

A Correlation of



to the

**North Carolina
Mathematics Standard
Course of Study and
Grade Level Competencies
Grades K -5**



T/M-161

Introduction

This correlation shows the close alignment between **Scott Foresman – Addison Wesley enVisionMATH**, copyright 2009, to the *North Carolina Mathematics Standards Course of Study and Grade Level Competencies*. Correlation page references are to the Teacher's Edition. Lessons in the Teacher's Edition include facsimile pages of the Student Edition.

The enVisionMATH™ program is based around scientific research on how children learn mathematics as well as on classroom-based evidence that validates proven reliability.

Personalized Curriculum

enVisionMATH™ provides 20 (16 in Kindergarten) focused topics that are coherent, digestible groups of lessons focusing on one or a few related content areas. A flexible sequence of topics is small enough for a district to rearrange into a personalized curriculum that matches the sequence preferred by the district. The curriculum is designed so that all standards can be taught before the major mathematics testing.

Instructional Design

enVisionMATH™ teaches for deep conceptual understanding using research-based best practices. Essential understandings connected by Big Ideas are explicitly stated in the Teacher's Edition. Daily Spiral Review and the Problem of the Day focus foundational skills and allow for ongoing practice with a variety of problem types. Daily interactive concept development encourages students to interact with teachers and other students to develop conceptual understanding.

Visual Learning allows students to benefit from seeing math ideas portrayed pictorially as well as being able to see connections between ideas. enVisionMATH™ created a Visual Learning Bridge which is a step-by-step bridge between the interactive learning activity and the lesson exercises to help students focus on one idea at a time and see the connections within the sequence of ideas. The strong sequential visual/verbal connections deepen conceptual understanding for students of all learning modalities and are particularly effective with English language learners and struggling readers. Guiding questions in blue type help the teacher guide students through the examples, ask probing questions to stimulate higher order thinking, and allow for checking of understanding.

Differentiated Instruction

enVisionMATH™ engages and interests all students with leveled activities for ongoing differentiated instruction. A Teacher-Directed Intervention activity at the end of every lesson provides immediate opportunities to get students on track. In addition, ready made leveled learning centers for each lesson allow different students to do the same activity at different levels at the same time giving the teacher uninterrupted time to focus on reteaching students who require intervention. All centers can be used repeatedly due to the inclusion of a "Try Again" at the end. They can also be used for ongoing review and they can be used year after year. Topic-specific considerations for EL, Special Education, At-Risk, and Advanced students enable the teacher to accommodate the diverse learners in the classroom.

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**Scott Foresman – Addison Wesley enVisionMATH
to the
North Carolina Standard Course of Study
and Grade Level Competencies**

Kindergarten

COMPETENCY GOAL 1:The learner will understand numbers and ways to represent numbers.

Objectives

1.01 Develop number sense for whole numbers from 0 through 10.

a) Use 1 to 1 correspondence and other counting strategies to determine how many.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 43–44, 51–52, 75–76, 101–102, 120, 139–140, 147–148, 155–156, 157, 177–178, 181–182, 185–186, 189–190, 195–196, 199–200, 203–204, 207–208, 215–216, 219–220, 221–222, 225–226, 229–230, 237–238, 241–242, 289–290, 293–294, 295–296, 297–298, 299–300, 301–302

b) Connect the model, number word (orally) and numeral using multiple representations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 51–52, 55–56, 59–60, 63–64, 67–68, 75–76, 79–80, 83–84, 87–88, 91–92, 103–104, 107–108, 143–144, 147–148, 179–180, 183–184, 187–188, 195–196, 197–198, 201–202, 205–206, 207–208, 213–214, 217–218, 219–220, 221–222, 225–226, 229–230, 299–300, 301–302

c) Compare and order sets and numbers (more than, less than, same/equal).

SE/TE: 63–64, 65–66, 67–68, 101–102, 103–104, 105–106, 107–108, 157, 199–200, 223–224, 245–246, 289–290, 291–292, 293–294, 295–296, 297–298, 299–300, 301–302

43–44, 93–94, 257–258

d) Recognize and write numerals.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 53–54, 59–60, 69–70, 79–80, 91–92, 93–94, 95–96, 120, 159–160, 169–170, 171–172, 179–180, 181–182, 185–186, 187–188, 195–196, 199–200, 203–204, 205–206, 207–208, 213–214, 217–218, 219–220, 225–226, 227–228, 237–238, 239–240, 259–260, 277–278, 279–280

e) Recognize (subitize) the amount in a given set of patterned dots/objects.

SE/TE: 103–104, 105–106, 107–108

f) Determine number before and after a given number.

SE/TE: 65–66, 67–68, 93–94, 107–108, 109–110, 223–224, 277–278, 279–280
225–226, 227–228, 229–230, 259–260, 261–262

g) Identify and sequence ordinal numbers.

SE/TE: 143–144, 145–146, 147–148

273–274

h) Compose and decompose numbers:

-recognize part-part-whole relationships.

-use 5 and 10 as referents.

SE/TE: 69–70, 75–76, 77, 81–82, 83, 87–88, 89–90, 103–104, 105–106, 107–108,
213–214, 215–216, 217–218, 219–220, 225–226, 227–228

221–222

1.02 Model and count objects in a set and rote count:

a) forward to 30.

SE/TE: 213–214, 215–216, 217–218, 219–220, 223–224, 225–226, 227–228, 229–
230, 231–232

93–94, 259–260, 261–262, 277–278, 279–280

b) backward from 10.

SE/TE: 93–94, 231–232

87–88, 89–90, 91–92, 223–224

TE: 88C, 94C

1.03 Demonstrate and illustrate the meaning of joining and separating sets with objects to solve problems for whole numbers from 0-10; use informal language to describe the strategies.

SE/TE: 177–178, 179–180, 181–182, 183–184, 185–186, 187–188, 189–190, 195–196,
197–198, 199–200, 201–202, 203–204, 205–206, 207–208, 247–248

237–238, 239–240, 241–242, 245–246

COMPETENCY GOAL 2: The learner will investigate the concepts and processes of measurement.

Objectives

2.01 Recognize length and mass as measurable attributes.

SE/TE: 155–156, 157–158, 159–160, 161–162, 167–168, 169–170, 171–172
153–154

TE: 174B

2.02 Compare and order objects with respect to a given attribute (length, mass).

SE/TE: 153–154, 155–156, 157–158, 161–162, 163–164, 165–166, 167–168, 171–172,
253–254, 281–282, 283–284

159–160, 169–170

TE: 174B

2.03 Make connections between events and experiences and the cyclical measure of time.

a) Sequence common events.

SE/TE: 255–256, 257–258, 263–264, 265–266

b) Sequence days of the week, months, and seasons.

SE/TE: 271–272, 273–274, 275–276, 277–278, 279–280

COMPETENCY GOAL 3: The learner will investigate the concepts of geometry.

Objectives

3.01 Identify, describe, compare, and sort geometric three-dimensional figures (spheres, cubes, cylinders, and cones) by attributes.

SE/TE: 4, 5–6, 10, 125–126, 127–128, 129–130

26, 300

3.02 Identify, model, describe, compare, and sort geometric two-dimensional figures (triangles, rectangles including squares, and circles) by attributes.

SE/TE: 3–4, 5–6, 7, 9–10, 11–12, 115–116, 117–118, 119–120, 121–122, 123–124,
129–130, 131–132

37–38, 39–40, 45–46, 125–126, 295–296, 297–298, 299–300

3.03 Demonstrate spatial reasoning to fill shapes and model objects found in the environment.

SE/TE: 119–120, 121–122, 131–132

3.04 Identify objects in the environment and describe their relative locations using positional and directional words.

SE/TE: 17–18, 19–20, 21–22, 23–24, 25–26, 27–28, 127–128

COMPETENCY GOAL 4: The learner will collect, organize and display data to answer questions.

Objectives

4.01 Use the processes of statistical investigation as a group activity.

a) Pose questions and collect data about themselves and their surroundings.

SE/TE: 95–96, 291–292, 293–294, 295–296, 297–298

b) Organize and represent data using concrete objects, pictures or pictorial graphs.

SE/TE: 95–96, 289–290, 291–292, 293–294, 295–296, 297–298, 301–302

c) Evaluate how the data help answer the posed question.

SE/TE: 291–292, 301–302

289–290, 295–296, 297–298

COMPETENCY GOAL 5: The learner will investigate algebraic concepts including object classification, patterns and equality.

Objectives

5.01 Identify attributes, sort objects by one attribute and justify the rule used to classify.

SE/TE: 3–4, 5–6, 7–8, 9–10, 11–12, 153, 243–244

163, 283–284

5.02 Identify, duplicate, extend, and create repeating patterns using actions, words and models.

SE/TE: 33–34, 35–36, 37–38, 39–40, 41–42, 43–44, 45–46, 225–226, 227–228, 229–230, 231–232

5.03 Develop an understanding of the relationship between part-part-whole and the concept of equality.

SE/TE: 61–62, 69–70, 77–78, 83–84, 89–90, 137–138, 139–140, 141–142, 177–178, 179–180, 181–182, 185–186, 187–188, 189–190, 195–196, 197–198
183–184

COMPETENCY GOAL 6: The student will solve problems and reason mathematically.

Objectives

6.01 Recognize and apply connections among mathematical ideas to solve problems.

SE/TE: 27–28, 41–42, 43–44, 69–70, 95–96, 109–110, 131–132, 141–142, 161–162, 171–172, 207–208, 247–248, 265–266
253–254, 255–256, 281–282, 283–284

6.02 Develop fluency in solving problems that arise in mathematics and in other contexts, building mathematical knowledge through problem solving.

SE/TE: 27–28, 61–62, 77–78, 83–84, 89–90, 141–142, 161–162, 171–172, 247–248

6.03 Use reasoning to understand situations and extend thinking.

SE/TE: 11–12, 34, 35–36, 37–38, 39–40, 41–42, 43–44, 45–46, 115–116, 117–118, 121–122, 123–124, 127–128, 131–132, 137–138, 140, 157–158, 163–164, 231–232, 265–266, 275–276, 300
51–52, 55–56, 155–156, 274, 281–282, 283–284

6.04 Use the language of mathematics and appropriate technology to communicate mathematical ideas demonstrating understanding of problems and solutions.

SE/TE: 147–148, 181–182, 183–184, 185–186, 189–190, 203–204, 207–208

6.05 Explain personal representations that communicate mathematical ideas.

SE/TE: 18, 20, 21–22, 24, 26, 27–28, 45–46, 167–168, 189–190, 255–256, 271–272, 273, 281–282, 283–284
125–126, 253–254, 263–264

**Scott Foresman – Addison Wesley enVisionMATH
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Grade One

COMPETENCY GOAL 1: The learner will demonstrate an understanding of the relationships among numbers, operations, and equality.

Objectives

1.01 Develop number sense for whole numbers to at least 100.

a) Count, read and write numbers.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 3–6, 19–22, 31–34, 39–42, 51–54, 63–66, 83–86, 99–102, 111–114, 119–122, 135–138, 263–266, 279–282, 291–294, 303–306, 315–318, 331–334, 343–346, 355–358, 383–386, 469–472, 481–484, 497–500, 529–532, 549–552, 561–564, 569–572, 609–612, 621–624, 629–632

b) Connect the model, number words and numbers using a variety of physical models and other representations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 7–10, 15–18, 23–26, 35–38, 51–54, 59–62, 67–70, 75–78, 87–90, 95–98, 103–106, 111–114, 123–126, 131–134, 155–158, 159–162, 267–270, 275–278, 287–290, 307–310, 315–318, 323–326, 335–338, 371–374, 379–382, 485–488, 497–500, 557–560, 565–568, 609–612

c) Describe patterns in counting by ones (both forward and backward) and skip counting; use those patterns to predict the number before and after the counting sequences.

SE/TE: 39–42, 267–270, 271–274, 275–278, 279–282, 287–290, 291–294, 295–298, 331–334, 335–338, 343–346, 351–354
35–38, 283–286, 361, 367–370, 371–374, 375–378, 379–382, 383–386, 415–418, 455, 459, 463, 469–472, 625–628, 629–632

d) Use efficient counting strategies to determine how many; explore groupings of objects by 2's, 5's, 10's to determine how many.

SE/TE: 7–10, 11–14, 119–122, 123–126, 127–130, 263–266, 271–274, 275–278, 279–282, 291–294, 295–298, 303–306, 307–310, 367–370, 371–374, 375–378, 379–382, 383–386, 557–560, 561–564, 565–568, 577–580
335–338, 343–346

e) Compose and decompose numbers (part-part-whole).

SE/TE: 51–54, 55–58, 59–62, 75–78, 83–86, 87–90, 91–94, 107–110, 123, 127–130, 131–134, 135–138, 179–182, 183–186, 263–266, 311–314, 315–318, 319–322, 323–326, 517–520, 521–524, 525–528, 533–536
585–588, 589–592, 593–596, 597–600, 601–604

f) Recognize equivalence; compare and order sets and numbers using words rather than symbolic notation.

SE/TE: 4, 31–34, 35–38, 43–46, 331–334, 335–338, 339–342, 343–346, 347–350, 351–354, 355–358, 359–362, 375–378, 379–382
39–42, 419, 431–434, 443–446, 541–544

1.02 Represent whole numbers greater than 10 in groups of tens and ones using objects, pictures, and numbers.

SE/TE: 11–14, 263–266, 267–270, 271–274, 303–306, 307–310, 311–314, 315–318, 319–322, 323–326, 331–334, 335–338, 339–341, 355, 609–612, 617–620, 621–624, 629–632, 633–636
613–616, 625–628

1.03 Develop fluency with recall of addition facts (sums to 10) and the related subtraction facts.

SE/TE: 143–146, 147–150, 151–154, 155–158, 159–162, 163–166, 175–178, 179–182, 183–186, 187–189, 387–389, 517–520, 521–524, 525–528, 529–532
171–174, 481–484, 485–488, 489–492, 493–496, 497–500, 501–504, 505–508

1.04 Demonstrate the meaning and use of addition and subtraction to 100 *with models*.

a) Explore properties of addition (i.e. commutative and identity) and the inverse relationship between addition and subtraction.

SE/TE: 71–74, 107–110, 112–113, 145, 175–178, 179–182, 183–186, 505–508, 517–520, 521–524, 525–528, 529–532

b) Model, describe, and illustrate these operations in contexts using multiple strategies.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 51–54, 59–62, 63–66, 67–70, 83–86, 91–94, 99–102, 111–114, 143–146, 151–154, 155–158, 159–162, 163–166, 171–174, 179–182, 183–186, 187–190, 315–318, 481–484, 497–500, 501–504, 505–508, 509–512, 533–536, 609–612, 613–616, 625–628, 629–632, 633–636, 637–640

c) Estimate sums and differences and justify the reasonableness of solutions in meaningful contexts.

SE/TE: 635

613–616, 617–620, 621–624, 625–628, 629–632, 633–634, 636, 637–640

TE: 642E

COMPETENCY GOAL 2: The learner will develop an understanding of the process of measurement using nonstandard units.

Objectives

2.01 Compare and order two or more objects or events with respect to a given attribute (linear, mass, capacity, duration).

SE/TE: 395–398, 403–406, 419–422, 423–426, 427–430, 431–434, 435–438, 439–442, 443–446, 465–468, 469–472

407–410, 411–414, 415–418

TE: 450B

2.02 Select appropriate non-standard units to estimate and measure objects with respect to a given attribute using multiple copies of same-size units.

SE/TE: 399–402, 403–406, 431

COMPETENCY GOAL 3: The learner will analyze characteristics properties and relationships of geometric figures.

Objectives

3.01 Identify, describe, compare, and sort geometric three-dimensional figures (including prisms and pyramids) by attributes.

SE/TE: 227–230, 231–234, 235–238

196–197, 553–556

TE: 240E

3.02 Identify, model, describe, compare, and sort geometric two-dimensional figures (including parallelograms, rhombus, trapezoids, and hexagons) by attributes.

SE/TE: 195–198, 199–202, 203–206, 207–210, 215–218, 219–222, 223–226

211–214, 231–234, 251–254, 256, 258

TE: 240D

3.03 Predict and investigate the results of composing and decomposing two dimensional figures and describe the part-whole relationships of these figures.

SE/TE: 203–206, 207–210, 223–226

219–222, 585–588, 589–592

3.04 Describe relationships of objects using proximity, position and direction; follow and/or formulate directions to move or place an object.

SE/TE: 211–214, 553–556

215–218

TE: 582B

COMPETENCY GOAL 4: The learner will gather, organize, and analyze data to answer questions.

Objectives

4.01 Use the processes of statistical investigation.

a) Pose questions, collect data to answer questions, and make decisions using data.

SE/TE: 541–544, 545–548, 549–552, 557–560, 565–568, 569–572, 577–580

473–476, 561–564

b) Organize and represent data using concrete objects, pictures or pictorial graphs, line plots and tallies.

SE/TE: 473, 476, 541–544, 545, 557–560, 561–564, 565–568, 569–572

577–580

TE: 582C

c) Describe data in a variety of ways and evaluate how the data help answer the posed question.

SE/TE: 541–544, 545–548, 549–552, 573–576, 577–580

COMPETENCY GOAL 5: The learner will analyze patterns and simple mathematical relationships.

Objectives

5.01 Sort objects by two attributes; identify and justify the rule used to classify.

SE/TE: 199–202, 235–238

395–398, 407, 411, 423, 427, 435, 439

TE: 240E

5.02 Analyze, correct errors in, extend and translate repeating patterns into different forms using actions, words, and models.

SE/TE: 205, 213, 229, 233, 243–246, 247–250, 251–254, 255–258, 275–278, 279–282,

291–294, 295–298, 343–346, 463

15–18, 19–22

TE: 260B

5.03 Model, write, and evaluate simple number sentences (equations) to develop an understanding of equality.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 63–66, 71–74, 95–98, 103–106, 107–110, 111–114, 143–146, 151–154, 155–158, 159–162, 163–166, 171–174, 175–178, 179–182, 183–186, 187–190, 315–318, 319–322, 387–389, 481–484, 485–488, 489–492, 493–496, 517–520, 521–524, 525–528, 533–536, 609–612, 617–620, 621

5.04 Determine and justify the value of the unknown in simple number sentences using models and symbols.

SE/TE: 85, 89, 93, 97, 101, 105, 109, 121, 149, 153, 157, 161, 173, 177, 269, 517–520, 521–524, 525–528, 530, 615, 619, 627

COMPETENCY GOAL 6: The learner will solve problems and reason mathematically.

Objectives

6.01 Recognize and apply connections among mathematical ideas.

a) Connect concepts and skills from previous years to current objectives.

SE/TE: 143–146, 195–198, 407–410, 545–548, 573–576

b) Connect concepts and skills from multiple strands to solve problems.

**SE/TE: 23–26, 135–138, 243–246, 493–496
473–476**

6.02 Develop fluency in solving single and multi-step problems that arise in mathematics and in other contexts, building mathematical knowledge through problem solving.

SE/TE: 75–78, 163–166, 187–189, 493–496

6.03 Use reasoning to solve problems.

a) Understand situations and communicate mathematical problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 16, 32, 75–78, 84, 111–114, 120, 144, 176, 188, 204, 236–238, 248, 264, 292–293, 304, 332, 352, 368, 384, 396, 412–413, 444, 454, 462, 482, 490, 502, 542, 590, 622–623

b) Make estimates with appropriate ranges.

SE/TE: 311, 347–350, 387–389, 399–402, 403–406, 407–410, 411–414, 423–426, 435–438, 439–442, 465–468

635

TE: 450A

c) Reflect, extend and refine thinking.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 4, 44, 56, 84, 124, 144, 176, 200, 208, 243–246, 251–254, 272, 280, 304, 340, 376, 387–389, 403–406, 454, 462, 486, 494, 522, 542, 558, 590, 598, 610, 630, 634

6.04 Use the language and symbols of mathematics and appropriate technology to:

a) solve problems;

SE/TE: 26, 78, 103–106, 138, 163–166, 190, 226, 258, 339–342, 390, 512, 640

b) communicate mathematical ideas;

SE/TE: 63–66, 67–70, 71–74, 95–98, 99–102, 103–106, 123–126, 127–130, 367–370, 371–374, 375–378, 379–382, 533–536

c) demonstrate understanding of problems and solutions through oral, pictorial, and written explanations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 23–26, 43–46, 75–78, 111–114, 135–138, 163–166, 171–174, 175–178, 179–182, 183–186, 187–190, 236–238, 255–258, 387–390, 481–484, 485–488, 489–492, 493–496, 497–500, 501–504, 505–508, 510, 517–520, 525–528, 529–532, 533–536, 601–604, 637–640

6.05 Create and use representations to organize, record and communicate mathematical ideas.

SE/TE: 3–6, 7–10, 11–14, 19–22, 23–26, 135–138, 223–226, 243–246, 247–250, 295–298, 323–326, 359–362, 453–456, 457–460, 461–464, 469–472, 473–476, 509–512, 569–572, 585–588, 589–592, 593–596, 597–600, 601–604

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Grade Two

COMPETENCY GOAL 1:

The learner will develop an understanding of place value and compute with whole numbers.

Objectives

1.01 Develop number sense for whole numbers to at least 1,000.

a) Connect the model, number words, and numbers using a variety of physical models and other representations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 3–6, 7–10, 15–18, 19–22, 23–26, 27–30, 48, 50, 55–58, 59–62, 63–66, 75–78, 99–102, 103–106, 111–114, 131–134, 483–486, 511–514, 515–518, 519–522, 523–526, 531–534, 551–554, 591–594, 595–598, 599–602, 603–606, 607–610, 611–614, 619–622

b) Identify, describe and construct multiple representations.

SE/TE: 103–106, 111–114, 131–134, 175–178, 195–198, 200–201, 208–209, 355–358, 359–362, 363–366, 367–370, 371–374, 519–522, 523–526, 560–561, 591–594, 595–598, 599–602, 603–606, 607–610, 611–614, 619–622
220–222, 223–226, 231–234, 251–254, 255–258, 263–265, 576–577

c) Compose and decompose numbers (part-part-whole).

SE/TE: 3–5, 7–10, 11–14, 15–18, 23–26, 87–90, 199–202, 243–245, 271–274, 275–278, 567–570, 591–594, 619–622

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d) Read and write numbers.

SE/TE: 107–110, 119–122, 355–358, 359–362, 363–366, 519–522
455–458

e) Compare and order (including the use of symbolic notation).

SE/TE: 115–118, 119–122, 123–126, 135–138, 531–534, 535–538, 539–542

f) Use a variety of models to build understanding of place value.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 103–106, 115–118, 123–126, 135–138, 179–182, 219–222, 223–226, 231–234, 235–238, 239–242, 251–254, 255–258, 263–266, 267–270, 271–274, 275–278, 283–286, 287–290, 291–294, 299–302, 303–306, 511–514, 519–522, 523–526, 527–530, 531–534, 559–562, 563–566, 575–578, 579–582

g) Use 10's and 100's as units for counting, increasing and decreasing quantities by 10's and 100's from any given number.

SE/TE: 99–102, 103–106, 127–130, 171–174, 179–182, 195–198, 513, 515–518, 519–522, 523–526, 527–530, 543–546, 551–554, 568–569

537

1.02 Develop fluency with recall of addition facts (sums to 18) and the related subtraction facts.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 35–38, 39–42, 55–58, 59–62, 71–74, 75–78, 79–82, 83–86, 91–94, 175–178, 183–186, 199–202, 203–206, 207–210, 219–222, 227–230, 231–234, 235–238, 243–246, 251–254, 255–258, 259–262, 263–266, 275–278, 283–286, 287–290, 291–294, 299–302, 303–306, 307–310

1.03 Solve problems involving multi-digit addition and subtraction situations.

a) Understand and use properties of addition (i.e. commutative, associative, and identity) and the inverse relationship between addition and subtraction.

SE/TE: 23–26, 35–38, 47–50, 51–54, 55–58, 71–74, 79–82, 83–86, 87–90, 207–210, 271–274, 607–610, 631–634

TE: 68B

b) Explore multiple ways of solving multi-digit problems.

SE/TE: 219–222, 223–226, 227–230, 231–234, 235–238, 239–242, 251–254, 255–258, 259–262, 263–266, 267–270, 271–274, 283–286, 287–290, 291–294, 295–298, 299–302, 303–306, 307–310, 551–554, 559–562, 563–566, 567–570, 575–578, 579–582

c) Develop efficient strategies for computing.

SE/TE: 283–286, 287–290, 291–294, 295–298, 299–302, 551–554, 567–570, 631–634

559–562, 563–566, 575–578, 579–582

d) Estimate sums and differences and justify the reasonableness of solutions in meaningful contexts.

SE/TE: 287–290, 299–302, 555–558, 571–574

TE: 312B

1.04 Create, model, and solve problems that use fair shares (between two, three, or four).

SE/TE: 351–354, 355–358, 359–362, 363–366, 367–370, 371–374, 619–622

COMPETENCY GOAL 2: The learner will apply the processes and components of measurement using nonstandard and standard units.

Objectives

2.01 Use non-standard units to develop an understanding of processes for measuring (linear, mass, and capacity) recognizing that:

a) the type of unit used to measure depends on the attribute being measured,

SE/TE: 379–382, 415–418, 431–434, 467–470

b) larger units can be subdivided into equivalent units (partitioning),

SE/TE: 391–394, 395–398, 423–426, 435–438, 439–442

c) the same unit can be repeated to determine the measure (iteration), and

SE/TE: 383–386, 419–422, 427–430, 439–442, 459–462, 467–470

d) the relationship between the size of the unit and the number of units needed (compensatory principle).

SE/TE: 387–390, 391–394, 423–426, 435–438, 439–442

2.02 Select and use appropriate non-standard units and standard units (inches and feet) to estimate length, develop and use personal benchmarks (referents) for length, and measure length to the nearest whole unit.

SE/TE: 383–386, 387–390, 391–394, 395–398, 399–402, 403–406

2.03 Develop a sense of intervals of time.

SE/TE: 451–454, 455–458, 459–462, 463–466

2.04 Recognize coins (penny, nickel, dime, quarter) and compare the value of each; create sets and find the value of a group of coins up to 99 cents.

SE/TE: 143–146, 147–150, 151–154, 155–158, 159–162, 163–166

COMPETENCY GOAL 3: The learner will recognize and use the basic properties of basic two- and three dimensional figures.

Objectives

3.01 Describe attributes and construct three-dimensional figures; relate the shapes of the faces of three-dimensional objects to two-dimensional figures.

SE/TE: 315–318, 319–322, 323–326, 327–330, 343–346

351–354, 355–358

TE: 348B

3.02 Describe, sort, and create congruent figures.

a) Determine whether figures are congruent.

SE/TE: 331–334, 335–338

339–342

b) Recognize congruency in figures with different orientations.

SE/TE: 331–334, 335–338, 339–342

COMPETENCY GOAL 4: The learner will demonstrate an understanding of and apply the statistical process.

Objectives

4.01 Use the processes of statistical investigation.

a) Pose questions and collect data to answer questions.

SE/TE: 479–482, 483–486, 487–490, 495–498, 499–502, 583–586

b) Organize, represent and compare data using various representations including Venn diagrams, pictographs, tallies and line plots.

SE/TE: 479–482, 483–486, 487–490, 491–494, 503–506, 583–586

TE: 348B, 508E

c) Describe parts of data using counting concepts of grouping and comparing to illustrate the differences between values and frequencies.

SE/TE: 479–482, 483–486, 487–490, 503–506, 583–586

TE: 508D

d) Identify patterns and trends to make decisions using data.

SE/TE: 467–470

479–482, 483–486, 487–490, 503–506, 571–574, 583–586

COMPETENCY GOAL 5: The learner will demonstrate an understanding of equality and number sequences.

Objectives

5.01 Represent, describe, find missing terms, and extend nonnumeric repeating and growing patterns.

SE/TE: 45, 127–130, 183–186, 187–190, 512–513, 527–530, 543–546, 635–638

101, 109, 173, 225, 337, 353, 357, 361, 365, 367–370

TE: 348C

5.02 Develop fluency with arithmetic sequences to build knowledge of:

a) odd and even numbers;

SE/TE: 131–134

129–130

b) number sequences that grow by 2's, 5's, 10's;

SE/TE: 127–130, 143–146, 147–150, 151–154, 155–158, 159–162, 163–166, 183–186, 187–190, 451–454

105, 173, 453, 537

c) number sequences that increase and decrease by 10's from any given number.

SE/TE: 129–130, 183–186, 195–198, 204–205

171–174

5.03 Model, write and evaluate addition and subtraction number sentences (equations).

a) Represent a problem including using symbols to represent unknown quantities.

SE/TE: 41, 45, 49, 53, 57–58, 61, 63–66, 75–78, 87–90, 91–94, 211–214, 243–245, 568–569, 591–594, 595–598, 599–602, 603–606, 607–610, 611–614, 623–626, 627–630, 631–634

73, 121

b) Demonstrate an understanding of equality to find the value of unknown quantity.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 11–14, 19–22, 23–26, 27–30, 37, 41, 59–61, 63–66, 71–74, 75–78, 83–86, 87–90, 91–94, 171–174, 179–182, 195–197, 203–206, 207–210, 211–214, 237, 243–245, 251–253, 531–534, 568–569, 591–594, 599–602, 603–606, 607–610, 611–614, 631–634

COMPETENCY GOAL 6: The student will solve problems and reason mathematically.

Objectives

6.01 Recognize and apply connections among mathematical ideas.

a) Connect concepts and skills from previous years to current objectives.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 99–102, 107–110, 143–146, 147–150, 151–154, 163–166, 175–178, 203–206, 227–230, 231–234, 259–262, 315–318, 327–330, 351–354, 355–358, 379–382, 383–386, 399–402, 403–406, 415–418, 419–422, 423–426, 431–434, 435–438, 439–442, 451–454, 455–458, 459–462, 483–486, 495–498

b) Connect concepts and skills from multiple strands to solve problems.

SE/TE: 75–78, 79–82, 83–86, 87–90, 91–94, 115–118, 275–278, 343–345, 407–410, 443–446, 471–474

6.02 Develop fluency in solving single and multi-step problems that arise in mathematics and in other contexts, building mathematical knowledge through problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 15–18, 58, 62, 79–82, 87–90, 91–94, 150, 174, 275–278, 286, 287–290, 291–294, 295–298, 307–310, 327–330, 331–334, 335–338, 339–342, 399–402, 403–406, 451–454, 455–458, 459–462, 471–474, 591–594, 595–598, 599–602, 603–606, 607–610, 619–622

6.03 Use reasoning to solve problems.

a) Understand situations and communicate mathematical problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 5–6, 40–42, 54, 82, 104, 150, 182, 198, 222, 243–246, 254, 307–310, 315–318, 339–342, 367–370, 407–410, 443–446, 471–474, 480–482, 511–514, 519–522, 538, 554, 555–558, 571–574, 576, 591–594, 596, 598, 622

b) Make estimates with appropriate ranges.

SE/TE: 299–302, 555–558, 571–574

c) Reflect, extend and refine thinking.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 36–38, 71–74, 123–126, 163–166, 175–178, 211–214, 219–222, 254, 315–318, 339–342, 379–382, 387–390, 395–398, 403–406, 415–418, 419–422, 423–426, 427–430, 431–434, 435–438, 439–442, 443–446, 454, 456, 458, 459–462, 463–466, 467–470, 535–538, 539–542

6.04 Use the language and symbols of mathematics and appropriate technology to:**a)** solve problems;**SE/TE:** 27–30, 63–66, 138, 166, 246, 346, 374, 474, 506, 614, 623–626 627–630, 634**b)** communicate mathematical ideas;**SE/TE:** 30, 138, 166, 211–214, 246, 346, 374, 474, 506, 614**c)** demonstrate understanding of problems and solutions through oral, pictorial, and written explanations.*This objective is taught throughout the program. For examples, see the following pages:***SE/TE:** 7–10, 39–42, 63–66, 75–78, 99–102, 107–110, 130, 156, 182, 183–186, 210, 230, 262, 270, 283–286, 358, 387–390, 407–410 415–418, 443–446, 451–454, 495–498, 523–526, 534, 554, 566, 575–578, 582, 583–586, 635–638**6.05** Create and use representations to organize, record and communicate mathematical ideas.**SE/TE:** 63–66, 135–138, 163–166, 243–246, 315, 318, 463–466, 479–482, 483–486, 487–490, 491–494, 499–502, 503–506, 571–574, 583–586, 611–614, 635–638

**Scott Foresman – Addison Wesley enVisionMATH
to the
North Carolina Standard Course of Study
and Grade Level Competencies**

Grade Three

COMPETENCY GOAL 1: The learner will demonstrate an understanding of fractions and whole number operations.

Objectives

1.01 Develop number sense for rational numbers to at least 10,000.

a) Demonstrate multiple ways to represent numbers using models, words and symbolic representations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 4–5, 8–9, 10–11, 39, 50–53, 54–55, 86–87, 90–91, 108–109, 110–113, 125, 140–141, 142–143, 170, 174–177, 184–185, 218–221, 282–283, 288–289, 294–295, 306–307, 308–311, 395, 412–413, 416–417, 418–419, 420–421, 423, 440–442, 460–462

b) Identify the place and the value of a given digit in order to determine the magnitude of the number.

SE/TE: 8–9, 10–11, 16–17, 40–43, 44–45, 50–53, 54–55, 56–57, 86–87, 90–91, 92–93, 308

4, 7, 23, 24–25, 49, 89, 96–97, 253

c) Compare and order (including the use of symbolic notation).

SE/TE: 12–14, 16–17, 20, 35, 43, 114–115, 124, 177, 222–223, 283, 288–289, 290–293, 315, 336–337

9, 11, 57, 70, 207, 253, 287, 319, 394, 401, 403, 424, 451, 462–463

1.02 Develop understanding of the part-whole meaning of fractions as sharing equally with area, set, region, and length models.

a) Use models and benchmarks (0, ., 1) to compare and order fractions including common equivalents.

SE/TE: 276–277, 278–279, 280–281, 282–283, 284–286, 288–289, 290–291, 294–295, 296–297

251, 306–307, 336

b) Model and describe common equivalents among:

- halves, fourths, and eighths;
- thirds and sixths.

SE/TE: 284–286, 294–295, 296–297

288, 291

1.03 Develop fluency and flexibility with multi-digit addition and subtraction.

a) Use strategies for adding and subtracting numbers (including but not limited to standard algorithms)

SE/TE: 18–21, 22–23, 34–35, 36–39, 44–47, 48–49, 50–53, 54–55, 56–57, 58–59, 68–71, 72–73, 86–87, 88–89, 90–91, 92–94, 96–97, 98–101, 176–177, 212–215, 216–217, 222–223, 312–315, 316–319, 320–321

283, 330, 368–369, 394, 401

b) Estimate sums and differences and justify the reasonableness of solutions in meaningful contexts.

SE/TE: 44–46, 54–55, 74–77, 78–79

52, 59, 146, 207, 221, 223, 307, 419, 421, 443, 451

c) Analyze the relationships between operations.

SE/TE: 66–67

108–109, 170–171

1.04 Demonstrate conceptual understanding of the meaning of multiplication and division through multiple models.

a) Make connections about the multiples and factors of a given number.

SE/TE: 108–109, 110–113, 114–115, 118–121, 122, 124

129, 143, 146, 149, 262

b) Analyze the relationship between multiplication and division.

SE/TE: 164–165, 166–168, 170–171, 172–173, 184–185, 186–187, 190–191

1.05 Develop fluency with multiplication facts for 1's, 2's, 5's, 10's, 0's and strategies for 3's, 4's, 6's, 7's, 8's, 9's; and related division facts.

SE/TE: 122–123, 126–127, 128–129, 130–131, 140–141, 142–143, 144–147, 148–149, 150–151, 152–153, 154–157, 186–189, 190–191, 192–193, 194–195, 196–199, 412–413, 414–415, 416–417, 418–419, 420–421, 422–425, 436–437, 438–439, 440–443, 444–445, 446–447, 448–451

COMPETENCY GOAL 2: The learner will apply the processes and components of measurement using customary measurement units.

Objectives

2.01 Develop an understanding of and use the processes for measuring with customary units of measurement (linear, weight, capacity, and temperature) recognizing that:

a) the type of unit used to measure depends on the attribute being measured,
SE/TE: 334–337, 338–339, 340–341, 350–351, 352–353, 356–357, 358–359, 368–369, 376–377, 378–379, 380–382

b) larger units can be subdivided into equivalent units (partitioning),
SE/TE: 334–337, 338–339, 340–341, 350–351, 352–353, 356–357, 358–359, 398–399, 402–403

c) two objects can be compared in terms of a measurable quality using a third object (transitivity),
SE/TE: 330, 338, 356
17, 358, 459
TE: 347A

d) the same unit can be repeated to determine the measure (iteration), and
SE/TE: 328, 332–333
292, 339, 341, 350–351, 357, 359, 402–403

e) the relationship between the size of the unit and the number of units needed (compensatory principle).
SE/TE: 328–329, 334–336, 338–339, 340–341, 353–354, 356–357, 358–359, 402–403

2.02 Develop and use personal benchmarks (referents) for customary measurements to estimate length, weight, capacity, time, and temperature.

SE/TE: 328–330, 332–337
331
TE: 409A

2.03 Select attributes and appropriate standard units and tools (customary) to estimate and measure length, weight, capacity, temperature, and time to the minute.

SE/TE: 328–330, 332–333, 338–339, 340–341, 350–351, 352–353, 356–357, 358–359, 392–395, 396–397, 398–399, 400–401, 402–403

2.04 Determine the amount of money needed to make change (up to a dollar) using various strategies.

SE/TE: 18–21, 22–23, 308–311, 312–314

46, 132, 198, 221, 240, 293, 424

COMPETENCY GOAL 3: The learner will use the rectangular coordinate system and the basic geometric properties of two-dimensional shapes.

Objectives

3.01 Describe, analyze, compare and classify two-dimensional shapes by properties including sides and angles (acute, obtuse, right).

SE/TE: 239–241, 242–243, 244–245, 246–247, 248–249, 250–251, 252–253, 260–263, 264–265, 266–267, 268–269, 370–371, 372–373, 397, 470

292–293, 480

3.02 Use rectangular coordinate system to:

a) graph and identify points with whole number or letter coordinates,

SE/TE: 468–471

b) describe possible paths between given points on the plane,

SE/TE: 468–471

TE: 487F

c) identify parallel and perpendicular lines, and

SE/TE: 242–243

244, 245, 250–251, 253

d) construct geometric figures with vertices at points on a coordinate grid.

TE: 487F

COMPETENCY GOAL 4: The learner will use and understand statistical processes and simple probability concepts.

Objectives

4.01 Use the processes of statistical investigation.

a) Pose questions that involve collecting categorical and numerical data.

SE/TE: 458–459, 464–465, 482–483

b) Design investigations to answer questions using observations, surveys and experiments.

SE/TE: 458–459, 476–477, 478–479

TE: 487F

c) Collect, organize, represent and analyze data using various representations including tables and bar graphs.

SE/TE: 458–459, 460–462, 464–465, 466–467, 478–481, 482–483

d) Describe the shape of set of data and important features, including concepts of mode and variability (minimum and maximum values and range).

SE/TE: 470–471, 478–481, 482–483

472–475, 476–477

TE: 487G

4.02 Understand situations involving simple probability.

a) Judge the probability of events as being (certain, likely, equally likely, unlikely, possible, or impossible) to occur.

SE/TE: 472–475, 476–477, 478–481

TE: 487G

b) Conduct simple probability experiments.

SE/TE: 472–475, 476–477, 478–481

c) Describe results using pictures and words, and make predictions.

SE/TE: 472–475, 476–477, 478–481

COMPETENCY GOAL 5: The learner will explore functional relationships and use variables.

Objectives

5.01 Analyze numeric and nonnumeric growing patterns to explore functional relationships.

SE/TE: 68–69, 118–121, 150–151, 206–207, 208–209, 210–211, 212–214, 218–221, 298–299, 360–361, 436–437, 476–477

11, 15, 35, 128–129, 247, 293, 295, 373, 415

5.02 Model, write and evaluate simple multiplication and division equations.

a) Represent a problem including using variables to represent unknown quantities.

SE/TE: 111–112, 152–153, 172–173, 184–185, 196–198, 425

117, 156, 165, 176

TE: 231A

b) Demonstrate an understanding of equality.

SE/TE: 188–189

193, 195, 424

c) Find the value of variables.

SE/TE: 111–112, 152–153, 172–173, 184–185, 196–198, 425

156, 165, 188, 331, 351, 439, 445, 450

TE: 231A

5.03 Demonstrate an understanding of the commutative and identity properties for addition and multiplication.

SE/TE: 32–33, 95, 110–112, 130–131

COMPETENCY GOAL 6: The student will solve problems and reason mathematically.

Objectives**6.01** Recognize and apply connections among mathematical ideas.

a) Connect concepts and skills from previous years to current objectives.

SE/TE: 54–55, 206–207, 208–209, 210–211, 212–214, 234–237, 238–241, 306–307, 334–337, 370–371, 372–373, 374–375, 397, 464–465, 466–467, 472–475

b) Connect concepts and skills from multiple strands to solve problems.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 108–109, 164–165, 166–169, 173, 184–185, 212–214, 268–269, 276–277, 306–307, 330–331, 332–333, 350–351, 368–369, 370–371, 378–379, 380–383, 384–385, 398–399, 403, 412–413, 414–415, 416–417, 418–419, 420–421, 426–429, 436–437, 438–439, 440–443, 444–445, 446–447

6.02 Develop fluency in solving single and multi-step problems that arise in mathematics and in other contexts, building mathematical knowledge through problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 98–99, 132–133, 154–156, 212–214, 224–227, 292–293, 342–343, 360–361, 368–369, 370–371, 372–373, 374–375, 376–377, 378–379, 381–383, 384–385, 404–405, 412–413, 414–415, 416–417, 418–419, 421, 426–429, 438–439, 443, 445, 447, 448–450, 468–471, 472–475, 476–477

6.03 Use reasoning to solve problems.

a) Understand situations and communicate mathematical problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 5, 7, 17, 32–33, 35, 66–67, 70, 73, 91, 93–94, 118–119, 174–176, 218–221, 248–249, 250–251, 268–269, 276–277, 298–299, 308–311, 320–321, 353–354, 416–417, 421, 426–429, 440–443, 458–459, 466–467, 471, 477, 478–481

b) Make estimates with appropriate ranges.

SE/TE: 74–76, 78–79, 93–94, 282–283

58–59

TE: 63A, 83A

c) Reflect, extend and refine thinking.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 13–14, 47, 49, 87, 127, 141, 153, 171, 208–209, 234–237, 244–245, 246–247, 248–249, 252–253, 260–263, 264–265, 276–277, 278–279, 308–311, 312–315, 328–331, 332–333, 356–357, 370–371, 380–383, 384–385, 392–395, 404–405, 412–413, 436–437

6.04 Use the language and symbols of mathematics and appropriate technology to:

a) solve problems;

SE/TE: 5, 32–33, 39, 53, 73, 75–77, 87, 96–97, 101, 118–120, 125, 157, 199, 222–223, 227, 263, 308–311, 312–315, 355, 383, 429

149

b) communicate mathematical ideas;

SE/TE: 24–25, 109, 131, 143, 234–237, 238–241, 242–243, 244–245, 246–247, 252–253, 261–262, 264–265, 266–267, 268–269, 298–299, 360–361, 369, 377, 397, 482–483

399, 404

c) demonstrate understanding of problems and solutions through oral, pictorial, and written explanations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 7, 8, 24–25, 32–33, 35, 66–67, 70, 98–100, 114–115, 116–117, 132–133, 140–141, 144–146, 164–165, 169, 196–199, 207, 211, 276–277, 278–279, 284–287, 288–289, 316–318, 342–343, 353–354, 392–395, 426–429, 440–442, 460–463, 464–465

6.05 Create and use representations to organize, record and communicate mathematical ideas.

SE/TE: 24–25, 121, 298–299, 360–361, 476–477, 478–481, 482–483

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Grade Four

COMPETENCY GOAL 1: The learner will build an understanding of and compute with non-negative rational numbers (.01 to at least 100,000).

Objectives

1.01 Develop number sense for rational numbers from .01 to at least 100,000.

a) Demonstrate multiple ways to represent numbers using models, words and symbolic representations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 4–7, 14–15, 16–17, 19, 47, 54–56, 64–65, 76–78, 106–107, 146–149, 168–169, 170–172, 180–181, 185, 216–218, 220–221, 222–223, 224–226, 230–233, 236–237, 238–241, 250–253, 254–255, 256–257, 268–269, 274–275, 282–283, 296–299, 402–403, 420–422

b) Identify the place and the value of a given digit in order to determine the magnitude of the number.

SE/TE: 4–6, 8–9, 10–13, 14–15, 16–17, 96–97, 112, 142–143, 154–155, 268–269, 270–272, 290–292, 300–302, 304–305

19, 32–33, 36–37, 40–41, 42–43, 100–101, 114–115, 172–173, 365, 413, 421

c) Compare and order (including the use of symbolic notation).

SE/TE: 10–13, 113, 219, 234–235, 236–237, 270–272, 276–278, 280–281, 282–283, 293, 380–383, 404–405, 438–439

15, 17, 30, 305, 367, 379, 393

1.02 Develop understanding of the meanings and uses of fractions and decimals.

a) Use models, benchmarks (0, ., 1, 1.5, 2 and so on), and reasoning to compare and order fractions and decimals.

SE/TE: 222–223, 233, 234–235, 236, 276–278, 280–281, 418–419

298, 349

b) Model and describe common equivalents among:

- halves, fourths, eighths, and mixed numbers;
- thirds, sixths, twelfths, and mixed numbers;
- fifths, tenths, hundredths, and mixed numbers.

SE/TE: 224–226, 228–229, 238–239, 241, 250–253, 254–255, 256–257
325

c) Understand and use mixed numbers and their equivalent fraction forms.

SE/TE: 230–232, 261, 275

d) Make connections between fractions and decimals.

SE/TE: 274–275, 276–278, 280–281

1.03 Develop fluency and flexibility with multiplication and division involving:

a) tables 0-12;

SE/TE: 54–56, 58–59, 60–61, 62–63, 64–65, 66–67, 76–79, 80–81, 82–83, 84–85,
182–183, 184–185, 227
436–437

b) up to two-digit by one-digit multiplication;

SE/TE: 66–67, 84–85, 89, 96–97, 98–99, 100–101, 102–105, 106–109, 110–113,
114–115, 119, 164–165, 168–169, 170–172, 174–177
156–157, 327, 415, 469

c) strategies for two-digit by two-digit multiplication (larger numbers with calculator);

SE/TE: 142–143, 144–145, 146–149, 150–151, 152–153, 154–155, 173, 304

d) up to three-digit by one-digit division with and without remainders
(larger numbers with calculator);

SE/TE: 178–179, 180–181, 304–305, 306–307, 323
353

TE: 193E

e) estimation of products and quotients and justification of the reasonableness of solutions in meaningful contexts.

SE/TE: 100–101, 102–105, 110–112, 114–115, 142–143, 144–145, 148, 166–167,
174–175, 279, 369, 373
153, 333, 435, 451

1.04 Develop fluency with addition and subtraction of decimals and fractions with like denominators.

a) Develop and analyze strategies for adding and subtracting numbers.

SE/TE: 18–19, 28–31, 36–39, 40–41, 42–43, 47, 250–253, 254–255, 256–257, 261, 296–299, 300–303

b) Estimate sums and differences and justify the reasonableness of the solutions.

SE/TE: 32–33, 38–39, 219, 279, 294–295, 299, 300–303, 323, 328–330, 373, 386–389, 390–391, 392–393
12, 474

COMPETENCY GOAL 2: The learner will apply the processes and components of measurement using metric units and make simple conversions within the same system (e.g. metric to metric or customary to customary).

Objectives

2.01 Develop an understanding of and use the processes for measuring with metric units of measurement (linear, mass, capacity, temperature) recognizing that:

a) the type of unit used to measure depends on the attribute being measured,

SE/TE: 200–201, 318–319, 329, 354–355, 364–365, 366–367, 368–369, 374, 376–377, 378–379, 390–391
325

b) larger units can be subdivided into equivalent units (partitioning),

SE/TE: 366–367, 368–369, 380–381
133, 145, 435

c) two objects can be compared in terms of a measurable quality using a third object (transitivity),

SE/TE: 368, 379

376–377

TE: 399E

d) the same unit can be repeated to determine the measure (iteration), and

SE/TE: 200–201, 374–375, 379

e) the relationship between the size of the unit and the number of units needed (compensatory principle).

SE/TE: 364–365, 374–375, 380–381

2.02 Develop and use personal benchmarks (referents) for metric measurements to estimate length, mass, capacity, and temperature.

SE/TE: 374–375, 376–377, 378–379

TE: 399F

2.03 Select attributes and appropriate standard units and tools (metric) to estimate and measure length, mass, capacity, and temperature.

SE/TE: 365, 374–375, 376–377, 378–379

2.04 Make simple unit conversions within the *same* measurement system (metric and customary).

SE/TE: 370–372, 380–383, 384–385, 388

COMPETENCY GOAL 3: The learner will demonstrate an understanding of symmetry, transformations, area and perimeter.

Objectives

3.01 Identify and describe symmetry in two-dimensional shapes; create symmetrical shapes with line and/or rotational symmetry.

SE/TE: 456–457, 458–459, 460–461

3.02 Identify, predict, and describe the results of transformations of two-dimensional shapes using reflections, translations, rotations.

SE/TE: 448–449, 450–451, 452–453, 454–455, 460–461, 475

3.03 Solve problems involving area and perimeter.

a) Cover regions using a variety of objects.

SE/TE: 316–317, 318–319, 320–322

TE: 343B

b) Create physical and pictorial models of area with and without grids.

SE/TE: 146–149, 316–317, 318–319, 320–322, 324–325, 326–327, 332–333, 334–335

c) Estimate and measure area of rectangles.

SE/TE: 222–223, 316–317, 318–319, 320–322, 332–333, 334–335

d) Estimate and measure perimeter of two-dimensional shapes.

SE/TE: 328–330, 332–333, 334–335

108, 117, 298, 337, 353, 377, 474

e) Explore relationships between area and perimeter.

SE/TE: 332–333, 334–335

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COMPETENCY GOAL 4: The learner will understand and use graphs, probability and data analysis.

Objectives

4.01 Use the processes of statistical investigation.

a) Pose questions and design investigations that involve comparing two sets of related data each represented on the same type of graph using the same scale.

SE/TE: 420–422

TE: 429C

b) Collect, organize, analyze and display data using various representations including line graphs.

SE/TE: 87, 101, 104, 118, 181, 402–403, 404–405, 406–407, 410–411, 415, 416–417, 418–419, 420–422

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c) Analyze data presented in graphs, including circle graphs.

SE/TE: 404–405, 406–407, 410–411, 416–417, 418–419

d) Compare two distributions of data, including their shapes, measures of center (mode, median) and variability (minimum and maximum values, unusual data points, and range).

SE/TE: 412–413, 414–415, 416–417

30, 402–403, 404–405, 406–407

TE: 429C

4.02 Understand situations involving simple probability.

a) Determine probability of an event from a context that includes a visual representation.

SE/TE: 470–471, 472–474

b) List all possible outcomes (sample space) of a situation or an event.

SE/TE: 20–21, 283, 468–469, 470–471

59

COMPETENCY GOAL 5: The learner will demonstrate an understanding of mathematical relationships.

Objectives

5.01 Analyze nonnumeric and numeric growing patterns.

a) Use rules describe these patterns as functional relationships (arithmetic sequences only).

SE/TE: 128–129, 130–131, 132–133

b) Create, extend, and find missing terms.

SE/TE: 58–59, 128–129, 130–131, 132–133, 164–165, 273, 356–357
153, 207, 221, 237, 275, 336, 347, 391, 392–393, 437, 449

5.02 Model, write and evaluate whole number equations.

a) Solve problems, including using variables to represent unknown quantities.

SE/TE: 44–46, 68–69, 86–88, 129, 258–259, 303, 434–435, 436–437
151, 155, 169, 179, 305, 322, 412–413, 422

b) Demonstrate an understanding of equality and simple inequality.

SE/TE: 11, 31, 82–83, 113, 234–235, 271, 371, 380–383, 384–385, 432–433, 438–439
79, 167

c) Find the value of variables.

SE/TE: 31, 44–46, 60, 62, 64–65, 66, 68–69, 79, 80, 84, 96, 98, 164, 258–259, 303, 331, 332–333, 334–335, 432, 434–435, 436–437

5.03 Develop an understanding of and apply order of operations in meaningful contexts.

SE/TE: 109, 303, 432–433

COMPETENCY GOAL 6: The student will solve problems and reason mathematically.

Objectives

6.01 Recognize and apply connections among mathematical ideas.

a) Connect concepts and skills from previous years to current objectives.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 4–7, 16–17, 20–21, 34–35, 54–57, 60–61, 89, 110–113, 144–145, 170–173, 184–185, 196–197, 200–201, 204–205, 250–253, 268–269, 346–349, 352–353, 364–365, 386–389, 390–391, 408–409, 436–437, 448–449, 450–451, 452–453, 454–455, 456–457, 458–459, 460–461

b) Connect concepts and skills from multiple strands to solve problems.

SE/TE: 14–15, 16–17, 18–19, 20–21, 28–31, 34–35, 44–45, 86–87, 97, 144–145, 156–157, 174–177, 179, 180–181, 208–209, 258–261, 279, 300–302, 304–305, 308–309, 316–317, 325, 332–333, 334–335, 336–339, 391, 392–393, 432–433, 440–441, 472–475

6.02 Develop fluency in solving single and multi-step problems that arise in mathematics and in other contexts, building mathematical knowledge through problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 42–43, 54–57, 66–67, 76–79, 84–85, 97, 116–118, 151, 164–165, 184–185, 196–197, 200–201, 204–205, 258–261, 280–281, 306–307, 329–331, 346–349, 352–353, 364–365, 376–377, 380–383, 392–393, 402–403, 436–437, 440–441, 450–451, 452–453, 456–457, 460–461

6.03 Use reasoning to solve problems.

a) Understand situations and communicate mathematical problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 14–15, 18–19, 30–31, 43, 61, 82–83, 111–113, 128–129, 130–131, 143, 164–165, 168–169, 186–187, 196–197, 202–203, 206–207, 217–219, 258–261, 269, 282–283, 291–292, 308–309, 324–325, 336–338, 384–385, 390–391, 404–405, 412–413, 432–433, 476–477

b) Make estimates with appropriate ranges.

SE/TE: 39, 222–223, 224–227, 230–233, 275, 308–309, 385, 410–411
229

c) Reflect, extend and refine thinking.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 8–9, 32–33, 64–65, 80–81, 98–99, 110–113, 128–129, 132–133, 142–143, 154–155, 164–165, 186–187, 196–197, 202–203, 206–207, 216–219, 228–229, 236–237, 268–269, 290–293, 329–331, 336–338, 346–349, 352–353, 366–367, 370–373, 432–433, 454–455, 460–461, 470–471

6.04 Use the language and symbols of mathematics and appropriate technology to:**a)** solve problems;**SE/TE:** 86–89, 105, 119, 170–173, 238–240, 339, 389, 423, 440–441**b)** communicate mathematical ideas;**SE/TE:** 34–35, 170–173, 238–241, 336–338, 353, 354–355, 356–357, 476–477**c)** demonstrate understanding of problems and solutions through oral, pictorial, and written explanations.*This objective is taught throughout the program. For examples, see the following pages:***SE/TE:** 34–35, 44–45, 54–57, 68–69, 76–79, 86–89, 116–118, 134–135, 152–153, 170–173, 182–183, 217–218, 224–227, 238–240, 254–255, 274–275, 282–283, 292–293, 318–319, 346–349, 350–351, 364–365, 370–373, 408–409, 416–417, 448–449, 454–455, 460–461, 468–469, 470–471**6.05** Create and use representations to organize, record and communicate mathematical ideas.**SE/TE:** 20–21, 134–135, 156–157, 177, 184–185, 196–197, 198–199, 200–201, 202–203, 204–205, 206–207, 208–209, 238–241, 250–253, 336–338, 408–409, 420–422, 438–439, 470–471, 476–477

**Scott Foresman – Addison Wesley enVisionMATH
to the
North Carolina Standard Course of Study
and Grade Level Competencies**

Grade Five

COMPETENCY GOAL 1: The learner will build an understanding of and compute with non-negative rational numbers (.01 to at least 100,000).

Objectives

1.01 Develop number sense for rational numbers from 0.001 at least to 1,000,000.

a) Demonstrate multiple ways to represent numbers using models, words and symbolic representations.

SE/TE: 4–5, 10–11, 72–73, 90–91, 146–147, 220–222, 224–225, 226–227, 228–229, 234–235, 238–241, 242–243, 246–247, 396–397, 398–399, 400–401, 449, 492–493

b) Identify the place and the value of a given digit in order to determine the magnitude of the number.

SE/TE: 4–5, 10–11, 28–29

c) Compare and order (including the use of symbolic notation).

**SE/TE: 6–9, 12–13, 93, 230–231, 244–245
40, 261, 279, 357**

d) Identify factors and multiples including square, prime, and composite whole numbers to 100.

**SE/TE: 102–104, 106–108, 232–233, 260–261, 262–263
231, 234
TE: 119E**

1.02. Develop fluency and flexibility with all whole number operations (including but not limited to standard algorithms) involving:

a) up to three-digit by two-digit multiplication (larger numbers with calculators).

**SE/TE: 62–63, 64–66, 68–69, 70–71
58–59, 172–173**

b) up to three-digit by two-digit division with and without remainder (larger numbers with calculators).

**SE/TE: 90–92, 94–96, 98–101, 124–125, 128–129, 130–131, 134–135
183, 184–185, 186–187**

c) estimation of products and quotients and justification of the reasonableness of solutions in meaningful contexts.

SE/TE: 62–63, 64–66, 68–69, 70–71, 86–87, 97, 124–125, 136–137, 155
128, 174–175, 183, 385, 451

d) analyzing the relationships among operations.

SE/TE: 38–39, 72–73, 88–89, 98–99, 422–423

1.03 Develop fluency with addition and subtraction of decimals and fractions with unlike denominators (within fraction families):

-halves, fourths, eighths, sixteenths and mixed numbers;

-thirds, sixths, twelfths and mixed numbers;

-fifths, tenths, hundredths, thousandths and mixed numbers.

a) Develop and analyze strategies for adding and subtracting numbers.

SE/TE: 42–43, 44–45, 49, 262–263, 264–265, 266–267, 268–269
423

b) Estimate sums and differences and justify the reasonableness of the solutions in meaningful contexts.

SE/TE: 30–32, 37, 266–267, 268–269
46, 353, 448

COMPETENCY GOAL 2: The learner will demonstrate an understanding of measurement processes and components.

Objectives

2.01 Use appropriate standard units and tools to develop fluency and flexibility with unit conversions within *same* systems of measure; solve problems using these skills.

SE/TE: 348–349, 350–351, 352–353, 354–355, 356–357, 358–361, 362–363
139, 366–367

2.02 Identify, estimate, and measure the angles of plane figures using appropriate tools.

SE/TE: 204–205, 208–209, 210–211, 312–313

2.03 Solve problems using the concepts and procedures involving elapsed time.

SE/TE: 358–361, 362–363, 366–367
161, 420–421, 436–439

COMPETENCY GOAL 3: The learner will understand and use properties and relationships of two and three dimensional shapes.

Objectives

3.01 Identify, describe, analyze, compare, and classify triangles and quadrilaterals by properties including sides, angles and diagonals.

SE/TE: 208–209, 210–211, 212–213

38–39, 300–302, 304–305, 306–307, 314, 336–338, 494

TE: 217G

3.02 Make and test conjectures about polygons involving:

a) parallelism and perpendicularity of sides, and

SE/TE: 212

210–211, 269

TE: 217F

b) sum of measures of interior angles.

SE/TE: 212

208–209, 210–211

TE: 217G

3.03 Use spatial reasoning to analyze three-dimensional shapes.

a) Describe the number of edges, faces, and vertices of polyhedral.

SE/TE: 322–324, 326–327, 328–329

331, 338, 453

TE: 345A

b) Relate a three-dimensional shape to its two-dimensional representation (net).

SE/TE: 326–327, 328–329, 405

338, 453, 479

3.04 Explore concepts of volume and surface area for rectangular prisms.

SE/TE: 328–329, 332–334, 336–338

349, 351, 353, 413

COMPETENCY GOAL 4: The learner will analyze data representations using statistical concepts.

Objectives

4.01 Use the processes of statistical investigation.

a) Pose questions, formulate hypotheses, and design studies involve single or multiple sets of data to investigate and verify hypotheses.

SE/TE: 430–431

TE: 499E

b) Collect, organize, analyze, and display data using various representations, including stem-and-leaf plots.

SE/TE: 430–431, 432–435, 436–439, 440–443, 444–445, 446–449, 454–455

c) Analyze data using measures of center (mode, median) and variability (minimum and maximum values, unusual data points, and range).

SE/TE: 433, 441, 452–453

430, 438, 454, 490

TE: 461B

d) Explore the mean as a measure of center and its interpretation as a fair share.

SE/TE: 450–451

487

TE: 461B

4.02 Compare and contrast different representations of the same data, discuss the appropriateness of each representation for the context.

SE/TE: 443, 454–455, 486–487, 488–490

COMPETENCY GOAL 5: The learner will demonstrate an understanding of patterns, relationships and elementary algebraic representations.

Objectives

5.01 Analyze nonnumeric and numeric growing patterns.

a) Use rules to describe these patterns as functional relationships (arithmetic sequences only).

SE/TE: 105, 382–384, 420

213, 416

b) Create, extend, and find missing terms.

SE/TE: 14–15, 33, 60–61, 105, 148–151, 382–384, 404–405
133, 185, 213, 263, 340

c) Display numeric results using coordinate graphs.

SE/TE: 414–416, 418–419, 420–421

d) Write equations with symbolic rules.

SE/TE: 74–75, 382–384, 386–388
213

5.02 Model, write and evaluate whole number equations and equations involving addition/subtraction of decimals and fractions.

a) Represent a problem including using variables to represent unknown quantities.

SE/TE: 34–36, 74–75, 110–113, 146–147, 148–151, 152–153, 271, 376–377, 378–379, 386–388, 420–421
89, 161, 185, 237, 289, 324, 327, 334, 403, 495

b) Demonstrate an understanding of equality and inequality.

SE/TE: 259, 376–377, 378–379
380

c) Find the value of variables.

SE/TE: 34–36, 74–75, 110–113, 271, 376–377, 378–379, 380, 386–388
41, 89, 289, 495

5.03 Develop and test generalizations based on observations of patterns and relationships:

a) identity property for addition and multiplication,

SE/TE: 58–59, 223
26

b) associative property for addition and multiplication, and

SE/TE: 24–26, 58–59, 60–61, 223
125, 243

c) distributive property.

SE/TE: 156–157, 223

5.04 Apply order of operations in meaningful contexts.

SE/TE: 67, 158–160

182, 300–301

COMPETENCY GOAL 6: The student will solve problems and reason mathematically.

Objectives

6.01 Recognize and apply connections among mathematical ideas.

a) Connect concepts and skills from previous years to current objectives.

SE/TE: 38–40, 88–89, 90–92, 122–123

9, 84–85, 296–297, 298–299

b) Connect concepts and skills from multiple strands to solve problems.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 34–36, 46–48, 74–76, 88–89, 110–112, 126–127, 170–171, 172–173, 174–175, 176–177, 178–179, 180–182, 184–185, 186–187, 188–190, 270–271, 278–279, 280–282, 284–285, 286–287, 288–289, 314–315, 330–331, 340–341, 366–367, 386–388, 404–405, 478–479, 494–495

6.02 Develop fluency in solving single and multi-step problems that arise in mathematics and in other contexts, building mathematical knowledge through problem solving.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 34–36, 46–47, 74–76, 84–85, 88–89, 110–113, 126–127, 138–139, 162–163, 188–190, 212–213, 256–259, 270–271, 288–289, 314–315, 340–341, 366–367, 386–388, 402–403, 404–405, 422–423, 478–479, 492–493, 494–495

6.03 Use reasoning to solve problems.

a) Understand situations and communicate mathematical problem solving.

SE/TE: 88–89, 138–139, 162–163, 246–247

423, 466

b) Make estimates with appropriate ranges.

SE/TE: 97, 155, 183, 191, 283, 335, 385

TE: 143A

c) Reflect, extend and refine thinking.

SE/TE: 212–213, 246–247, 270–271

162–163, 494–495

6.04 Use the language and symbols of mathematics and appropriate technology to:**a)** solve problems;

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 34–36, 49, 44–77, 88–89, 110–113, 126–127, 136–137, 138–139, 188–190, 212–213, 246–247, 270–271, 288–289, 302, 305, 307, 309, 312, 314–315, 340–341, 364–365, 366–367, 386–388, 404–405, 412–413, 420–421, 422–423, 478–479, 494–495

b) communicate mathematical ideas;

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 34–36, 74–76, 88–89, 110–113, 138–139, 212–213, 246–247, 288–289, 314–315, 340–341, 386–388, 422–423

c) demonstrate understanding of problems and solutions through oral, pictorial, and written explanations.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 34–36, 46–47, 74–76, 88–89, 110–113, 126–127, 162–163, 188–190, 212–213, 246–247, 288–289, 314–315, 340–341, 366–367, 386–388, 464–467, 468–469, 470–471, 472–473, 474–476, 478–479, 494–495

6.05 Create and use representations to organize, record and communicate mathematical ideas.

This objective is taught throughout the program. For examples, see the following pages:

SE/TE: 34–36, 74–76, 90–92, 98, 101, 110–113, 162–163, 200–202, 204–205, 206–207, 220–222, 224–225, 244–245, 246–247, 270–271, 288–289, 296–297, 298–299, 314–315, 340–341, 366–367, 380–381, 386–388, 404–405, 420–421, 446–448, 454–455, 464–467, 468–469, 470–471, 472–473, 474–477, 478–479, 488, 490, 494–495