

	<b>English/Language Arts</b>	<b>Mathematics</b>	<b>Social Studies</b>
<b>ACTIVITY</b>			
Poet Tree (5)	5.5.5, 5.5.6		
The Forest of S.T. Shrew (8)	5.2.4, 5.5.2		
Planet of Plenty (9)	5.4.5, 5.7.1, 5.7.3, 5.7.5, 5.7.10		
We All Need Trees (13)	5.2.3, 5.7.5		
Renewable Or Not? (14)			5.2.11, 5.5.1
A Few Of My Favorite Things (15)			5.2.11
Pass the Plants, Please (16)		5.6.1	5.5.1
People of the Forest (17)	5.4.5, 5.5.3, 5.7.10		
Tale of the Sun (18)	5.3.6, 5.5.1		5.3.10, 5.5.5
Adopt a Tree (21)		5.5.7, 5.7.4	
Trees as Habitats (22)		5.6.1, 5.7.4	
Bird and Worms (25)		5.6.1, 5.7.4	
Every Tree for Itself (27)		5.4.5, 5.6.1, 5.7.4	
Air Plants(28)		5.2.1, 5.2.3, 5.5.2, 5.7.2, 5.7.3, 5.7.4	
Pollution Search (36)		5.6.1, 5.7.4	
Talking Trash, Not! (37)		5.1.4, 5.2.1, 5.5.5, 5.6.1, 5.7.4	5.2.9
Every Drop Counts (38)		5.2.1, 5.2.5, 5.3.7, 5.7.1, 5.7.3, 5.7.4	5.2.11
Energy Sleuths (39)	5.7.3, 5.7.5, 5.7.10		5.3.2
Then And Now (40)	5.4.3, 5.4.5, 5.5.1, 5.5.3, 5.5.6, 5.7.1		5.3.7
How Plants Grow (41)		5.6.1, 5.7.4	
Sunlight and Shades of Green (42)	5.7.3		
Web of Life (45)	5.4.5		

	<b>English/Language Arts</b>	<b>Mathematics</b>	<b>Social Studies</b>
<b>ACTIVITY</b>			
School Yard Safari (46)	5.4.5, 5.5.6		
Are Vacant Lots Vacant (47)		5.6.1, 5.7.4	
Field, Forest, and Stream (48)		5.6.1, 5.7.4	
Tropical Treehouse (49)	5.4.3, 5.4.5, 5.5.3		5.1.1, 5.1.3, 5.5.1
Make Your Own Paper (51)	5.7.3		
A Look At Aluminum (52)			5.2.11
On The Move (53)		5.2.1, 5.2.3, 5.2.5, 5.5.7, 5.7.1, 5.7.2, 5.7.3, 5.7.4	
I'd Like to Visit A Place Where... (54)	5.5.6, 5.7.1		5.2.9, 5.3.2
Planning the Ideal Community (55)	5.7.4, 5.7.10		5.5.1
We Can Work It Out (56)	5.2.3, 5.2.4, 5.7.4, 5.7.5, 5.7.10		5.2.7, 5.2.9, 5.2.10, 5.2.11
Democracy In Action (57)			5.2.9, 5.2.10, 5.2.11
The Ought To Be A Law (58)	5.4.5, 5.5.6, 5.7.5		5.2.1, 5.2.9, 5.2.10
Power Of Print (59)	5.2.5, 5.5.4, 5.5.6, 5.7.4, 5.7.7, 5.7.8, 5.7.10		
Publicize It! (60)	5.2.3, 5.4.6, 5.4.8, 5.4.10, 5.5.4, 5.5.6, 5.7.8		5.2.9
The Closer You Look (61)	5.4.5, 5.7.5		
Germinating Giants (66)		5.2.1, 5.2.3, 5.5.5, 5.6.1, 5.7.1, 5.7.2, 5.7.3, 5.7.4	
How Big is Your Tree? (67)		5.2.1, 5.2.5, 5.4.5, 5.6.1, 5.7.1, 5.7.3, 5.7.4, 5.7.5	
Forest For The Trees (69)		5.7.1, 5.7.9	
Soil Stories (70)		5.2.5, 5.2.6, 5.3.7, 5.5.5, 5.6.1, 5.7.1, 5.7.4, 5.7.6	
Waste Watchers (73)		5.2.1, 5.2.5, 5.3.2, 5.5.5, 5.6.1, 5.7.1, 5.7.3, 5.7.4, 5.7.9	5.2.9

	<b>English/Language Arts</b>	<b>Mathematics</b>	<b>Social Studies</b>
<b>ACTIVITY</b>			
Tipi Talk (75)			5.1.1, 5.1.3, 5.3.10, 5.5.1, 5.5.2, 5.5.4
Tree Cookies (76)	5.4.5		5.1.19
Trees In Trouble (77)	5.4.5, 5.5.1, 5.5.6, 5.7.3, 5.7.5	5.6.1, 5.7.4	
Signs of Fall (78)	5.5.1, 5.5.6, 5.7.3, 5.7.5		
Tree Life Cycle (79)	5.7.3, 5.7.5		
Nothing Succeeds Like Succession (80)	5.2.2, 5.2.3, 5.2.4, 5.4.5, 5.7.3, 5.7.5	5.2.1, 5.2.6, 5.5.2, 5.6.1, 5.7.1, 5.7.4	
Resource-Go-Round (82)			5.3.2
Reduce, Reuse, Recycle (83)	5.5.6, 5.7.4, 5.7.5, 5.7.10		5.2.9
A Peak At Packaging (84)			5.5.6
In the Driver's Seat (85)		5.2.1, 5.2.3, 5.2.6, 5.3.2, 5.7.1, 5.7.3, 5.7.4, 5.7.9	5.9.6
Our Changing World (86)	5.2.3, 5.4.5, 5.7.4, 5.7.5, 5.7.10		5.3.2, 5.5.6
Life On The Edge (88)			5.3.7, 5.5.1
Trees For Many Reasons (89)	5.5.2, 5.5.6, 5.7.1, 5.7.2, 5.7.3, 5.7.5, 5.7.11		5.2.11
The Native Way (90)	5.2.3, 5.2.4, 5.4.5		5.1.1, 5.1.3, 5.3.7, 5.3.10, 5.5.1, 5.5.3, 5.5.5, 5.5.6
In the Good Old Days (91)	5.4.5, 5.5.6, 5.7.4, 5.7.5, 5.7.10		5.3.11
A Look At Lifestyles (92)	5.3.1, 5.3.4, 5.3.5, 5.3.6, 5.4.5, 5.5.6, 5.7.3, 5.7.5		5.1.1, 5.1.3, 5.1.7, 5.3.6, 5.3.7, 5.3.10, 5.5.1, 5.5.2
Paper Civilizations (93)	5.2.3, 5.2.5		5.3.8, 5.4.3, 5.5.6
Did You Notice? (95)	5.2.2, 5.4.5, 5.7.3, 5.7.5		5.1.1, 5.1.3, 5.1.19, 5.3.6, 5.3.7, 5.3.8, 5.3.10, 5.3.11, 5.4.1, 5.4.3, 5.5.1, 5.5.2, 5.5.6

**Standard 2****READING: Comprehension (Focus on Informational Materials)**

Students read and understand grade-level-appropriate material. They describe and connect the essential ideas, arguments, and perspectives of the text by using their knowledge of text structure, organization, and purpose. The selections in the **Indiana Reading List** (available online at [www.doe.state.in.us/standards/readinglist.html](http://www.doe.state.in.us/standards/readinglist.html)) illustrate the quality and complexity of the materials to be read by students. At Grade 5, in addition to regular classroom reading, students read a variety of grade-level-appropriate narrative (story) and expository (informational and technical) text, including classic and contemporary literature, poetry, magazines, newspapers, reference materials, and online information.

*Structural Features of Informational and Technical Materials*

5.2.2 Analyze text that is organized in sequential or chronological order.

**PLT Activities:** 80, 95

*Comprehension and Analysis of Grade-Level-Appropriate Text*

5.2.3 Recognize main ideas presented in texts, identifying and assessing evidence that supports those ideas.

Example: After reading *The Life and Death of Crazy Horse* by Russell Freedman or *Eleanor Roosevelt: A Life of Discovery* by Russell Freedman, explain why each of these individuals is recognized as a great person in history. Identify details that support this idea.

**PLT Activities:** 13, 56, 60, 80, 86, 90, 93

5.2.4 Draw inferences, conclusions, or generalizations about text and support them with textual evidence and prior knowledge.

Example: After reading *Rosa Parks: My Story* by Rosa Parks, compare life today with life during the time of Rosa Parks' story, supporting the comparison with ideas from the text and from experience or other outside sources.

**PLT Activities:** 8, 56, 80, 90

*Expository (Informational) Critique*

5.2.5 Distinguish among facts, supported inferences, and opinions in text.

Example: In reading an informational text, tell which is a fact and which is an opinion: *The color green can be made by mixing yellow and blue. Green is one of the most soothing colors, and makes one think of spring grass and new leaves.* Identify facts and opinions in a history book, such as the humorous *Lives of the Presidents: Fame, Shame (and What the Neighbors Thought)* by Kathleen Krull.

**PLT Activities:** 59, 93

## Standard 3

### READING: Literary Response and Analysis

*Students read and respond to grade-level-appropriate historically or culturally significant works of literature. They begin to find ways to clarify the ideas and make connections between literary works. The selections in the **Indiana Reading List** (available online at [www.doe.state.in.us/standards/readinglist.html](http://www.doe.state.in.us/standards/readinglist.html)) illustrate the quality and complexity of the materials to be read by students.*

#### *Structural Features of Literature*

- 5.3.1 Identify and analyze the characteristics of poetry, drama, fiction, and nonfiction and explain the appropriateness of the literary forms chosen by an author for a specific purpose.  
Example: Analyze an author’s purpose for writing, whether it is to inform, to teach, to entertain, or to elicit an emotional response, and tell how well that purpose is achieved by the type of writing the author has produced. After reading a nonfiction, instructional manual, such as *Computer Basics for Non-Techies: Course 1, Understanding the Basics*, use a graphic organizer to compare this to a humorous portrayal of the same subject, such as the humorous poem “A Dragon Is in My Computer” by Jack Prelutsky.

**PLT Activities:** 92

#### *Narrative Analysis of Grade-Level-Appropriate Text*

- 5.3.4 Understand that theme refers to the central idea or meaning of a selection and recognize themes, whether they are implied or stated directly.  
Example: Describe the themes in a fictional story, such as *A Wrinkle in Time* by Madeleine L’Engle, in which the themes of courage and perseverance are explored as the children in the story go on a dangerous mission in search of their scientist father.

**PLT Activities:** 92

- 5.3.5 Describe the function and effect of common literary devices, such as imagery, metaphor, and symbolism.
- Symbolism: the use of an object to represent something else; for example, a dove might symbolize peace.
  - Imagery: the use of language to create vivid pictures in the reader’s mind.
  - Metaphor: an implied comparison in which a word or phrase is used in place of another, such as *He was drowning in money*.

**PLT Activities:** 92

## *Literary Criticism*

5.3.6 Evaluate the meaning of patterns and symbols that are found in myth and tradition by using literature from different eras and cultures.

Example: Discuss the meaning of the walls in *The Secret Garden* by Frances Hodgson Burnett.

**PLT Activities:** 18, 92

## **Standard 4** **WRITING: Process**

*Students discuss and keep a list of ideas for writing. They use graphic organizers. Students write clear, coherent, and focused essays. Students progress through the stages of the writing process and proofread, edit, and revise writing.*

### *Organization and Focus*

5.4.3 Write informational pieces with multiple paragraphs that:

- present important ideas or events in sequence or in chronological order.
- provide details and transitions to link paragraphs.
- offer a concluding paragraph that summarizes important ideas and details.

**PLT Activities:** 40, 49

### *Research and Technology*

5.4.5 Use note-taking skills.

**PLT Activities:** 9, 17, 40, 45, 46, 49, 58, 61, 76, 77, 80, 86, 90, 91, 92, 95

5.4.6 Create simple documents using a computer and employing organizational features, such as passwords, entry and pull-down menus, word searches, the thesaurus, and spell checks.

**PLT Activities:** 60

### *Evaluation and Revision*

5.4.8 Review, evaluate, and revise writing for meaning and clarity.

**PLT Activities:** 60

5.4.10 Edit and revise writing to improve meaning and focus through adding, deleting, combining, clarifying, and rearranging words and sentences.

**PLT Activities:** 60

## Standard 5

### WRITING: Applications (Different Types of Writing and Their Characteristics)

*At Grade 5, students write narrative (story), expository (informational), persuasive, and descriptive texts (of at least 500 words). Student writing demonstrates a command of Standard English and the research, organizational, and drafting strategies outlined in Standard 4 — Writing Process. Writing demonstrates an awareness of the audience (intended reader) and purpose for writing.*

*In addition to producing the different writing forms introduced in earlier grades, such as letters, Grade 5 students use the writing strategies outlined in Standard 4 — Writing Process to:*

5.5.1 Write narratives (stories) that:

- establish a plot, point of view, setting, and conflict.
- show, rather than tell, the events of the story.

Example: Write a story, modeling the style of the story after a type of writing recently read in class, such as a folktale, myth, mystery, or science fiction story. Include an interesting beginning that establishes the central conflict of the story and an ending that resolves the problem.

**PLT Activities:** 17, 40, 77, 78

5.5.2 Write responses to literature that:

- demonstrate an understanding of a literary work.
- support judgments through references to the text and to prior knowledge.
- develop interpretations that exhibit careful reading and understanding.

Example: Write an essay, telling how two authors are similar or different in terms of their writing styles, choices of topics, and the themes of their books. Support the opinion with specific examples from the authors' books. Write a personal reaction to books in which a character deals with a problem, such as *The Best Bad Thing* by Yoshiko Uchida or *Shiloh* by Phyllis Naylor. Use clear organization and careful word choices to show your reaction to the character and the problem.

**PLT Activities:** 8, 89

5.5.3 Write research reports about important ideas, issues, or events by using the following guidelines:

- Frame questions that direct the investigation.
- Establish a main idea or topic.
- Develop the topic with simple facts, details, examples, and explanations.
- Use a variety of information sources, including firsthand interviews, reference materials, and electronic resources, to locate information for the report.

Example: After talking to local officials and conducting library research, write about the history of the different people and immigrant groups who settled in Indiana. Prepare a class book on *The History of Indiana* that includes information about where these groups came from, where they first lived in the state, and what work they did.

**PLT Activities:** 17, 40, 49

- 5.5.4 Write persuasive letters or compositions that:
- state a clear position in support of a proposal.
  - support a position with relevant evidence and effective emotional appeals.
  - follow a simple organizational pattern, with the most appealing statements first and the least powerful ones last.
  - address reader concerns.

Example: Interview several students in lower grades and take notes regarding changes they would like to see made to the school's playground. Compile these opinions to write a persuasive article for the school newspaper.

**PLT Activities:** 59, 60

- 5.5.5 Use varied word choices to make writing interesting.
- Example: Write stories, reports, and letters showing a variety of word choices: use *inquired* or *requested* instead of *asked*.

**PLT Activities:** 5

- 5.5.6 Write for different purposes and to a specific audience or person, adjusting tone and style as appropriate.

Example: Write a skit or an episode of a puppet show to present at your class talent show. Use funny words and phrases to make the audience laugh.

**PLT Activities:** 5, 40, 46, 54, 58, 59, 60, 77, 78, 83, 89, 91, 92

## Standard 7

### LISTENING AND SPEAKING: Skills, Strategies, and Applications

*Students deliver focused, coherent presentations that convey ideas clearly and relate to the background and interests of the audience. They evaluate the content of oral communication. Students deliver well-organized formal presentations using traditional speech strategies, including narration, exposition, persuasion, and description. Students use the same Standard English conventions for oral speech that they use in their writing.*

#### Comprehension

- 5.7.1 Ask questions that seek information not already discussed.

**PLT Activities:** 9, 40, 54, 89

- 5.7.2 Interpret a speaker's verbal and nonverbal messages, purposes, and perspectives.

**PLT Activities:** 89

- 5.7.3 Make inferences or draw conclusions based on an oral report.

**PLT Activities:** 9, 39, 42, 51, 77, 78, 79, 80, 89, 92, 95

### *Organization and Delivery of Oral Communication*

5.7.4 Select a focus, organizational structure, and point of view for an oral presentation.

**PLT Activities:** 55, 56, 59, 83, 86, 91

5.7.5 Clarify and support spoken ideas with evidence and examples.

**PLT Activities:** 9, 13, 39, 56, 58, 61, 77, 78, 79, 80, 83, 86, 89, 91, 92, 95

### *Analysis and Evaluation of Oral and Media Communications*

5.7.7 Identify, analyze, and critique persuasive techniques, including promises, dares, flattery, and generalities; identify faulty reasoning used in oral presentations and media messages.

**PLT Activities:** 59

5.7.8 Analyze media as sources for information, entertainment, persuasion, interpretation of events, and transmission of culture.

**PLT Activities:** 59, 60

### *Speaking Applications*

5.7.10 Deliver informative presentations about an important idea, issue, or event by the following means:

- frame questions to direct the investigation.
- establish a controlling idea or topic.
- develop the topic with simple facts, details, examples, and explanations.

**PLT Activities:** 9, 17, 39, 55, 56, 59, 83, 86, 91

5.7.11 Deliver oral responses to literature that:

- summarize important events and details.
- demonstrate an understanding of several ideas or images communicated by the literary work.
- use examples from the work to support conclusions.

**PLT Activities:** 89

## Grade 5

*In this technological age, mathematics is more important than ever. When students leave school, they are more and more likely to use mathematics in their work and everyday lives — operating computer equipment, planning timelines and schedules, reading and interpreting data, comparing prices, managing personal finances, and completing other problem-solving tasks. What they learn in mathematics and how they learn it will provide an excellent preparation for a challenging and ever-changing future.*

*The state of Indiana has established the following mathematics standards to make clear to teachers, students, and parents what knowledge, understanding, and skills students should acquire in Grade 5:*

### **Standard 1 — Number Sense**

Understanding the number system is the basis of mathematics. Students extend their understanding of the magnitudes of numbers to rounding whole numbers and decimals to any place value. They order and compare whole numbers and decimals using the correct symbols for greater than and less than. They develop the concept of percentage as parts of a hundred and compare different ways of looking at fractions. They identify whole numbers as prime or composite, and they compare fractions, decimals, and mixed numbers on a number line.

### **Standard 2 — Computation**

Fluency in computation is essential. Students extend the standard methods for multiplying and dividing to larger numbers. They add and subtract more complex fractions and decimals, learning how these different representations of numbers can be manipulated. They also develop an understanding of how to multiply and divide fractions.

### **Standard 3 — Algebra and Functions**

Algebra is a language of patterns, rules, and symbols. Students at this level develop further the fundamental concept of a variable — having a letter stand for all numbers of a certain kind. They use this to write simple algebraic expressions and to evaluate them. They begin to develop the idea of linking an algebraic equation to a graph, by finding ordered pairs that fit a linear equation, plotting these as points on a grid, and drawing the resulting straight line. They also interpret graphs to answer questions.

### **Standard 4 — Geometry**

Students learn about geometric shapes and develop a sense of space. They draw angles, parallel and perpendicular lines, the radius and diameter of circles, and other geometric shapes, using ruler, compass, protractor, and computer drawing programs. They identify congruent triangles and explain their reasoning using specific geometrical terms, such as equilateral, isosceles, acute, and obtuse. They classify polygons with five or more sides. They develop an understanding of reflectional and rotational symmetry, and they construct prisms and pyramids, developing their ability to work in three dimensions.

### **Standard 5 — Measurement**

The study of measurement is essential because of its uses in many aspects of everyday life. Students develop and use the formulas for calculating perimeters and areas of triangles, parallelograms, and trapezoids. They extend these ideas to finding the volume and surface area of rectangular solids. They understand and use additional units for measuring weight: ounce, gram, and ton. They also add and subtract with money in decimal notation.

## **Standard 6 — Data Analysis and Probability**

Data are all around us — in newspapers and magazines, in television news and commercials, in quality control for manufacturing — and students need to learn how to understand data. At this level, they use the mean, median, mode, and range to describe data sets. They further develop the concept of probability, recording probabilities as fractions between 0 and 1 and linking these to levels of certainty about the events described.

## **Standard 7 — Problem Solving**

In a general sense, mathematics is problem solving. In all of their mathematics, students use problem-solving skills: they choose how to approach a problem, they explain their reasoning, and they check their results. As they develop their skills with algebra, geometry, or measurement, for example, students move from simple to more complex ideas by taking logical steps that build a better understanding of mathematics.

*As part of their instruction and assessment, students should also develop the following learning skills by Grade 12 that are woven throughout the mathematics standards:*

### **Communication**

The ability to read, write, listen, ask questions, think, and communicate about math will develop and deepen students' understanding of mathematical concepts. Students should read text, data, tables, and graphs with comprehension and understanding. Their writing should be detailed and coherent, and they should use correct mathematical vocabulary. Students should write to explain answers, justify mathematical reasoning, and describe problem-solving strategies.

### **Reasoning and Proof**

Mathematics is developed by using known ideas and concepts to develop others. Repeated addition becomes multiplication. Multiplication of numbers less than ten can be extended to numbers less than one hundred and then to the entire number system. Knowing how to find the area of a right triangle extends to all right triangles. Extending patterns, finding even numbers, developing formulas, and proving the Pythagorean Theorem are all examples of mathematical reasoning. Students should learn to observe, generalize, make assumptions from known information, and test their assumptions.

### **Representation**

The language of mathematics is expressed in words, symbols, formulas, equations, graphs, and data displays. The concept of one-fourth may be described as a quarter,  $\frac{1}{4}$ , one divided by four, 0.25,  $\frac{1}{8} + \frac{1}{8}$ , 25 percent, or an appropriately shaded portion of a pie graph. Higher-level mathematics involves the use of more powerful representations: exponents, logarithms,  $\pi$ , unknowns, statistical representation, algebraic and geometric expressions. Mathematical operations are expressed as representations: +, =, divide, square. Representations are dynamic tools for solving problems and communicating and expressing mathematical ideas and concepts.

### **Connections**

Connecting mathematical concepts includes linking new ideas to related ideas learned previously, helping students to see mathematics as a unified body of knowledge whose concepts build upon each other. Major emphasis should be given to ideas and concepts across mathematical content areas that help students see that mathematics is a web of closely connected ideas (algebra, geometry, the entire number system). Mathematics is also the common language of many other disciplines (science, technology, finance, social science, geography) and students should learn mathematical concepts used in those

disciplines. Finally, students should connect their mathematical learning to appropriate real-world contexts.

## **Standard 1**

### **Number Sense**

*Students compute with whole numbers\*, decimals, and fractions and understand the relationship among decimals, fractions, and percents. They understand the relative magnitudes of numbers. They understand prime\* and composite\* numbers.*

- 5.1.4 Interpret percents as a part of a hundred. Find decimal and percent equivalents for common fractions and explain why they represent the same value.

Example: Shade a 100-square grid to show 30%. What fraction is this?

**PLT Activities:** 37

## **Standard 2**

### **Computation**

*Students solve problems involving multiplication and division of whole numbers and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.*

- 5.2.1 Solve problems involving multiplication and division of any whole numbers.

Example:  $2,867 \times 34 = ?$ . Explain your method.

**PLT Activities:** 28, 37, 38, 53, 66, 67, 73, 80, 85

- 5.2.3 Use models to show an understanding of multiplication and division of fractions.

Example: Draw a rectangle 5 squares wide and 3 squares high. Shade  $\frac{4}{5}$  of the rectangle, starting from the left. Shade  $\frac{2}{3}$  of the rectangle, starting from the top. Look at the fraction of the squares that you have double-shaded and use that to show how to multiply  $\frac{4}{5}$  by  $\frac{2}{3}$ .

**PLT Activities:** 28, 53, 66, 85

- 5.2.5 Add and subtract decimals and verify the reasonableness of the results.

Example: Compute  $39.46 - 20.89$  and check the answer by estimating.

**PLT Activities:** 38, 53, 67, 70, 73

- 5.2.6 Use estimation to decide whether answers are reasonable in addition, subtraction, multiplication, and division problems.

Example: Your friend says that  $2,867 \times 34 = 20,069$ . Without solving, explain why you think the answer is wrong.

**PLT Activities:** 70, 80, 85

### **Standard 3**

#### **Algebra and Functions**

*Students use variables in simple expressions, compute the value of an expression for specific values of the variable, and plot and interpret the results. They use two-dimensional coordinate grids to represent points and graph lines.*

- 5.3.2 Write simple algebraic expressions in one or two variables and evaluate them by substitution.  
Example: Find the value of  $5x + 2$  when  $x = 3$ .

**PLT Activities:** 73, 85

- 5.3.7 Use information taken from a graph or equation to answer questions about a problem situation.  
Example: The speed ( $v$  feet per second) of a car  $t$  seconds after it starts is given by the formula  $v = 12t$ . Find the car's speed after 5 seconds.

**PLT Activities:** 38, 70

### **Standard 4**

#### **Geometry**

*Students identify, describe, and classify the properties of plane and solid geometric shapes and the relationships between them.*

- 5.4.5 Identify and draw the radius and diameter of a circle and understand the relationship between the radius and diameter.  
Example: On a circle, draw a radius and a diameter and describe the differences and similarities between the two.

**PLT Activities:** 27, 67

### **Standard 5**

#### **Measurement**

*Students understand and compute the areas and volumes of simple objects, as well as measuring weight, temperature, time, and money.*

- 5.5.2 Solve problems involving perimeters and areas of rectangles, triangles, parallelograms, and trapezoids, using appropriate units.  
Example: A trapezoidal garden bed has parallel sides of lengths 14 m and 11 m and its width is 6 m. Find its area and the length of fencing needed to enclose it. Be sure to use correct units.

**PLT Activities:** 28, 80

- 5.5.5 Understand and use the smaller and larger units for measuring weight (ounce, gram, and ton) and their relationship to pounds and kilograms.  
Example: How many ounces are in a pound?

**PLT Activities:** 37, 66, 70, 73

- 5.5.7 Add and subtract with money in decimal notation.  
Example: You buy articles that cost \$3.45, \$6.99, and \$7.95. How much change will you receive from \$20?

**PLT Activities:** 21, 53

## **Standard 6**

### **Data Analysis and Probability**

*Students collect, display, analyze, compare, and interpret data sets. They use the results of probability experiments to predict future events.*

- 5.6.1 Explain which types of displays are appropriate for various sets of data.  
Example: Conduct a survey to find the favorite movies of the students in your class. Decide whether to use a bar, line, or picture graph to display the data. Explain your decision.

**PLT Activities:** 16, 22, 25, 27, 37, 36, 41, 47, 48, 66, 67, 70, 73, 77, 80

## **Standard 7**

### **Problem Solving**

*Students make decisions about how to approach problems and communicate their ideas.*

- 5.7.1 Analyze problems by identifying relationships, telling relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.  
Example: Solve the problem: “When you flip a coin 3 times, you can get 3 heads, 3 tails, 2 heads and 1 tail, or 1 head and 2 tails. Find the probability of each of these combinations.”  
Notice that the case of 3 heads and the case of 3 tails are similar. Notice that the case of 2 heads and 1 tail and the case of 1 head and 2 tails are similar.

**PLT Activities:** 38, 53, 66, 67, 69, 70, 73, 80, 85

- 5.7.2 Decide when and how to break a problem into simpler parts.  
Example: In the first example, decide to look at the case of 3 heads and the case of 2 heads and 1 tail.

**PLT Activities:** 28, 53, 66

*Students use strategies, skills, and concepts in finding and communicating solutions to problems.*

- 5.7.3 Apply strategies and results from simpler problems to solve more complex problems.  
Example: In the first example, begin with the situation where you flip the coin twice.

**PLT Activities:** 28, 38, 53, 66, 67, 73, 85

5.7.4 Express solutions clearly and logically by using the appropriate mathematical terms and notation. Support solutions with evidence in both verbal and symbolic work.  
Example: In the first example, make a table or tree diagram to show another student what is happening.

**PLT Activities:** 21, 22, 25, 27, 28, 36, 37, 38, 41, 47, 48, 53, 66, 67, 70, 73, 77, 80, 85

5.7.5 Recognize the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.  
Example: You are buying a piece of plastic to cover the floor of your bedroom before you paint the room. How accurate should you be: to the nearest inch, foot, or yard? Explain your answer.

**PLT Activities:** 67

5.7.6 Know and apply appropriate methods for estimating results of rational-number computations.  
Example: Will  $7 \times 18$  be smaller or larger than 100? Explain your answer.

**PLT Activities:** 70

*Students determine when a solution is complete and reasonable and move beyond a particular problem by generalizing to other situations.*

5.7.9 Note the method of finding the solution and show a conceptual understanding of the method by solving similar problems.  
Example: Find the probability of each of the combinations when you flip a coin 4 times.

**PLT Activities:** 69, 73, 85

## GRADE 5

### *The United States – The Founding of the Republic*

*Students in Grade 5 study the United States focusing on the influence of physical and cultural environments on national origins, growth, and development up to 1800. Emphasis should be placed upon study of American Indian cultures, European exploration, colonization, settlement, revolution against British rule, the founding of the Republic, and the beginnings of the United States.*

*The Indiana’s K – 8 academic standards for social studies are organized around five content areas. The content area standards and the types of learning experiences they provide to students in Grade 5 are described below. On the pages that follow, age-appropriate concepts are listed underneath each standard. Skills for thinking, inquiry, and participation in a democratic society are integrated throughout. Specific terms are defined and examples are provided when necessary.*

### **Standard 1 — History**

Students will describe the historical movements that influenced the development of the United States from pre-Columbian times up to 1800 with an emphasis on the American Revolution and the founding of the United States.

### **Standard 2 — Civics and Government**

Students will identify main components and characteristics of the United States government. They will identify and explain key ideas in government from the colonial and founding periods that continue to shape civic and political life.

### **Standard 3 — Geography**

Students will describe Earth/sun relationships and the global grid system. They will identify major physical and cultural characteristics of the United States and its regions and name and locate the major physical features of each of the states and major cities of the United States. They will also explain the changing interaction of people with their environment in regions of the United States and show how the United States is related geographically to the rest of the world.

### **Standard 4 — Economics**

Students will describe the productive resources and market relationships that influence the way people produce goods and services and earn a living in the United States in different historical periods.

### **Standard 5 — Individuals, Society, and Culture**

Students will identify individuals and groups that have contributed to the development of the United States, investigate the way that individuals and groups cooperate to adapt to the environment and resolve conflicts, and examine the challenges faced and the contributions made by various cultural groups to American society.

### **Standard 1 History**

*Students will describe the historical movements that influenced the development of the United States from pre-Columbian times up to 1800 with an emphasis on the American Revolution and the founding of the United States.*

## Historical Knowledge

### *Ways of Life Before and After the Arrival of Europeans to 1610*

- 5.1.1 Give examples of early cultures and settlements that existed in North America prior to contact with Europeans.

Example: Mississippian culture at Cahokia (600 – 1400 C.E.).

**PLT Activities:** 49, 75, 90, 92, 95

- 5.1.3 Identify and compare historic Indian groups of the West, Southwest, Northwest, Arctic and sub-Arctic, Great Plains, and Eastern Woodlands regions at the beginning of European exploration in the late fifteenth and sixteenth centuries.

Example: Compare their styles of housing, settlement patterns, sources of food and clothing, customs and oral traditions, political and economic organization, and types and uses of technology.

**PLT Activities:** 49, 75, 90, 92, 95

### *Colonization and Settlements: 1607 to 1763*

- 5.1.7 Identify and discuss instances of both cooperation and conflict between Indians and European settlers, such as agriculture, trade, cultural exchanges, and military alliances, as well as later broken treaties, massacres, and conflicts over control of the land.

Example: King Philip's War (1675 to 1676) in New England was extremely costly to both sides; the French and Indian War was a conflict between the British and French/American Indians to control territory in Northern America.

**PLT Activities:** 92

## Chronological Thinking and Comprehension

- 5.1.19 Develop and interpret timelines showing major people, events, and developments in the early history of the United States from 1776-1801.

**PLT Activities:** 76, 95

## Standard 2

### Civics and Government

*Students will identify main components and characteristics of the United States government. They will identify and explain key ideas in government from the colonial and founding periods that continue to shape civic and political life.*

## Foundations of Government

- 5.2.1 Explain why people need government by considering what life would be like in the absence of government.  
Example: The purposes of government include the protection of individual rights and the attainment of the common good.  
**PLT Activities:** 58

## Functions of Government

- 5.2.7 Describe various kinds of elections, such as primary elections; general elections; and local, state, and national elections, including those used to select congressional and presidential office holders.  
**PLT Activities:** 56

## Roles of Citizens

- 5.2.9 Demonstrate civic responsibility in group and individual actions, including civic dispositions — such as civility, cooperation, respect, and responsible participation.  
**PLT Activities:** 37, 54, 56, 57, 58, 60, 73, 83
- 5.2.10 Examine ways by which citizens may effectively voice opinions, monitor government, and bring about change in government and the public agenda\*, including voting and participation in the election process.  
**PLT Activities:** 56, 57, 58
- 5.2.11 Use a variety of information resources\* to identify and evaluate contemporary issues that involve civic responsibility, individual rights, and the common good.  
**PLT Activities:** 14, 15, 38, 52, 56, 57, 89

\* public agenda: what the public needs and wants with respect to government action

\* information resources: print media, such as books, magazines, and newspapers; electronic media, such as radio, television, Web sites, and databases; and community resources, such as individuals and organizations

## Standard 3 Geography

*Students will describe Earth/sun relationships and the global grid system. They will identify major physical and cultural characteristics of the United States and its regions and name and locate the major physical features of each of the states and major cities of the United States. They will also explain the changing interaction of people with their environment in regions of the United States and show how the United States is related geographically to the rest of the world.*

## Places and Regions

- 5.3.2 Name and locate states, major cities, major regions, major rivers, and mountain ranges in the United States.

**PLT Activities:** 39, 54, 82, 86

## Human Systems

- 5.3.6 Analyze how the location and natural environment of Spanish, French, and British colonies influenced their development.

**PLT Activities:** 92, 95

- 5.3.7 Describe the major ways that land was used by American Indians and colonists in each region and explain how land use changed in the past and continues to change.

**PLT Activities:** 40, 88, 90, 92, 95

- 5.3.8 Identify the major manufacturing and agricultural regions in colonial America and cite ways that agriculture and manufacturing have changed in the past and continue to change.

**PLT Activities:** 93, 95

## Environment and Society, Uses of Geography

- 5.3.10 Read fiction and nonfiction stories about how American Indians and European settlers lived in early America and find examples of the various ways people adapted to and changed the environment.

**PLT Activities:** 18, 75, 90, 92, 95

- 5.3.11 Give examples of how specific physical features influenced historical events and movements.

**PLT Activities:** 91, 95

## Standard 4 Economics

*Students will describe the productive resources and market relationships that influence the way people produce goods and services and earn a living in the United States in different historical periods.*

- 5.4.1 Describe the economic activities within and among American Indian cultures prior to contact with Europeans. Examine the economic factors that helped motivate European exploration and colonization.

**PLT Activities:** 95

- 5.4.3 Trace the development of technology and the impact of major inventions on business productivity during the early development of the United States.

**PLT Activities:** 93, 95

## **Standard 5**

### **Individuals, Society, and Culture**

*Students will identify individuals and groups that have contributed to the development of the United States, investigate the way that individuals and groups cooperate to adapt to the environment and resolve conflicts, and examine the challenges faced and the contributions made by various cultural groups to American society.*

- 5.5.1 Describe basic needs that individuals have in order to survive — such as the need for food, water, shelter, and safety — and give examples of how people in early America adapted\* to meet basic needs.

Example: American Indian groups and early European settlers developed housing, clothing styles, and materials depending upon what was available in the local environment. Living and working in groups made it easier to build houses, hunt, and grow food for crops. People also live in groups today to meet basic and other needs.

**PLT Activities:** 14, 16, 49, 55, 75, 88, 90, 92, 95

- 5.5.2 Give examples of groups who made up communities\* in early America and compare the different ways that communities were organized.

Example: Communities in English colonies usually were made up of families as well as religious, military, business, school, and governmental groups. As the colonies grew, colleges and universities were established to provide higher education; militias were formed to provide for local defense; business groups were formed to carry out trade, and colonial assemblies were brought together to make laws. Less formal groups were formed to help meet social, civic, and recreational needs.

**PLT Activities:** 75, 92, 95

- 5.5.3 Read fiction and nonfiction stories about conflicts among and between groups of people at different stages in the formation of the United States and give examples of how these conflicts were resolved.

Example: Different religious views within communities sometimes led to founding of new communities, such as Providence, Rhode Island, in 1644. During the revolutionary period, different political ideas led to conflicts between loyalists and patriots. During the development of the Constitution, the federalists and anti-federalists had differences of opinion about the role of government.

**PLT Activities:** 90

5.5.4 Compare significant examples of visual arts, crafts, music, architecture, and literature from early United States history and illustrate how each reflects the times and cultural background of the historical period.

Example: The silver work and furniture of Paul Revere indicated an appreciation of both simplicity and elegance. The poetry of Phyllis Wheatley and popular songs, such as “Yankee Doodle,” reflected the patriotic spirit of the time.

**PLT Activities:** 75

5.5.5 Analyze traditional arts, including folk tales and narratives that depict the experiences of ethnic, racial, and religious groups in different regions of the United States.

**PLT Activities:** 18, 90

5.5.6 Read accounts of how scientific and technological innovations have affected the way people lived in the early United States and make predictions about how future scientific and technological developments may change cultural life.

**PLT Activities:** 84, 85, 86, 90, 93, 95

- \* adaptation: the way people change behavior to meet their needs in a changing environment
- \* community: a group of people (or groups of people) who often live close together and have similar interests or goals

