**SE/TE:** 326I-J, 343, 351, 352B, 352-355, 359, 367, 379, 387, 391, 392I-J, 394-397, 398-399, 400A-B, 400-401, 410A, 410-411, 412A, 413, 416B, 416, 418A, 418, 438A, 444, 446, 450-451, 454-455, 493, 494A, 494, 496A-B, 496-498, 525, 556, 605, 606A-B, 606-607, 610B, 610-611, 626B, 633, 640, 662B, 662-663, 675, 689

**2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems****A. Use coordinate systems**

**use coordinate systems to specify locations, describe paths and find the distance between points along horizontal and vertical lines**

**SE/TE:** 55, 174A-B, 174-175, 176A-B, 177-179, 182, 183, 185, 188, 191, 195, 199, 203, 258, 651, 652A-B, 652-653, 656, 657, 682, 684, 695, 724A-B, 724-727, 728A-B, 728-729, 732, 733, 734-735, 737, 739, 741, 744, 747

**3. Apply transformations and use symmetry to analyze mathematical situations****A. Use transformations on objects**

**predict, draw and describe the results of sliding/translating, flipping/reflecting and turning/rotating around a center point of a polygon**

**SE/TE:** 364A-B, 364-367, 374, 375, 379, 381, 382, 387, 391, 397, 399, 516, 740

**C. Use symmetry**

**identify polygons and designs with rotational symmetry**

**SE/TE:** 370

**4. Use visualization, spatial reasoning and geometric modeling to solve problems****A. Recognize and draw three-dimensional representations**

**given a net of a prism or cylinder, identify the 3-dimensional shape**

**SE/TE:** 592I, 598A-B, 598-601, 602A-B, 602-603, 608-609, 610A, 632, 634, 635, 638, 641

**MEASUREMENT****1. Understand measurable attributes of objects and the units, systems and processes of measurement****A. Determine unit of measurement****identify and justify the unit of measure for area (customary and metric)****SE/TE:** 27, 49, 62, 211, 213, 248, 316, 526I-J, 548A-B, 548-549, 550B, 550-551, 552A-B, 552-553, 554A-B, 554-555, 558B, 558-559, 560, 561, 563, 572B, 576, 579, 580-581, 582, 585-586, 590, 593, 597, 602A-B, 602-603, 636, 638, 641, 686**B. Identify equivalent measures****identify the equivalent weights and equivalent volumes within a system of measurement****SE/TE:** 54, 97, 190, 614A-B, 614-615, 616A-B, 616-617, 618, 619, 620A-B, 620-621, 622A-B, 622-623, 626B, 628, 629, 639-640, 642-643**C. Tell and use units of time****solve problems involving elapsed time (hours)****SE/TE:** 190, 248, 316, 564A-B, 564-567, 569, 574, 575, 579, 581, 587, 591**2. Apply appropriate techniques, tools and formulas to determine measurements****C. Apply geometric measurements****describe how to solve problems involving the area of polygons and non-polygonal regions imposed on a rectangular grid****SE/TE:** 526I-J, 548A-B, 548-549, 551, 552A-B, 552, 554A-B, 554, 558A-B, 558, 560, 561, 585, 589**E. Use relationships within a measurement system****convert from one unit to another within a system of measurement (linear)****SE/TE:** 71, 76B, 120, 155, 221, 248, 526I-J, 526A-B, 526-529, 533, 534B, 534-535, 536A-B, 536-539, 541, 546, 547, 563, 577, 578, 580, 582, 584, 588, 674, 686

**DATA AND PROBABILITY****1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them****A. Formulate questions****evaluate data-collection methods****SE/TE:** 70B, 260A-B, 260-261, 262B, 269, 280, 281, 297, 305, 312, 315, 318, 322, 731**C. Represent and interpret data****describe methods to collect, organize and represent categorical and numerical data****SE/TE:** 11, 70B, 260A-B, 260-261, 262A-B, 262-265, 266A-B, 266-269, 270A-B, 270-273, 274-275, 276A-B, 276-279, 280, 281, 282A-B, 282-285, 286A-B, 286-287, 288A-B, 288-291, 292A-B, 292-293, 294, 295, 297, 305, 306A-B, 312-313, 314-315, 318-321, 322-325, 383, 403, 428, 448, 466, 493, 503, 517, 538, 551, 583, 731**2. Select and use appropriate statistical methods to analyze data****A. Describe and analyze data****compare related data sets****SE/TE:** 76B, 238-239, 262A-B, 262-265, 269, 276A, 276-278, 280, 281, 285, 292A-B, 292-293, 294, 295, 298-299, 312-313, 315, 317, 318-320, 322-323**B. Compare data representations****compare different representations of the same data and evaluate how well each representation shows important aspects of the data****SE/TE:** 191, 262B, 266A-B, 270B, 282, 288A-B, 288-291, 294, 295, 299, 306B, 312-313, 319-320, 322-324, 503, 551, 731

**3. Develop and evaluate inferences and predictions that are based on data**

**A. Develop and evaluate inferences**

**given a set of data make and justify prediction(s)**

**SE/TE:** 16, 32B, 55, 76B, 80B, 208-209, 210A-B, 210-211, 258J, 262A, 266A-B, 266-269, 291, 296A-B, 296-299, 305, 308, 311, 313, 315, 325, 664B, 664-665, 669, 690, 693

**4. Understand and apply basic concepts of probability**

**A. Apply basic concepts of probability**

**describe the degree of likelihood of events using such words as certain, equally likely and impossible**

**SE/TE:** 121, 191, 249, 296A-B, 296-299, 301, 302A-B, 302-305, 308, 309, 313, 314, 321, 325, 331, 383, 517, 637



**Scott Foresman – Addison Wesley Mathematics  
to the  
Missouri Mathematics Grade-level Expectations**

**Grade Six**

**NUMBER AND OPERATIONS**

**1. Understand numbers, ways of representing numbers, relationships among numbers and number systems**

**A. Read, write and compare numbers**

**compare and order integers, positive rationals and percents, including finding their approximate location on a number line**

**SE/TE:** 3, 12A-B, 12-13, 14A, 14-15, 22, 23, 58, 62, 64, 66, 70, 74, 76-77, 78A-B, 78-79, 81, 84, 85, 126, 128, 132, 136, 141, 176A-B, 176-179, 184, 185, 191, 192, 197, 201, 361, 406I, 410A-B, 410-411, 412A-B, 412-413, 416, 417, 421, 425, 437, 456, 458, 459, 460, 462, 466, 501, 608, 618, 696

**B. Represent and use rational numbers**

**recognize and generate equivalent forms of fractions, decimals and percents**

**SE/TE:** 76B, 76-77, 79, 109, 110-111, 113, 119, 122, 123, 127, 128-129, 132, 136, 138-139, 140J, 160A-B, 160-163, 164A-B, 164-167, 168A-B, 168-169, 172A-B, 172-175, 184, 185, 188-189, 190-191, 196-197, 200-201, 202I, 203, 204-205, 207, 209, 215, 234-235, 238, 247, 251, 257, 269, 271, 293, 298, 333, 352I-J, 353, 354A-B, 354-357, 358A-B, 358-361, 364, 365, 366A-B, 366-367, 368A-B, 368, 377, 394-395, 400, 403, 483, 530, 579, 686

**C. Compose and Decompose numbers**

**recognize equivalent representations for the same number and generate them by decomposing and composing numbers, including expanded notation**

**SE/TE:** 2J, 5-7, 8A-B, 8-11, 13, 15, 17, 19, 23, 24A-B, 24-27, 30A-B, 30-31, 32A-B, 32-33, 38, 39, 51, 59, 60, 62-63, 64, 66-67, 70, 76-77, 79, 81, 106A, 108-109, 110-111, 113, 119, 122, 123, 127, 135, 146B, 147, 188, 269, 271, 309, 385, 530, 593, 631

**D. Classify and describe numeric relationships**

**use factors and multiples to describe relationships between and among numbers, including whole number common factors and multiples**

**SE/TE:** 8B, 130, 140I, 140, 142A-B, 142-145, 146A-B, 146-149, 150A-B, 150-151, 152A-B, 152-153, 158, 159, 190-191, 192, 194-195, 198-199, 202, 255, 259, 286, 290, 317, 344, 487, 530, 608-609, 637, 669-670, 686

**2. Understand meanings of operations and how they relate to one another****B. Describe effects of operations**

**describe the effects of addition and subtraction on fractions and decimals**

**SE/TE:** 74I, 86A-B, 86-89, 93, 104, 105, 112A, 128-129, 130, 133, 202I-J, 203, 204A-B, 204-205, 206A-B, 206-209, 214, 215, 217, 218A-B, 218-219, 220A-B, 220-223, 224A-B, 114-225, 230, 231, 234-235, 236, 240-242, 243-245, 251, 276, 301, 353, 357, 398, 460, 530, 549, 734

**3. Compute fluently and make reasonable estimates****C. Compute problems**

**add and subtract positive rational numbers**

**SE/TE:** 74I, 86A-B, 86-89, 93, 104, 105, 112A, 128-129, 130, 133, 202I-J, 203, 204A-B, 204-205, 206A-B, 206-209, 214, 215, 217, 218A-B, 218-219, 220A-B, 220-223, 224A-B, 114-225, 230, 231, 234-235, 236, 240-242, 243-245, 251, 276, 301, 353, 357, 398, 425, 460, 530, 549, 619, 657, 686, 734

**D. Estimate and justify solutions**

**estimate and justify the results of addition and subtraction of positive rational numbers**

**SE/TE:** 16A-B, 16-17, 19, 22, 23, 62-63, 67, 71, 75, 77, 82A-B, 82-83, 84, 85, 87, 89, 128, 136, 216A-B, 216-217, 219, 223, 225, 226A-B, 226-227, 230, 231, 235, 236-237, 241, 244, 290

**E. Use proportional reasoning****solve problems using equivalent ratios**

**SE/TE:** 298I-J, 302A-B, 302-305, 306-309, 314, 315, 316A-B, 316-317, 318A-B, 318-321, 322A-B, 322-323, 324B, 325, 326, 327, 330-333, 334A-B, 336, 337, 340-341, 342-343, 344-345, 346-347, 349, 350-351, 369, 370A-B, 370-371, 460-461, 471, 506B, 507-509, 531, 619, 687

**ALGEBRAIC RELATIONSHIPS****1. Understand patterns, relations and functions****B. Create and analyze patterns****represent and describe patterns with tables, graphs, pictures, symbolic rules or words**

**SE/TE:** 51, 96, 100, 142B, 163, 193, 195, 210-211, 212A-B, 212-213, 214, 215, 217, 223, 232-233, 234, 236-237, 238-239, 240, 243, 267, 274B, 298I-J, 328B, 338-339, 372, 375, 399, 418B, 444A-B, 444-447, 452, 453, 454-455, 490-491, 513, 520B, 539, 568B, 576, 696I, 716A-B, 716-717, 733

**C. Classify objects and representations****compare various forms of representations to identify a pattern**

**SE/TE:** 51, 100, 142B, 163, 193, 195, 210-211, 212A-B, 212-213, 214, 215, 223, 232-233, 267, 274B, 298I-J, 328B, 338-339, 372, 375, 399, 418B, 444A-B, 444-447, 452, 453, 454-455, 490-491, 513, 539, 568B, 576, 609, 696I, 716A-B, 716-717, 733

**D. Identify and compare functions****identify functions as linear or nonlinear from a table or graph**

**SE/TE:** 131, 193, 274B, 291, 305, 316B, 370B, 420, 444A-B, 444-447, 448A-B, 448-449, 452, 453, 454-455, 457, 458, 459, 461, 465, 469, 475, 503, 531, 567, 568A-B, 568-569, 572A-B, 572-573, 575, 580A, 580, 590A-B, 590-591, 595, 597, 609, 687, 696J, 703, 716A-B, 716-717, 718A-B, 718-721, 722A-B, 722-723, 725, 726, 727, 728-729, 730-731, 732-733, 735, 737-738, 741

**2. Represent and analyze mathematical situations and structures using algebraic symbols****A. Represent mathematical situations****use variables to represent unknown quantities in expressions**

**SE/TE:** 40A-B, 40-43, 44A-B, 40-43, 44A-B, 44-47, 48A-B, 48-51, 56, 57, 61, 62-63, 64-65, 69, 73, 75, 81, 83, 89, 93, 112A-B, 112-113, 116A-B, 116-119, 122, 123, 127, 131, 139, 193, 217, 225, 239, 243, 247, 251, 274A-B, 274-275, 276A-B, 276-277, 282, 283, 287, 288-289, 290-291, 294, 297, 299, 301, 319-320, 322A-B, 322-323, 328A-B, 328-329, 334B, 342-343, 345, 357, 369, 370A-B, 381, 383, 384B, 384, 386A-B, 386-387, 395, 398-399, 402, 407, 411, 418B, 427, 429, 430A-B, 430-431, 432, 437, 438, 439, 443, 444A-B, 444-447, 448A-B, 448-449, 452, 453, 454-455, 457, 458, 459, 461, 464-465, 468, 471, 479, 481-482, 492, 493, 496-499, 503, 504, 505, 507, 526, 530-531, 532-533, 549, 566, 567, 568A-B, 568, 571, 572A-B, 572-573, 575, 576A-B, 576-579, 580-581, 583, 584, 585, 595, 597, 609, 627, 657, 667, 670-671, 687, 697, 698A-B, 698-699, 700A-B, 700-703, 707, 708, 709, 710A-B, 710-711, 712A-B, 712-715, 716A-B, 716-717, 718A-B, 718-721, 722A-B, 722-723, 724A-B, 725, 726, 727, 728-729, 730-731, 732-733, 735, 736-738, 739-741

**B. Describe and use mathematical manipulation****recognize equivalent forms for simple algebraic expressions (associative, distributive properties)**

**SE/TE:** 28A-B, 28-29, 30A-B, 30-31, 35, 38, 39, 41, 44A-B, 44-47, 62, 65, 68, 72, 79, 89, 219, 258B, 261, 271, 276B, 345, 426, 460, 609, 623, 671, 703, 710A-B, 710-711, 712A-B, 712-715, 726, 727, 730, 732, 735, 737

**3. Use mathematical models to represent and understand quantitative relationships****A. Use mathematical models****model and solve problems, using multiple representations such as graphs, tables, expressions and equations**

**SE/TE:** 24B, 36A-B, 36-37, 38, 39, 42-43, 44A-B, 47, 52A-B, 52-53, 54A-B, 54-55, 56, 57, 58-59, 61, 63, 64-65, 68-69, 71, 72-73, 79, 94B, 96, 98B, 98-99, 112A-B, 113, 114-115, 116A-B, 116-119, 120A-B, 120-121, 124-125, 127, 129, 130-131, 134-135, 139, 144-145, 153, 154-155, 156A-B, 156-157, 158, 159, 180A-B, 180-181, 182A-B, 182-183, 185, 186-187, 189, 191, 193, 197, 199, 201, 216, 226A-B, 227, 228-229,

231, 237, 247, 250-251, 254, 257, 262-263, 264A-B, 264-265, 270B, 271, 274B, 274-275, 277, 280-281, 282, 283, 284-285, 297, 300B, 303-305, 314, 315, 316-317, 318A-B, 318-321, 322B, 322-323, 325, 326, 327, 328B, 330-333, 334B, 335, 338-339, 343, 349, 351, 356, 360, 362A-B, 362-363, 367, 368B, 370B, 372-373, 374A-B, 374-377, 378, 379, 380A-B, 380-383, 384A-B, 384-385, 386A-B, 386-387, 388A-B, 388-389, 390, 391, 392-393, 395, 396-397, 399, 400-402, 403-405, 412B, 413, 414A-B, 414-415, 416, 417, 420-421, 422B, 424, 430B, 431, 432, 434A-B, 434-437, 438, 439, 443, 446-447, 450B, 450-451, 453, 458, 459, 461, 467-468, 470, 530-531, 544, 548, 550B, 551, 556-557, 558-559, 560A-B, 560-561, 562, 563, 570B, 570-571, 577-578, 582B, 582, 584, 585, 596-597, 598A, 598-599, 605, 638A-B, 656-657, 658-661, 662-663, 664A-B, 664, 667, 668A-B, 668-669, 670, 672, 676-677, 680-681, 683, 690-691, 697, 699, 700B, 702, 704-705, 706A-B, 706-707, 708, 709, 710A-B, 710-711, 712, 714-715, 716-717, 718B, 719-721, 722A-B, 722-723, 724A-B, 725, 726, 727, 728-729, 731, 732-733, 734-735, 736-738, 739-741

#### 4. Analyze change in various contexts

##### A. Analyze change

**compare situations with constant or varying rates of change**

**SE/TE:** 123, 128, 130, 138, 141, 156A-B, 156-157, 195, 223, 270B, 275, 279, 306-309, 314, 315, 318B, 318-320, 323, 324B, 325, 327, 328B, 328-329, 333, 336, 337, 340, 342-343, 345, 346, 348, 351371, 415, 421, 545, 718B, 719-721, 739

## GEOMETRIC AND SPATIAL RELATIONSHIPS

### 1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships

#### A. Describe and use geometric relationships

**identify the properties of 1-, 2- and 3- dimensional shapes using the appropriate geometric vocabulary**

**SE/TE:** 64, 130, 142B, 146A, 146, 192, 278B, 283, 290, 299, 333, 344, 453, 460, 470J, 471, 472A-B, 472-473, 476A-B, 476-479, 480A-B, 480-483, 484A-B, 484-487, 488-489, 490B, 490-491, 492, 493, 494A-B, 494-495, 496A-B, 496-499, 500A-B, 500-501, 502A-B, 502-503, 504, 505, 506A-B, 506-509, 512A-B, 512-513, 514A-B, 514-515, 516A-B, 516-519, 522-523, 526-527, 528-529, 530-531, 532-535, 536-539,

541, 564A-B, 564-567, 568A-B, 568-569, 570A-B, 570-571, 572A-B, 572-575, 576A-B, 576-579, 580A-B, 580-581, 584, 585, 586A-B, 586-589, 590A-B, 590-593, 594A-B, 594-597, 600, 601, 602-603, 604-605, 606-607, 608, 611-613, 614-617, 623, 641, 663, 667, 686, 704, 707, 714, 717, 724B, 733, 734

## **B. Apply geometric relationships**

**describe relationships between the corresponding angles and the length of corresponding sides of similar triangles (whole number scale factors)**

**SE/TE:** 506A-B, 507-509, 511, 529, 534

## **2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems**

### **A. Use coordinate systems**

**use coordinate geometry to construct geometric shapes**

**SE/TE:** 440B, 443, 511, 512-513, 524-525, 528-529, 530

## **3. Apply transformations and use symmetry to analyze mathematical situations**

### **A. Use transformations on objects**

**describe the transformation from a given pre-image to its image using the terms reflection/flips, rotation/turn and translation/slide**

**SE/TE:** 470J, 510A-B, 510-511, 514A-B, 514-515, 517-519, 522, 523, 524-525, 527, 528-529, 530, 534, 539, 686

### **C. Use symmetry**

**create polygons and designs with rotational symmetry**

**SE/TE:** 486, 510, 513, 514A-B, 514-515, 518, 522-523, 525, 529, 535, 539

**4. Use visualization, spatial reasoning and geometric modeling to solve problems****A. Recognize and draw three-dimensional representations****use spatial visualization to identify isometric representations of net plans**

Grade 6 students using Scott Foresman-Addison Wesley Mathematics identify, draw, and construct nets of three-dimensional figures; identify and draw top, front, and side views of three-dimensional figures; and use nets and top, front, and side views to construct three-dimensional figures.

**References:** 586B, 587-589, 590A-B, 590-591, 593, 594B, 594, 598B, 600, 601, 606

**B. Draw and use visual models****draw or use visual models to represent and solve problems**

**SE/TE:** 8A-B, 36B, 37, 44B, 45, 48A-B, 48-49, 51, 52B, 54A-B, 59, 78B, 90A-B, 90, 98B, 100, 114-115, 117, 142B, 146A, 146, 150B, 151, 152A-B, 154-155, 156A-B, 156-157, 160B, 160-163, 164A-B, 164-165, 167, 168A-B, 170A-B, 170-171, 172A-B, 176B, 179, 182B, 182-183, 195, 198-199, 204A-B, 204, 206A-B, 206, 209, 212A-B, 212-213, 216A-B, 216, 218A, 220A, 220, 226A-B, 227, 232-233, 246I-J, 248A-B, 248, 254, 258A-B, 266B, 270B, 271, 276A, 277, 278A-B, 280B, 281, 283, 284-285, 295, 300A, 302A-B, 310-311, 312A-B, 312-313, 314, 322, 324A-B, 324, 330A-B, 330-333, 334A-B, 336, 340-341, 342, 352J, 354A-B, 354-357, 358A, 358-360, 362A-B, 364, 365, 366A-B, 373, 376, 384B, 394, 403, 406J, 408B, 408-409, 410-411, 413, 414B, 414, 418-420, 422A, 422-424, 426A, 432-433, 434-436, 450A-B, 456-457, 463-464, 467, 474-475, 476B, 478-479, 480B, 482-483, 484B, 484-487, 488-489, 490A-B, 490-491, 492, 493, 494B, 495, 498-499, 501, 502B, 503, 506B, 506, 508-509, 510A-B, 510-511, 512A-B, 512-513, 514A-B, 514-515, 516A-B, 516-519, 520A-B, 520-521, 522-523, 524-525, 526-527, 529, 531, 533, 537, 545, 546B, 549, 550-551, 560B, 560-561, 564A-B, 564-567, 570B, 571, 574-575, 580A-B, 580-581, 582A, 583, 587-589, 590A-B, 590-593, 594, 597, 598B, 602-603, 606, 618J, 628A-B, 628-631, 632A-B, 632-633, 634, 635, 636A-B, 636-637, 638A-B, 638-641, 642A-B, 642-645, 646-647, 648A-B, 648-649, 650A-B, 650-651, 652, 653, 654A-B, 654-657, 661, 662B, 663, 664B, 664, 666-667, 671, 672B, 672, 674A-B, 674-675, 678, 679, 682-683, 684-685, 689-691, 692-695, 698A-B, 700A-B, 700-703, 706A, 708-709, 710A, 710-711, 714, 716A-B, 716-717, 732, 734, 740

**MEASUREMENT****1. Understand measurable attributes of objects and the units, systems and processes of measurement****A. Determine unit of measurement****identify and justify an angle as acute, obtuse, straight or right****SE/TE:** 64, 238, 460, 470I, 476A-B, 476-479, 482-483, 492, 493, 496A-B, 496-499, 504, 505, 528-529, 532, 536-537, 551**C. Tell and use units of time****solve problems involving elapsed time (hours and minutes)****SE/TE:** 192, 238, 344, 554A-B, 554-557, 558-559, 562, 563, 567, 605, 606-607, 608, 611, 615**2. Apply appropriate techniques, tools and formulas to determine measurements****A. Use standard or nonstandard measurement****estimate a measurement using either standard or non-standard unit of measurement****SE/TE:** 35, 82A-B, 82-83, 103, 476B, 478, 483, 540I-J, 550A-B, 550-551, 553, 562, 563, 573, 576-578, 614, 717**B. Use angle measurement****select and use benchmarks to estimate measurements of 0-, 45-, 90-, 180-, 360-degree angles****SE/TE:** 476B, 478, 483**C. Apply geometric measurements****describe how to solve problems involving the area or perimeter of polygons****SE/TE:** 128, 130, 238, 290, 299, 333, 398, 470, 540I, 564A-B, 564-567, 568A-B, 568-569, 570A-B, 570-571, 572A-B, 572-575, 579, 580, 581, 584, 585, 590A-B, 590-593, 600, 601, 603, 604-605, 606-607, 608-609, 611-613, 615-616, 667, 673, 686, 704, 724B, 733, 734



**E. Use relationships within a measurement system**

**convert from one unit to another within a system of measurement (mass and weight)**

**SE/TE** (mass and weight only): 35, 64, 542B, 542-545, 546-549, 551, 552A-B, 552-553, 562, 563, 604, 606-607, 610, 614

**DATA AND PROBABILITY****1. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them****A. Formulate questions**

**formulate questions, design studies and collect data about a characteristic**

**SE/TE:** 20B, 170B, 406I, 520B, 570B, 570, 572B, 576A, 576, 580A, 620A-B, 620-623, 628A-B, 632A, 664A-B, 665

**C. Represent and interpret data**

**interpret circle graphs; create and interpret stem-and-leaf plots**

**SE/TE:** 170B, 182A, 193, 200, 250, 362B, 363, 365, 368, 370, 393, 400, 404, 461, 632A-B, 632-633, 634, 635, 637, 642A-B, 642-645, 647, 648A-B, 651, 652, 653, 674B, 674, 676B, 678, 682, 684-685, 687, 688-689, 692-693, 735

**2. Select and use appropriate statistical methods to analyze data****A. Describe and analyze data**

**find the range and measures of center, including median, mode and mean**

**SE/TE:** 92, 193, 291, 345, 609, 624A-B, 624-627, 628A-B, 629-631, 632A-B, 632-633, 634, 635, 661, 676A-B, 676-677, 682, 684-685, 687, 688, 692

**B. Compare data representations**

**compare different representations of the same data and evaluate how well each representation shows important aspects of the data**

**SE/TE:** 531, 609, 625, 628A-B, 628-631, 632A-B, 632-633, 634, 635, 636A-B, 636-637, 638A-B, 638-641, 642A-B, 642-645, 646-647, 648A-B, 648-649, 650A-B, 650-651, 652, 653, 657, 674A-B, 674-675, 676B, 682, 684-685, 688-691, 692-695

**3. Develop and evaluate inferences and predictions that are based on data**

**A. Develop and evaluate inferences**

**use observations about differences between 2 samples to make conjectures about the populations from which the samples were taken**

**SE/TE:** 618I, 620A-B, 620-623, 634, 635

**4. Understand and apply basic concepts of probability**

**A. Apply basic concepts of probability**

**use a model diagrams, list, sample space, or area model) to illustrate the possible outcomes of an event**

**SE/TE:** 38, 239, 262-263, 264A-B, 264-265, 272, 273, 287, 289, 293, 372-373, 376, 496B, 618J, 654A-B, 654-657, 658A-B, 658-661, 662A, 662-663, 668A-B, 671, 678, 679, 683, 685, 687