

Team Event: Logic Test

Students should study how to solve a wide variety of logic problems including verbal logic, quantitative reasoning, and nonverbal logic. Students can study any Penny Press or Dell Logic Book (these are available in the magazine rack) through Amazon or Barnes and Noble Bookstores.

The Following Website links provide excellent sample problems:

<http://www.brainbashers.com>
<http://www.logic-puzzles.org>
<http://www.mensa.org/workout2.php>

The Logic Test may contain any of the following types of problems:

- Sudoku
- Cryptograms
- Algebraic equations
- Spatial reasoning
- Anagrams
- Patterns/graphs
- Probability
- Lateral thinking
- Grids

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Team Event: Super Quiz

History/Social Studies: The social studies topic for the 2012 Super Quiz will focus on the California Content Standards for History/Social Science Grade 7, Standard 7.6.1 – 7.6.9. Teams may use any resource including textbooks, websites, and other media that focus on and study this content.

7.6 Students analyze the geographic, political, economic, religious, and social structures of the civilizations of Medieval Europe.

1. Study the geography of the Europe and the Eurasian land mass, including its location, topography, waterways, vegetation, and climate and their relationship to ways of life in Medieval Europe.
2. Describe the spread of Christianity north of the Alps and the roles played by the early church and by monasteries in its diffusion after the fall of the western half of the Roman Empire.
3. Understand the development of feudalism, its role in the medieval European economy, the way in which it was influenced by physical geography (the role of the manor and the growth of towns), and how feudal relationships provided the foundation of political order.
4. Demonstrate an understanding of the conflict and cooperation between the Papacy and European monarchs (e.g., Charlemagne, Gregory VII, Emperor Henry IV).
5. Know the significance of developments in medieval English legal and constitutional practices and their importance in the rise of modern democratic thought and representative institutions (e.g., Magna Carta, parliament, development of habeas corpus, an independent judiciary in England).
6. Discuss the causes and course of the religious Crusades and their effects on the Christian, Muslim, and Jewish populations in Europe, with emphasis on the increasing contact by Europeans with cultures of the Eastern Mediterranean world.
7. Map the spread of the bubonic plague from Central Asia to China, the Middle East, and Europe and describe its impact on global population.
8. Understand the importance of the Catholic church as a political, intellectual, and aesthetic institution (e.g., founding of universities, political and spiritual roles of the clergy, creation of monastic and mendicant religious orders, preservation of the Latin language and religious texts, St. Thomas Aquinas's synthesis of classical philosophy with Christian theology, and the concept of "natural law").
9. Know the history of the decline of Muslim rule in the Iberian Peninsula that culminated in the Reconquista and the rise of Spanish and Portuguese kingdoms.

Religion: The religion topic for the 2012 Super Quiz will focus on the Gospel of John in the New Testament. Teams may use any Catholic **Bible** to study this Gospel. Teams may also find the use of a concordance helpful.

Gospel of John

1. Approximate date of composition and community/audience for which it was written.
2. John begins with the Word of God made flesh who dwells among us.

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3. Book of seven signs and explanatory discourses (chapters 2–11).
4. Book of glory (Jn 18–21): Jesus is “lifted up” on the Cross and “lifted up” from the tomb to everlasting glory.
5. I AM statements: Jesus appropriates God’s title at burning bush.
6. Priestly prayer of Jesus (chapters 12–17).

Literature: The literature topic for the 2012 Super Quiz will focus on the book titled Farewell to Manzanar by Jeanne Wakatsuki Houston and James D. Houston.

Reading level: Young Adult

Paperback: 146 pages

Publisher: Bantam Books (March 1, 1983)

Language: English

ISBN-10: 0553272586

ISBN-13: 978-0553272581

Overview of Farewell to Manzanar from Amazon.com

Jeanne Wakatsuki was seven years old in 1942 when her family was uprooted from their home and sent to live at Manzanar internment camp--with 10,000 other Japanese Americans. Along with searchlight towers and armed guards, Manzanar ludicrously featured cheerleaders, Boy Scouts, sock hops, baton twirling lessons and a dance band called the Jive Bombers who would play any popular song except the nation's #1 hit: "Don't Fence Me In."

Farewell to Manzanar is the true story of one spirited Japanese-American family's attempt to survive the indignities of forced detention . . . and of a native-born American child who discovered what it was like to grow up behind barbed wire in the United States.

Science: The science topic for the 2012 Super Quiz will focus on the California Content Standards for Science Grade 7, Cell Biology (Standard 1a – 1f). Teams may use any resource including textbooks, websites, and other media that focus on and study this content.

Cell Biology

1. All living organisms are composed of cells, from just one to many trillions, whose details usually are visible only through a microscope. As a basis for understanding this concept:
 - a. Students know cells function similarly in all living organisms.
 - b. Students know the characteristics that distinguish plant cells from animal cells, including chloroplasts and cell walls.

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- c. Students know the nucleus is the repository for genetic information in plant and animal cells.
- d. Students know that mitochondria liberate energy for the work that cells do and that chloroplasts capture sunlight energy for photosynthesis.
- e. Students know cells divide to increase their numbers through a process of mitosis, which results in two daughter cells with identical sets of chromosomes.
- f. Students know that as multi-cellular organisms develop, their cells differentiate.

Fine Art: The fine art topic for the 2012 Super Quiz will focus on American Art as exhibited at the Smithsonian Institute - American Art Museum in their permanent exhibit titled "American Art through 1940". Students will specifically focus on the portions of the exhibit titled:

- **"Civil War":** *Prints by Winslow Homer, graphic early photographs, wood engravings, paintings, and sculptures illustrate how the Civil War tore apart the fabric of the nation (east wing).*
- **"Impressionism":** *American artists in the 1880's were attracted to the light and color of painting outdoors and many studied abroad to absorb the new palette and compositions that were modernizing painting in France. On view are works by Childe Hassam, John Twachtman, William Merritt Chase, and Mary Cassatt, who were influenced by this movement.*
- **"Gilded Age":** *The final quarter of the 19th century was dubbed the "Gilded Age" by author Mark Twain. On view to represent the period are signature works by John Singer Sargent, Abbott Handerson Thayer, and Henry Ossawa Tanner. Also on view are rooms devoted to the works of Albert Pinkham Ryder and Thomas Wilmer Dewing. Highlights include a gilded Steinway and Sons piano decorated by Dewing and a stained glass window by John La Farge. (Smithsonian Website)*

Link: <http://www.si.edu/Exhibitions/Details/American-Art-through-1940-328>

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Individual Event: Current Events

The individual Current Events topics for 2012 will focus on items covered in the *Weekly Reader* periodical titled “*Current Events*” for middle school students. This resource can be ordered as an individual subscription for \$39.95. Price breaks apply for orders of 10+ subscriptions. Students should read the issues that are printed from October 1, 2011 through January 31, 2012 for the Diocesan level competition. Coaches may elect to utilize the online teacher support materials to prepare the individual team member for this event.

Here are some details about this publication care of the Weekly Reader website:

- 20 print issues per year (grades 6-10)
- Student-friendly coverage of U.S. and international news in an engaging print and digital format
- Major news story in every issue, plus world news briefs, art and culture updates, editorial cartoons, debates, and student writing
- Award-winning photography, fact-filled charts, colorful maps, and historical connections to current stories
- Nonfiction content reinforces NCSS, NCGE, and NCTE/IRA standards
- Back page skill questions in each issue support reading comprehension and critical-thinking skills

Call toll-free 1-800-446-3355 to order your student subscription or use the link below to order online.

Link: <http://www.weeklyreader.com/pubstore/pc-11-3-current-eventsreg.aspx>

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Individual Event: English

The individual English topic for 2012 will focus on English grammar and the mechanics of writing. Students will be required to identify:

- All parts of speech, including words used as parts of speech other than the obvious, e.g. a noun used as an adjective.
- Types of sentences: simple, compound, complex, compound-complex; declarative, imperative, interrogative, exclamatory.
- Structure of sentences: words, clauses (main/independent and dependent/subordinate; noun, adjective, adverb), and phrases (prepositional and verbal, including gerund, participial, and infinitive).

Students will be required to demonstrate the mechanics of writing including punctuation, capitalization, and spelling (current rules and exceptions).

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Individual Event: Fine Art

The individual Fine Art topic for 2012 will focus on the life and selected works of the American artist, Winslow Homer. The 48 paintings shown below are the “selected works” that the individual event will focus on in addition to Homer’s biography and information about his style, genre, and technique. Decathletes should use the link below to study this artist as well as other resources that they may find available online and in print that related specifically to these paintings. Please note that the page cut and pasted below was pulled from the following webpage: <http://www.winslow-homer.com/the-complete-works.html>.

Link: <http://www.winslow-homer.com/>



Sloop, Bermuda



The Gulf Stream



Snap the Whip I



A Summer Night



The Sharpshooter on Picket Duty



The Turkey Buzzard



A Brook Trout



Undertow



Breezing Up (or A Fair Wind)



Observations on Shipboard



The Veteran in a New Field

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Haymaking



The Berry Pickers



A Good One



Blackboard



The Fog Warning



Sunset at Gloucester



Winter Coast



Sunset Fires



Bermuda



On the Beach, Long Branch,
New Jersey



North Road, Bermuda



Shore at Bermuda



Redwing Blackbirds



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Girls Strolling in an Orchard



Sponge Fishing



The Life Line



A Good Shot, Adirondacks



The Trapper, Adirondacks

Solitude



Harvest Scene



The Bathers



Snap the Whip



The Initials

Natural Bridge, Bermuda



Houses on a Hill



The Herring Net



The Coming Storm



A Tropical Breeze, Nassau

Lost on the Grand Banks



The Blue Boat



Key West



Sloop, Nassau



The Cotton Pickers

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A Garden in Nassau



Boys in a Pasture



Sponge Fishing, Nassau



A Wall, Nassau

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Individual Event: Literature

The individual Literature topic for 2012 will focus on the novel titled **Moon Over Manifest** by Clare Vanderpool. Decathletes should visit the author's website using the link below to understand her writing objectives, her background as an author and her insights about the book. This book can be purchased from any bookstore in a paperback, hardback, or e-book version. Students will be responsible for knowing all aspects of the book in terms of its literary devices as well as information about the author.

Link: <http://www.clarevanderpool.com/moonovermanifest.html>

- **Reading level:** Young Adult
- **Paperback:** 368 pages
- **Publisher:** Yearling (December 27, 2011)
- **Language:** English
- **ISBN-10:** 0375858296
- **ISBN-13:** 978-0375858291

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Individual Event: Mathematics

The individual Mathematics topic for 2012 will focus on the California Content Standards for Algebra I, Grade 8, Standards 1.0 – 25.3. Individuals may use any resource including textbooks, websites, and other media that focus on and study this content. Symbolic reasoning and calculations with symbols are central in algebra. Through the study of algebra, a student develops an understanding of the symbolic language of mathematics and the sciences. In addition, algebraic skills and concepts are developed and used in a wide variety of problem-solving situations.

1.0 Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable:

1.1 Students use properties of numbers to demonstrate whether assertions are true or false.

2.0 Students understand and use such operations as taking the opposite, finding the reciprocal, taking a root, and raising to a fractional power. They understand and use the rules of exponents.

3.0 Students solve equations and inequalities involving absolute values.

4.0 Students simplify expressions before solving linear equations and inequalities in one variable, such as $3(2x-5) + 4(x-2) = 12$.

5.0 Students solve multistep problems, including word problems, involving linear equations and linear inequalities in one variable and provide justification for each step.

6.0 Students graph a linear equation and compute the x - and y - intercepts (e.g., graph $2x + 6y = 4$). They are also able to sketch the region defined by linear inequality (e.g., they sketch the region defined by $2x + 6y < 4$).

7.0 Students verify that a point lies on a line, given an equation of the line. Students are able to derive linear equations by using the point-slope formula.

8.0 Students understand the concepts of parallel lines and perpendicular lines and how those slopes are related. Students are able to find the equation of a line perpendicular to a given line that passes through a given point.

9.0 Students solve a system of two linear equations in two variables algebraically and are able to interpret the answer graphically. Students are able to solve a system of two linear inequalities in two variables and to sketch the solution sets.

10.0 Students add, subtract, multiply, and divide monomials and polynomials. Students solve multistep problems, including word problems, by using these techniques.

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11.0 Students apply basic factoring techniques to second-and simple third-degree polynomials. These techniques include finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials.

12.0 Students simplify fractions with polynomials in the numerator and denominator by factoring both and reducing them to the lowest terms.

13.0 Students add, subtract, multiply, and divide rational expressions and functions. Students solve both computationally and conceptually challenging problems by using these techniques.

14.0 Students solve a quadratic equation by factoring or completing the square.

15.0 Students apply algebraic techniques to solve rate problems, work problems, and percent mixture problems.

16.0 Students understand the concepts of a relation and a function, determine whether a given relation defines a function, and give pertinent information about given relations and functions.

17.0 Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs, or a symbolic expression.

18.0 Students determine whether a relation defined by a graph, a set of ordered pairs, or a symbolic expression is a function and justify the conclusion.

19.0 Students know the quadratic formula and are familiar with its proof by completing the square.

20.0 Students use the quadratic formula to find the roots of a second-degree polynomial and to solve quadratic equations.

21.0 Students graph quadratic functions and know that their roots are the x - intercepts.

22.0 Students use the quadratic formula or factoring techniques or both to determine whether the graph of a quadratic function will intersect the x -axis in zero, one, or two points.

23.0 Students apply quadratic equations to physical problems, such as the motion of an object under the force of gravity.

24.0 Students use and know simple aspects of a logical argument:

24.1 Students explain the difference between inductive and deductive reasoning and

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identify and provide examples of each.

24.2 Students identify the hypothesis and conclusion in logical deduction.

24.3 Students use counterexamples to show that an assertion is false and recognize that a single counterexample is sufficient to refute an assertion.

25.0 Students use properties of the number system to judge the validity of results, to justify each step of a procedure, and to prove or disprove statements:

25.1 Students use properties of numbers to construct simple, valid arguments (direct and indirect) for, or formulate counterexamples to, claimed assertions.

25.2 Students judge the validity of an argument according to whether the properties of the real number system and the order of operations have been applied correctly at each step.

25.3 Given a specific algebraic statement involving linear, quadratic, or absolute value expressions or equations or inequalities, students determine whether the statement is true sometimes, always, or never.

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Individual Event: Religion

The individual Religion topic for 2012 will focus on Chapter 1: What We Believe as found in the *Youth Catechism of the Catholic Church* (YOUCAT) (ISBN 978-1-58617-516-0).

Individual Event: Science

The individual Science topic for 2012 will focus on the California Content Standards for Science Grade 6, Shaping Earth's Surface (Standard 2a – 2d). Individuals may use any resource including textbooks, websites, and other media that focus on and study this content.

Shaping Earth's Surface

2. Topography is reshaped by the weathering of rock and soil and by the transportation and deposition of sediment. As a basis for understanding this concept:
 - a. Students know water running downhill is the dominant process in shaping the landscape, including California's landscape.
 - b. Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns.
 - c. Students know beaches are dynamic systems in which the sand is supplied by rivers and moved along the coast by the action of waves.
 - d. Students know earthquakes, volcanic eruptions, landslides, and floods change human and wildlife habitats.

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Individual Event: Social Studies

The individual Social Studies/History topic for 2012 will focus on the California Content Standards for History/Social Science Grade 7, Standard 7.8.1-7.8.5. Individuals may use any resource including textbooks, websites, and other media that focus on and study this content.

7.8 Students analyze the origins, accomplishments, and geographic diffusion of the Renaissance.

1. Describe the way in which the revival of classical learning and the arts fostered a new interest in humanism (i.e., a balance between intellect and religious faith).
2. Explain the importance of Florence in the early stages of the Renaissance and the growth of independent trading cities (e.g., Venice), with emphasis on the cities' importance in the spread of Renaissance ideas.
3. Understand the effects of the reopening of the ancient "Silk Road" between Europe and China, including Marco Polo's travels and the location of his routes.
4. Describe the growth and effects of new ways of disseminating information (e.g., the ability to manufacture paper, translation of the Bible into the vernacular, printing).
5. Detail advances made in literature, the arts, science, mathematics, cartography, engineering, and the understanding of human anatomy and astronomy (e.g., by Dante Alighieri, Leonardo da Vinci, Michelangelo di Buonarroti Simoni, Johann Gutenberg, William Shakespeare).