

A Correlation of

SCOTT FORESMAN
Investigations
IN NUMBER, DATA, AND SPACE®

to the

INDIANA
Academic Standards
Mathematics

Grade Three

PEARSON

G/M-266_G3

INTRODUCTION

This correlation demonstrates the alignment of content between *Investigations in Number, Data, and Space* and Indiana's Academic Standards-Mathematics, Final Draft dated March 12, 2009. Correlation page references are to the Teacher Edition Curriculum Units, Student Math Handbook and Student Activity Book. The Indiana Online Activities for Investigations are available on Pearson SuccessNet in English and Spanish. These activities are cited in the correlation by unit number and activity number. On SuccessNet, you can download each activity which consists of a teacher page and a student page. The teacher page contains related vocabulary, directions for teaching the content, suggested questions to promote discussion, examples of student responses, and differentiation support. These Indiana Activities are provided to give teachers additional support while teaching the Indiana Academic Standards for Mathematics.

Investigations in Number, Data, and Space is a Kindergarten through Grade 5 mathematics curriculum designed to engage students in making sense of mathematical ideas. Six major goals guided the development of Investigations in Number, Data, and Space® curriculum. The curriculum is designed to:

- Support students to make sense of mathematics and learn that they can be mathematical thinkers
- Focus on computational fluency with whole number as a major goal of the elementary grades
- Provide substantive work in important areas of mathematics—rational numbers, geometry, measurement, data, and early algebra—and connections among them
- Emphasize reasoning about mathematical ideas
- Communicate mathematics content and pedagogy to teachers
- Engage the range of learners in understanding mathematics.

Underlying these goals are three guiding principles that are touchstones for the *Investigations* ©2008 team as they approach both students and teachers as agents of their own learning:

1. Students have mathematical ideas.
2. Teachers are engaged in ongoing learning about mathematics content, pedagogy and student learning.
3. Teachers collaborate with the students and curriculum materials to create the curriculum as enacted in the classroom.

Investigations is based on experience from research and practice. Based on that extensive classroom testing, the curriculum takes seriously the time students need to develop a strong conceptual foundation and skills based on that foundation. Each curriculum unit focuses on an area of content in depth, providing time for students to develop and practice ideas across a variety of activities and contexts that build on each other. An additional set of online lessons has been developed to address specific state standards. Daily guidelines for time spent on class sessions, Classroom Routines (K-3), and Ten-Minute Math (3-5) reflect the commitment to devoting adequate time to mathematics in each school day.

**Investigations in Number, Data, and Space
to the
Indiana Academic Standards – Mathematics**

Grade 3

Indiana Mathematics Standards	Investigations in Number, Data, and Space
GRADE 3	
Standard 1	
Number Sense and Computation	
3.1.1 Count, read, write, compare, and plot on a number line whole numbers up to at least 10,000.	Unit 3: 29–33, 38–39 Unit 8: 30
3.1.2 Interpret and model fractions as parts of a whole, parts of a group, and points and distances on a number line for numbers less than, equal to, or greater than one.	Unit 7: 10–11, 25–28, 30–34, 37–42, 44–46, 48–51, 54–56, 63–65, 70–73, 79, 85–86, 109–110
3.1.3 Compare and order fractions by using models, benchmark fractions, or common numerators or denominators.	Unit 7: 32–34, 50–52
3.1.4 Use words, models, standard form and expanded form to represent place value and to show equivalent forms of whole numbers up to at least 10,000.	Unit 1: 18, 27–32, 36–42, 44, 52, 60, 65, 71, 76, 85, 130–131, 143–146 Unit 3: 29–33, 83, 87
3.1.5. Solve problems involving addition and subtraction of whole numbers fluently using a standard algorithmic approach.	Unit 8: 84, 117 Online Activity: Unit 8 Activities 61, 62
3.1.6 Represent the concept of multiplication of whole numbers with models as repeated addition, equal-sized groups, arrays, area models, and equal “jumps” on a number line and explain the result of multiplying by zero.	Unit 5: 10, 16–17, 25, 26, 29–33, 36–38, 40, 49–50, 65–66, 72, 77–78, 85, 93–95, 98–99, 102–103, 108–110, 134, 145–148
3.1.7 Represent the concept of division of whole numbers with models as successive subtraction, partitioning, sharing, and an inverse of multiplication. Show that division by zero is not possible.	Unit 5: 13, 16–17, 117–119, 122–124, 134, 139–140, 148, 158, 163–164, 175

Indiana Mathematics Standards	Investigations in Number, Data, and Space
3.1.8 Construct and analyze frequency tables and bar graphs from data, including data collected through observations, surveys and experiments.	Unit 2: 27, 50–54, 59–61, 64, 104–105, 108–109
3.1.9 Identify events on a continuum from impossible to unlikely, equally likely, likely or certain. Determine a simple probability in a context using pictures.	Online Activity: Unit 2 Activities 9, 10, 75
Standard 2	
Algebra and Functions	
3.2.1. Write and solve equations using (=) to show equivalence and use variables to express mathematical relationships involving multiplication.	Unit 6: 10, 13, 17, 30, 42–43, 89–91, 94–96, 98–100, 118, 125, 150–151 Unit 8: 56–58, 65–71, 154, 178
3.2.2 Create, extend, and give a rule for number patterns using multiplication.	Unit 5: 49–50, 54–58 Unit 6: 89–91, 94–96, 98–99, 125
3.2.3 Solve problems using the identity principle of multiplication.	Student Math Handbook: 49
Standard 3	
Geometry and Measurement	
3.3.1 Identify angles that are right angles and other angles that are greater than or less than a right angle.	Unit 4: 79–80, 85, 108–109, 120–122, 124–126, 131–133
3.3.2 Identify, describe and draw points, lines and line segments and use these terms when describing two-dimensional shapes.	Online Activity: Unit 4 Activities 17–19
3.3.3 Identify and draw lines of symmetry in geometric shapes and recognize symmetrical shapes in the environment.	Online Activity: Unit 4 Activity 24
3.3.4 Find the perimeter of polygons.	Unit 4: 29–53, 89–93, 97 Student Math Handbook: 110–113

Indiana Mathematics Standards	Investigations in Number, Data, and Space
<p>3.3.5 Choose and use appropriate units and tools to estimate and measure length and weight. Estimate and measure length to $\frac{1}{4}$ inch, weight in pounds and kilograms, and temperature in Celsius and Fahrenheit selecting appropriate units for the given situation.</p> <p>Use the relationship between the units to express answers in different units.</p>	<p>Unit 2: 13, 125–128, 129–130, 136–138, 145–146, 149–153</p> <p>Unit 3: 157–162, 164–167</p> <p>Unit 4: 10, 23–25, 30–36, 38–39</p> <p>Unit 6: 13, 26, 27–30, 33–38, 40–43, 49–51, 117, 119–123, 132–133, 142–143, 144–145</p>
<p>3.3.6 Using an analog clock tell time to the nearest minute.</p>	<p>Unit 3: 20, 108, 113–114, 115, 122, 128, 136, 141, 147, 156, 163, 169, 175, 182, 188</p> <p>Unit 5: 9, 18, 23, 24, 28, 34, 39, 81, 82, 87, 92, 113, 116, 121, 125, 129, 133, 137, 141</p> <p>Unit 7: 9, 16, 21, 43, 47, 53, 59, 89, 90, 96, 103, 106</p>
<p>Process Standards</p>	
<p>Problem Solving</p>	
<ul style="list-style-type: none"> • Build new mathematical knowledge through problem solving. 	<p>These are some of the many examples.</p> <p>Unit 1: 45–48, 126–130</p> <p>Unit 3: 129–135, 148–151, 167–168</p> <p>Unit 5: 117–119, 126–128, 138–139</p> <p>Unit 8: 124–127, 138–141, 143–145</p>
<ul style="list-style-type: none"> • Solve problems that arise in mathematics and in other contexts. 	<p>These are some of the many examples.</p> <p>Unit 1: 45–48, 126–130</p> <p>Unit 2: 90–96</p> <p>Unit 3: 129–135, 148–151, 167–168</p> <p>Unit 5: 117–119, 126–128, 138–139</p> <p>Unit 8: 110–115, 129–131, 138–141</p>
<ul style="list-style-type: none"> • Apply and adapt a variety of appropriate strategies to solve problems. 	<p>These are some of the many examples.</p> <p>Unit 1: 45–48, 126–130</p> <p>Unit 3: 129–135, 148–151, 167–168</p> <p>Unit 5: 117–119, 126–128, 138–139</p> <p>Unit 8: 124–127, 129–131, 138–141, 143–145</p>

Indiana Mathematics Standards	Investigations in Number, Data, and Space
<ul style="list-style-type: none"> • Monitor and reflect on the process of mathematical problem solving. 	<p>These are some of the many examples.</p> <p>Unit 1: 45–48, 126–130</p> <p>Unit 3: 129–135, 148–151, 167–168</p> <p>Unit 5: 117–119, 126–128, 138–139</p> <p>Unit 8: 110–115, 129–131, 143–145</p>
Reasoning and Proof	
<ul style="list-style-type: none"> • Recognize reasoning and proof as fundamental aspects of mathematics. 	<p>Unit 3: 19, 111</p> <p>Unit 5: 16–17</p> <p>Unit 8: 18–19, 57–58, 66–71, 106, 125, 168–170</p>
<ul style="list-style-type: none"> • Make and investigate mathematical conjectures. 	<p>Unit 3: 19, 111</p> <p>Unit 5: 16–17</p> <p>Unit 8: 18–19, 57–58, 66–71, 106, 125, 168–170</p>
<ul style="list-style-type: none"> • Develop and evaluate mathematical arguments and proofs. 	<p>Unit 3: 19, 111</p> <p>Unit 5: 16–17</p> <p>Unit 8: 18–19, 57–58, 66–71, 106, 125, 168–170</p>
<ul style="list-style-type: none"> • Select and use various types of reasoning and methods of proof. 	<p>Unit 3: 19, 111</p> <p>Unit 5: 16–17</p> <p>Unit 8: 18–19, 57–58, 66–71, 106, 125, 168–170</p>
Communication	
<ul style="list-style-type: none"> • Organize and consolidate their mathematical thinking through communication. 	<p>These are some of the many examples.</p> <p>Unit 2: 25–28, 44–48, 50–51, 83–85, 92–96, 98–99, 142–143</p> <p>Unit 4: 26–28, 32–34, 38–39, 69–70, 86–87, 93, 97, 108–109, 112–113</p> <p>Unit 6: 25–26, 60–61, 64–65, 70–72, 83–84, 86–87</p>
<ul style="list-style-type: none"> • Communicate their mathematical thinking coherently and clearly to peers, teachers, and others. 	<p>These are some of the many examples.</p> <p>Unit 2: 44–48, 50–51, 83–85, 92–96, 142–143</p> <p>Unit 4: 26–28, 32–34, 38–39, 69–70, 86–87, 93, 97, 112–113</p> <p>Unit 6: 25–26, 60–61, 64–65, 70–72, 86–87</p>

Indiana Mathematics Standards	Investigations in Number, Data, and Space
<ul style="list-style-type: none"> Analyze and evaluate the mathematical thinking and strategies of others. 	<p>These are some of the many examples.</p> <p>Unit 2: 25–28, 50–51, 83–85, 92–96, 98–99, 142–143</p> <p>Unit 4: 26–28, 32–34, 38–39, 69–70, 86–87, 93, 108–109</p> <p>Unit 6: 25–26, 60–61, 70–72, 83–84, 86–87</p>
<ul style="list-style-type: none"> Use the language of mathematics to express mathematical ideas precisely. 	<p>These are some of the many examples.</p> <p>Unit 2: 25–28, 44–48, 50–51, 83–85, 98–99, 142–143</p> <p>Unit 4: 26–28, 32–34, 38–39, 86–87, 97, 108–109, 112–113</p> <p>Unit 6: 25–26, 60–61, 64–65, 83–84, 86–87</p>
Connections	
<ul style="list-style-type: none"> Recognize and use connections among mathematical ideas. 	<p>These are some of the many examples.</p> <p>Unit 1: 57</p> <p>Unit 4: 79–80, 84, 90, 96</p> <p>Unit 7: 94–95, 123</p> <p>Unit 8: 12–13, 32–33, 163</p> <p>Unit 9: 10–11, 52–54, 56–58, 60–63, 75–79, 81–84, 86–90, 110–112</p>
<ul style="list-style-type: none"> Understand how mathematical ideas interconnect and build on one another to produce a coherent whole. 	<p>These are some of the many examples.</p> <p>Unit 1: 57</p> <p>Unit 4: 79–80, 84, 90, 96</p> <p>Unit 7: 94–95, 123</p> <p>Unit 8: 12–13, 32–33, 163</p> <p>Unit 9: 10–11, 52–54, 56–58, 60–63, 75–79, 81–84, 86–90, 110–112</p>
<ul style="list-style-type: none"> Recognize and apply mathematics in contexts outside of mathematics. 	<p>These are some of the many examples.</p> <p>Unit 2: 25–32, 41–42, 50–53, 98–101</p> <p>Unit 3: 41, 142, 148, 151</p> <p>Unit 6: 27–28, 33–38, 45–47, 49–51</p> <p>Unit 9: 27</p>

Indiana Mathematics Standards	Investigations in Number, Data, and Space
Representation	
<ul style="list-style-type: none"> • Create and use representations to organize, record, and communicate mathematical ideas. 	<p>These are some of the many examples.</p> <p>Unit 1: 37–41, 77–84, 157–158 Unit 3: 69–70, 74, 78–79, 109–111, 176–179, 193–194 Unit 5: 66–70, 72–73, 145–148 Unit 6: 10–11, 117–118 Unit 7: 41–42, 50</p>
<ul style="list-style-type: none"> • Select, apply, and translate among mathematical representations to solve problems. 	<p>These are some of the many examples.</p> <p>Unit 1: 37–41, 77–84, 157–158 Unit 3: 69–70, 74, 78–79, 109–111, 176–179, 193–194 Unit 5: 66–70, 72–73, 145–148 Unit 6: 10–11, 117–118 Unit 7: 41–42, 50</p>
<ul style="list-style-type: none"> • Use representations to model and interpret physical, social, and mathematical phenomena. 	<p>These are some of the many examples.</p> <p>Unit 1: 37–41, 77–84, 157–158 Unit 3: 69–70, 74, 78–79, 109–111, 176–179, 193–194 Unit 5: 66–70, 72–73, 145–148 Unit 6: 10–11, 117–118 Unit 7: 41–42, 50</p>
Estimation and Mental Computation	
<ul style="list-style-type: none"> • Know and apply appropriate methods for estimating the results of computations. 	<p>Unit 1: 18, 109–112, 116, 125, 133, 139 Unit 3: 55–56, 76–78 Unit 8: 10–11, 41–46, 73, 86, 106–108, 110–111</p>
<ul style="list-style-type: none"> • Round numbers to a specified place value. 	<p>Online Activity: Unit 8 Activity 51</p>
<ul style="list-style-type: none"> • Use estimation to decide whether answers are reasonable. 	<p>Unit 1: 109–112, 116 Unit 3: 55–56, 76–78 Unit 7: 48 Unit 8: 10–11, 41–46, 73, 86, 106–108, 110–111</p>
<ul style="list-style-type: none"> • Decide when estimation is an appropriate strategy for solving a problem. 	<p>Unit 4: 25–28 Unit 7: 48 Unit 8: 106–108, 110–111</p>

Indiana Mathematics Standards	Investigations in Number, Data, and Space
<ul style="list-style-type: none"> • Determine appropriate accuracy and precision of measurement in problem situations. 	Unit 2: 13, 130, 138–140, 149, 192
<ul style="list-style-type: none"> • Use properties of numbers and operations to perform mental computation. 	Unit 3: 18–19 Unit 5: 12, 16–17, 40, 66–70, 72, 85, 102
<ul style="list-style-type: none"> • Recognize when the numbers involved in a computation allow for a mental computation strategy. 	Unit 3: 116–120, 123–127, 139, 143, 174, 181, 221–222 Unit 8: 31–35, 37–39, 41–46, 56–60, 112–115
Technology	
<ul style="list-style-type: none"> • Technology should be used as a tool in mathematics education to support and extend the mathematics curriculum. 	Implementation Guide: 43–46 Unit 4: 42–44, 48–49, 53, 79–80, 84, 90, 96, 113–115, 119, 131, 139–142
<ul style="list-style-type: none"> • Technology can contribute to concept development, simulation, representation, communication, and problem solving. 	Implementation Guide: 43–46 Unit 4: 42–44, 48–49, 53, 79–80, 84, 90, 96, 113–115, 119, 131, 139–142
<ul style="list-style-type: none"> • The challenge is to ensure that technology supports-but is not a substitute for- the development of skills with basic operations, quantitative reasoning, and problem solving skills. 	Implementation Guide: 43–46 Unit 4: 42–44, 48–49, 53, 79–80, 84, 90, 96, 113–115, 119, 131, 139–142
<ul style="list-style-type: none"> o Elementary students should learn how to perform thoroughly the basic arithmetic operations independent of the use of a calculator. 	These are some of the many examples. Implementation Guide: 43–46 Unit 3: 41–43, 50, 55, 58–61, 72–74, 76–78, 81–82, 87, 95–96, 100–101, 137 Unit 5: 65–66, 77–78, 93–95, 102–103, 117–119, 139–140
<ul style="list-style-type: none"> o The focus must be on learning mathematics, using technology as a tool rather than as an end in itself. 	Implementation Guide: 43–46 Unit 4: 42–44, 48–49, 53, 79–80, 84, 90, 96, 113–115, 119, 131, 139–142