

2014–2015

# Academic Decathlon®

## CURRICULUM OVERVIEW

### **New Alternatives in Energy: Ingenuity and Innovation**

Academic Decathlon®

*The vision of the United States Academic  
Decathlon® is to provide students the opportunity  
to excel academically through team competition.*

USA  United States  
Academic Decathlon®

Toll Free: 866-511-USAD (8723) • Direct: 712-366-3700 • Fax: 712-366-3701 • Email: [info@usad.org](mailto:info@usad.org) • Website: [www.usad.org](http://www.usad.org)  
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# Corporate Sponsors

WE THANK OUR CORPORATE SPONSORS FOR THEIR SUPPORT!



## NASSP Approved

The National Association of Secondary School Principals has placed this program on the NASSP National Advisory List of Contests and Activities for 2014–2015.



## USAD Staff

Mylene Chafe: Director of Operations

Daniele Grigsby: Testing Director

Terry McKiernan: Curriculum Director

## VISION

The vision of the United States Academic Decathlon® is to provide students the opportunity to excel academically through team competition.

## MISSION

The mission of the United States Academic Decathlon® is to promote learning and academic excellence among students of varying achievement levels by developing and providing multidisciplinary academic competitions using Academic Decathlon®-based curricula.

## CORE VALUES

AS A PREMIER NATIONAL SCHOLASTIC COMPETITION FOR HIGH SCHOOL STUDENTS, UNITED STATES ACADEMIC DECATHLON® BELIEVES IN:

- The academic growth of students;
- Challenging multidisciplinary learning;
- Teamwork as a means to achieve self-knowledge and life-skills development;
- Providing equal opportunities for students of varying achievement levels;
- The inclusion and diversity of students to enrich learning and the human experience;
- High standards of honesty and integrity;
- Transparency in our relations and interactions with all of our stakeholders;
- Excellence in our programs, services and activities; and,
- Respect for diverse points of view.

# What Is the United States Academic Decathlon®?

## Overview

The United States Academic Decathlon®, the premier national scholastic competition for high school students, was created to provide opportunities for students to experience the challenges of rigorous team and individual academic competition. Each student competes in ten events: Art, Economics, Essay, Interview, Literature, Mathematics, Music, Science, Social Science, and Speech. Students compose an essay based on a prompt related to the current curriculum. Students also perform a prepared speech and impromptu speech and participate in an interview before a panel of volunteer judges from the local community.

The culmination of the competition is the exciting Super Quiz™ oral relay in which students have the opportunity to demonstrate their mastery of the broad range of the United States Academic Decathlon's interdisciplinary curriculum by answering questions from six different subject areas: art, economics, literature, music, science, and social science. The Super Quiz™ is the only part of the actual testing that is open to the public, and it is inevitably one of the most memorable and exciting parts of the United States Academic Decathlon® competition.

Gold, silver, and bronze medals are awarded for individual events and total scores. Overall individual winners are recognized as are champion teams. The broad base of awards allows for major recognition of academic accomplishment. Teams advance through local, regional, and state levels of competition. The state champions compete at the national finals. The 2015 United States Academic Decathlon® National Finals will take place on April 16–18, 2015, in Garden Grove, CA.

## Program Description

The United States Academic Decathlon® emphasizes the personal and academic growth of each student who, by meeting the challenges with honesty and integrity, can reap the rewards of greater self-knowledge and self-confidence for the future.

The ten-event academic program strives to foster a greater respect for knowledge, to promote wholesome inter-school academic competition, and to further develop student communication skills. A unique aspect of the United States Academic Decathlon® is that it is designed to include students with diverse academic abilities and achievement levels. Each nine-member team consists of three "A" (Honor division), three "B" (Scholastic division), and three "C or below" (Varsity division) students. Each team member competes in all ten events against other students in his/her division. Overall team scores are calculated using the top two individual scores from each division.

## History

The United States Academic Decathlon® was first created by Dr. Robert Peterson, former Superintendent of Schools in Orange County, California. Firmly believing that everyone's learning potential can be maximized through competitive challenge, Dr. Peterson set in motion the contest that has since come to be recognized as the most prestigious high school academic team competition in the United States. The program spread rapidly due to the success and excitement it engendered. The United States Academic Decathlon® was founded in 1981.

## The United States Academic Decathlon® and Curriculum and Content Standards

### Overview

The United States Academic Decathlon's curriculum is an interdisciplinary curriculum in which a selected theme is integrated across six different subject areas: art, economics, literature, music, science, and social science. Students also study mathematics and participate in essay-writing, speech, and interview events. The theme for the 2014–2015 U.S. Academic Decathlon® (USAD) curriculum is *New Alternatives in Energy: Ingenuity and Innovation*. While in most subjects the majority of the topics relate to the overall curricular theme, some topics that cover fundamentals may also be included to encourage a thorough understanding of the subject area as a whole. The USAD mathematics curriculum is unrelated to the theme and focuses on standard high school mathematics topics.

Following is a summary of the Common Core Standards for high school mathematics and reading that are addressed in USAD's 2014–2015 curriculum as well as the national content standards met by USAD's 2014–2015 curriculum.

### *The United States Academic Decathlon® Curriculum and the Common Core Standards*

#### **THE UNITED STATES ACADEMIC DECATHLON® AND THE COMMON CORE STANDARDS FOR HIGH SCHOOL MATHEMATICS**

The Common Core High School Mathematics Standards consist of six broad categories, and USAD's 2014–2015 mathematics curriculum addresses aspects of all of these six categories. In addition to the content standards, the Common Core High School Mathematics Standards emphasize eight practice standards. These practice standards are meant to address the manner in which students approach the content and reason during their learning of mathematics. USAD's 2014–2015 mathematics curriculum encourages students to apply seven of these eight practice standards.

#### **THE UNITED STATES ACADEMIC DECATHLON® AND THE COMMON CORE READING STANDARDS FOR LITERATURE**

USAD's 2014–2015 literature curriculum in concert with other Academic Decathlon® subject areas (speech, essay, art, etc.) addresses all ten of the Common Core College and Career Readiness Anchor Standards for Reading for students in grades 6–12 and addresses aspects of all of the Common Core Reading Standards for Literature for students in grades 9–10 and all but one of the Common Core Reading Standards for Literature for students in grades 11–12.

### *The United States Academic Decathlon® Curriculum and National Content Standards*

USAD's 2014–2015 curriculum addresses aspects of the following:

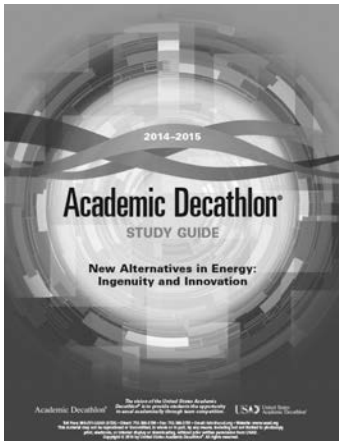
- ✧ All twenty of the Voluntary National Content Standards in Economics.
- ✧ Eleven of the twelve Curriculum and Content Area Standards for English Language Arts outlined by the National Council of Teachers of English (NCTE).
- ✧ All five content areas of the high school mathematics curriculum outlined by the National Council of Teachers of Mathematics (NCTM) and provides students with opportunities to utilize all four reasoning habits delineated by the NCTM.
- ✧ Four of the nine National Content Standards for Music.
- ✧ Five of the six National Content Standards for Visual Arts.
- ✧ Five of the twelve earth and space science Disciplinary Core Ideas for Grades 9–12 and eleven of the twelve physical science Disciplinary Core Ideas for Grades 9–12 outlined by the Next Generation Science Standards (NGSS).
- ✧ Seven of the ten overarching curricular themes outlined by the National Council for Social Studies (NCSS), one NCSS geography standard, four of the ten historical eras of focus delineated by the NCSS' National Content Standards for U.S. History, and three of the nine historical eras of focus delineated by the NCSS' National Content Standards for World History.



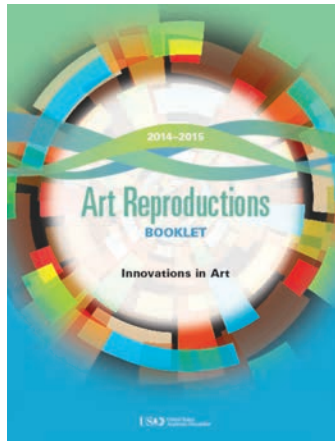


# Team Study Materials

**ACADEMIC DECATHLON® STUDY GUIDE:** Summarizes the curriculum for the entire year. Includes detailed outlines for Art, Economics, Literature, Mathematics, Music, Science, and Social Science. Also includes rules and guidelines for the Essay, Interview, and Speech events. Available printed, as PDF for download, or as an eBook.



**ART REPRODUCTIONS BOOKLET:** Contains full-color reproductions of the 18 selected artworks for this year's art curriculum. Includes works of art that demonstrate innovative techniques from across the centuries. A must-have companion to the *Art Resource Guide*. Available printed, as a PDF for download, or as an eBook.



**MUSIC CD: INNOVATIONS IN MUSIC** This year's music CD, *Innovations in Music*, is a 14-track CD produced exclusively for Academic Decathlon®. The music CD will introduce students to innovative musical works from across the centuries, from the Middle Ages to the modern era and is an essential companion piece to this year's music curriculum. The CD is also available as an MP3 file for electronic download.



**PRACTICE TEST BOOKLET:** The PTB is the most important coaching tool for understanding Academic Decathlon® tests. Written by the official USAD test writers in each subject area. Contains eight tests, sample essay prompts, speech and interview rules and rubrics. The PTB may be reproduced at the school level only. Includes accompanying CD for art questions based on artwork images, music questions based on listening excerpts, and a PowerPoint® Slideshow for Super Quiz™ relay. The PTB is also available as a PDF and the CD as an MP3 file for electronic download.



**RESOURCE GUIDES:** *Resource Guides* will be provided in Art, Economics, Literature, Mathematics, Music, Science, and Social Science. These *Resource Guides* will provide teams with a thorough review and academic treatment of all the topics noted in the subject area outlines for these subjects. All Academic Decathlon® competition test items will be derived from the information and concepts presented in the *Resource Guides*, as well as the selected literature, artworks, and musical works. The *Resource Guides* offer an essential resource that will assist students in their mastery of the topics and aid in their preparation for the competition tests. Available printed, as a PDF for download, or as an eBook.



# Curriculum Package

## THE CURRICULUM PACKAGE:

- 10 Academic Decathlon® Study Guides
- 10 Art, Economics, Literature, Mathematics, Music, Science, and Social Science Resource Guides
- 10 Art Reproductions Booklets
- 10 Music CDs
- 1 Practice Test Booklet (with CD)

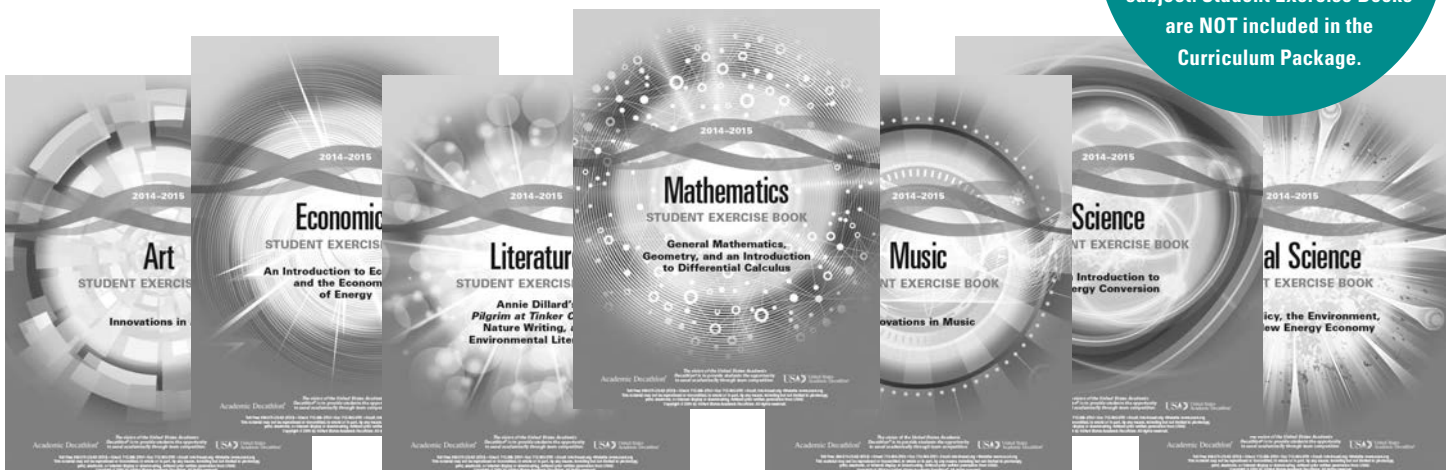
# Student Study Aids

**#OFFICIALREADYSETS:** Brand new this year to the United States Academic Decathlon® are the *#OfficialReadySets*, which include Art, Economics, Literature, Mathematics, Music, Science, and Social Science in one comprehensive package. *#OfficialReadySets* are specifically designed to provide teams with that last look, a final overview of everything they've already studied in the *Resource Guides*. The simple layout allows readers to quickly scan and review the most pertinent information teams need to know. *#OfficialReadySets* are filled with colorful info graphics, charts, and illustrations highlighting and clarifying important concepts previously explained in the *Resource Guides*. Don't forget, *#OfficialReadySets* are to be used in conjunction with the *Resource Guides*. Electronic download only. (Hard copies available upon request. Contact customer service for pricing and timeline.)

**NEW!**  
These are  
the notes  
you need  
to have!

**STUDENT EXERCISE BOOKS:** Available in Art, Economics, Literature, Mathematics, Music, Science, and Social Science, the *Student Exercise Books* provide a student-friendly synthesis of the material presented in the *Resource Guides* and offer students a chance to test and reinforce their knowledge of the curriculum through a variety of exercises and activities. The *Student Exercise Books* will include section overviews as well as short quizzes, true/false questions, fill-in-the-blank items, etc., to assist students in their mastery of the curriculum. Available printed or as a PDF for download.

**NOTE**  
Individual Student Exercise Books for each subject may only be purchased with the order of a complete set of Student Exercise Books for that subject. Student Exercise Books are NOT included in the Curriculum Package.



# Additional Study & Practice Test Materials

## THIS YEAR'S SELECTED LITERATURE:



### **PILGRIM AT TINKER CREEK** BY ANNIE DILLARD

This year's selected literature is *Pilgrim at Tinker Creek* by Annie Dillard. The United States Academic Decathlon® has arranged for a special discount from the publisher. Students will also study selected shorter works of literature that relate to the curricular theme.

**PRACTICE COMBO QUIZZES:** Contains four quizzes with a total of 200 items in each subject area. Quizzes focus on topics in sequential order of the subject outlines. Quizzes include a combination of fill-in-the-blank items, short-question and answer format, multiple-choice items, and matching to help students master the curriculum with a variety of question styles. Also available as a PDF for electronic download.



**ART IMAGES CD:** This CD includes images of the 18 artworks selected for this year's competition and is a useful companion to the *Art Resource Guide*. Coaches can use the *Art Images CD* to stimulate art appreciation, promote the study of art history, or teach aesthetics.

**PRACTICE SPECIALTY TESTS:** Includes two 100-item tests in art, literature, music, science, and social science, focused in depth on a specific portion of the subject outlines. Tests consist of a variety of question styles for students to gain knowledge on focused topics. Also available as a PDF for electronic download.



**SUPER QUIZ™ RELAY POWERPOINT® TESTS:** This CD includes twelve tests that are displayed in a PowerPoint® SlideShow. The *Super Quiz™* relay will include questions (in multiple-choice format) from the following six subject areas: art, economics, literature, music, science, and social science. The CD will help to reinforce student mastery of the United States Academic Decathlon® *Resource Guides*.



**ESSAY EXAM BOOKLET:** Contains 20 essay tests with a total of 60 essay prompts, which focus on the following six subject areas: art, economics, literature, music, science, and social science. The essay rubric used at the National Competition is included in the booklet. Great for essay writing practice. Also available as a PDF for electronic download.



**4,000 SUBJECT AREA FLASH CARDS:** Companion to the *Resource Guides* and *Online Practice Tests*. 600 questions each in art, music, literature, social science, science, and economics; 400 in mathematics. Questions and answers are referenced directly to the *Resource Guides* to reinforce learning and strengthen fast-answer skills. Also available as a PDF for electronic download.



**IMPROMPTU TOPIC BOOKLET:** Contains 200 impromptu speech topics, including a variety of sample approaches that may be encountered in the United States Academic Decathlon® competition. Great for speech practice and impromptu preparation. Also available as a PDF for electronic download.



**NOTEBOOK DIVIDERS (10 SETS):** Crammed with pertinent information, this set of 10 tabbed notebook dividers helps students stay organized. Includes artist and composer bios, lists of key terms and definitions, and other information.



**LITERATURE CHAPTER QUIZZES:** Test your knowledge of *Pilgrim at Tinker Creek*. Chapter quizzes will include a combination of fill-in-the-blank items, short question and answer format, multiple-choice items, and matching to help students to master the 15 chapters in this year's selected text. Also available as a PDF for electronic download.






# Art

## INNOVATIONS IN ART

<b>I. ART FUNDAMENTALS</b> .....	<b>20%</b>
A. Introduction to Art History	
B. Elements of Art	
<b>II. ARTISTIC INNOVATIONS IN THE ANCIENT WORLD</b> .....	<b>15%</b>
A. The Ancient World – Overview	
B. Selected Works of Art	
<b>III. ARTISTIC INNOVATIONS OF THE RENAISSANCE</b> .....	<b>25%</b>
A. The Renaissance – Overview	
B. Selected Works of Art	
<b>IV. EIGHTEENTH- AND NINETEENTH-CENTURY ARTISTIC INNOVATIONS</b> .....	<b>15%</b>
A. The Eighteenth and Nineteenth Centuries – Overview	
B. Selected Works of Art	
<b>V. ARTISTIC INNOVATIONS OF THE TWENTIETH CENTURY</b> .....	<b>25%</b>
A. The Twentieth Century – Overview	
B. Selected Works of Art	



# Economics

## AN INTRODUCTION TO ECONOMICS AND THE ECONOMICS OF ENERGY

<b>I. FUNDAMENTAL ECONOMIC CONCEPTS</b> .....	<b>10%</b>
A. Basic Assumptions of Economics	
B. Models and Economic Theory	
C. Positive and Normative Economics	
D. Efficiency as a Goal	
E. Microeconomics and Macroeconomics	
<b>II. MICROECONOMICS</b> .....	<b>40%</b>
A. Perfectly Competitive Markets	
B. Applications of the Competitive Market Model	
C. Evaluating Government Policy: The Impact of Price Controls and Taxes	
D. International Trade	
E. The Profit Motive and the Behavior of Firms	
F. Imperfect Competition	
G. Creative Destruction: The Profit Motive and the Sources of Economic Change	
H. Market Failures	
I. Institutions, Organizations, and Government	
<b>III. MACROECONOMICS</b> .....	<b>30%</b>
A. Macroeconomic Issues	
B. Macroeconomic Measurement	
C. Economic Growth, Productivity, and Living Standards	
D. Savings, Investment, and the Financial System	
E. Money and Prices in the Long Run	
F. Short-Run Economic Fluctuations	
<b>IV. THE ECONOMICS OF ENERGY</b> .....	<b>20%</b>
A. The Fundamental Global Commodity	
B. Overview of Energy Sectors	
C. Physical Limits, Deregulation, and the Evolution of Energy Markets	
D. Contemporary Issues and the Energy Future	

# 2015 Academic Decathlon® National Finals

## GARDEN GROVE

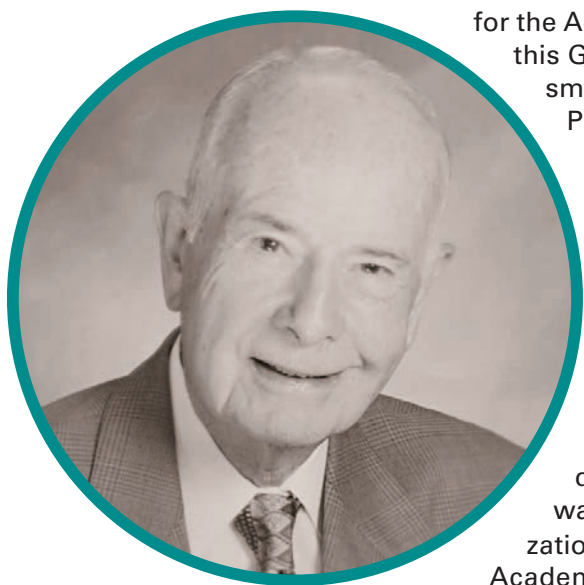
# CALIFORNIA



### Back to the Beginning

“There ought to be more rallies and a decathlon of studies for all students” were notes handwritten in pencil, found in the late Dr. Robert Peterson’s belongings. Peterson was a B17 pilot in World War II who was shot down over Italy and became a POW in Stalag Luft One

for 18 months. History tells us the concept for the Academic Decathlon® was created in this German POW camp. By 1981, Dr. Peterson’s small pocket journals written in pencil in a POW camp would be transformed into an academic decathlon competition.



In the late 1960s, Peterson campaigned for his idea of an academic decathlon. It would include all high school students, regardless of their grade-point averages. The aim was to get the average student to participate and work up to his/her potential.

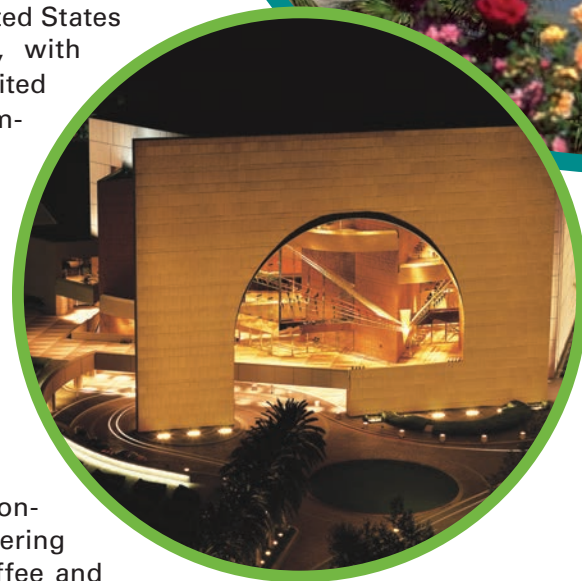
In 1968, the first Orange County academic decathlon was held. In 1981, USAID was established as a formal national organization, and in 1982 the first United States Academic Decathlon® was held, with eighteen states participating. The United

States Academic Decathlon® has since become the premier academic competition in the nation.

### A Slice of Orange County

There are six regions in the United States named Orange County. But this slice is located in the heart of Southern California between Los Angeles and San Diego, and spans 798 square miles and includes 42 miles of scenic coastline and 34 cities, each with its own distinctive personality. The region’s warm sunshine, swaying palm trees, and friendly atmosphere create a relaxed lifestyle where shorts, sandals, and sunglasses are always in season.

Orange County is known for being a premier trendsetter, from internationally syndicated television shows depicting the area, to the area’s pioneering entrepreneurs in the surf apparel, sports, biomedical, aeronautical, coffee and





theme park industries. The area attracts more than 44 million visitors each year! The hub of the county's tourism industry is the city of Anaheim. It's a vibrant metropolitan area with a reputation for fun and exceptional hospitality and is a top business and leisure destination.

## Hyatt Hospitality

Showcased by a magnificent 17-story atrium, the Hyatt Regency Orange County is an architectural triumph with an inviting atmosphere. Marble and granite grace the lobby floor and complement the hotel's contemporary furnishings. Relax at the rooftop pool and spa or the new courtyard pool and spa areas.

The Hyatt Regency Orange County is located four blocks south of the Disneyland Resort and less than one mile from the Anaheim Convention Center. In the heart of Orange County, this hotel is just minutes away from Angel Stadium and the Honda Center, and is conveniently located to both John Wayne/Orange County Airport (15 min.) and Los Angeles Airport (35 min.).

**APRIL  
16–18  
2015**

## It's So California!

From the friendly faces of Mickey Mouse and Snoopy to exciting rollercoasters and world-class attractions, both families and thrill-seekers will find plenty of entertainment in Orange County.

Located in the heart of Anaheim, the Disneyland Resort encompasses Disneyland Park, Disney's California Adventure, Downtown Disney and multiple resort hotels. Celebrating its 60th Anniversary in 2015, Walt Disney's original theme park, Disneyland, inspires fun and adventure in eight themed lands with classic Disney characters, live entertainment, more than 60 rides and attractions, and colorful parades down Main Street U.S.A.

Originally a family-owned berry farm business in the 1920s, Knott's Berry Farm in Buena Park emerged as America's first theme park and grew to one of the nation's most popular destinations for thrill-seekers.

In addition to theme parks, Orange County offers a variety of other attractions and entertainment venues, including two elaborate, themed dinner theatres in Buena Park. And just a short drive from Anaheim/

Orange County, the Aquarium of the Pacific in Long Beach features more than 12,000 marine animals representing three distinct areas of the Pacific Ocean. Also located in Long Beach, the legendary Queen Mary ocean liner offers behind-the-scenes tours in restored areas under wraps since its final voyage in 1967. Universal Studios Hollywood—the world's largest movie studio and theme park—brings the silver screen to life with an inside look at the sets and secrets of legendary films.



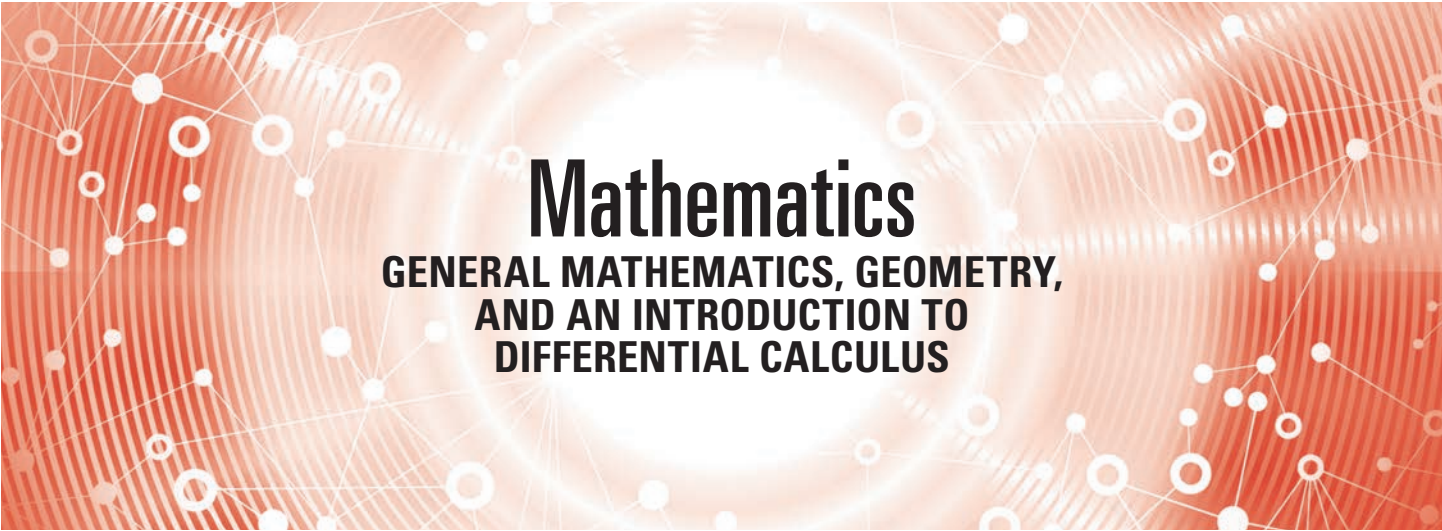
# Happiness is more than a state of mind — it's a destination!

# Literature

## ANNIE DILLARD'S *PILGRIM AT TINKER CREEK*, NATURE WRITING, AND MODERN ENVIRONMENTAL LITERATURE

- I. **CRITICAL READING** ..... 20%
  - A. Purpose and Main Idea
  - B. Structure
  - C. Restatement of Information
  - D. Genres and their Characteristics
  - E. Language and Tone
  - F. Grammar and Syntax
  - G. Vocabulary in Context
  - H. Diction
- II. **ANNIE DILLARD'S *PILGRIM AT TINKER CREEK*,  
NATURE WRITING, AND ENVIRONMENTAL LITERATURE** ..... 40%
  - A. The Natural History Essay and the Romantic Movement
  - B. Ralph Waldo Emerson's *Nature*
  - C. Henry David Thoreau's *Walden*
  - D. Historical Context
  - E. Keywords
  - F. Annie Dillard's *Pilgrim at Tinker Creek* (1974)
- III. **SELECTED POETRY AND SHORT WORKS OF LITERATURE** ..... 40%
  - A. Keywords
  - B. Author Biographies
  - C. "The World Is Too Much With Us," by William Wordsworth
  - D. "Steamboats, Viaducts, and Railways," by William Wordsworth
  - E. "Passage to India," by Walt Whitman
  - F. "A Wind-storm in the Forests," by John Muir
  - G. "There Will Come Soft Rains," by Sara Teasdale
  - H. "The Horses," by Edwin Muir
  - I. "Carmel Point," by Robinson Jeffers
  - J. "Positive Feedback Loop," by Jorie Graham
  - K. "To the Field of Scotch Broom that Will Be Buried by the New Wing of the Mall," by Lucia Perillo

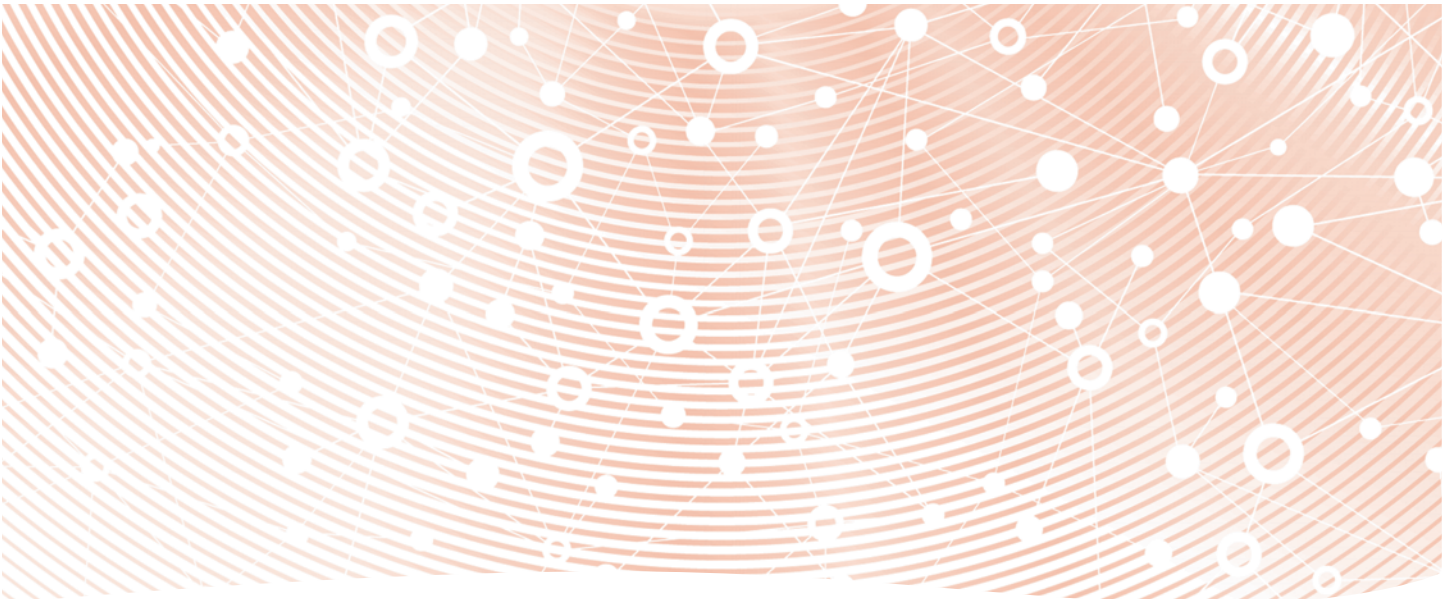




# Mathematics

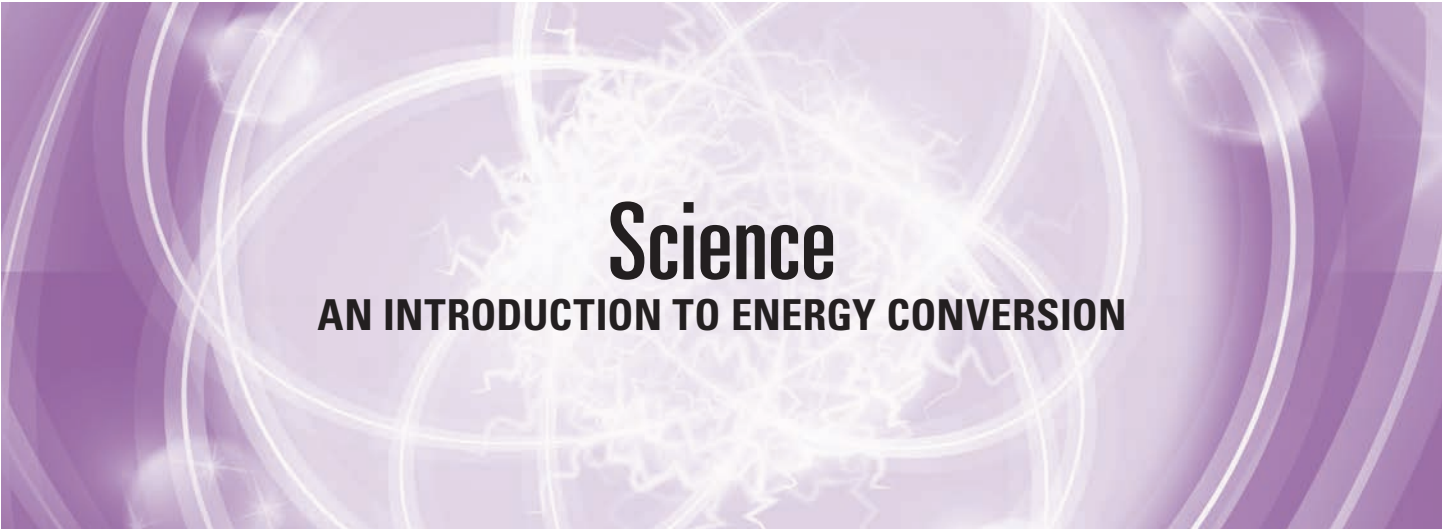
## GENERAL MATHEMATICS, GEOMETRY, AND AN INTRODUCTION TO DIFFERENTIAL CALCULUS

- I. GENERAL MATHEMATICS..... 25%**
  - A. Simple and Compound Interest
  - B. Basic Counting
  - C. Probability of Equally Likely Events and Binomial Distribution
  
- II. GEOMETRY..... 65%**
  - A. Right Triangles
  - B. Coordinate Geometry
  - C. Plane and Solid Figures
  
- III. INTRODUCTION TO DIFFERENTIAL CALCULUS.....10%**
  - A. Average Rate of Change of Basic Polynomial Functions
  - B. Basic Limits and Continuity
  - C. First Derivative of Basic Polynomial Functions and Graphical Interpretation
  - D. Equations of Tangent Lines





- I. BASIC ELEMENTS OF MUSIC THEORY ..... 20%**
  - A. Sound and Music
  - B. Pitch, Rhythm, and Harmony
  - C. Other Aspects of Musical Sound
  - D. Form in Music
  - E. Which Is the Real Music? Scores, Recordings, and Performance
  
- II. MUSIC AND THE MIDDLE AGES .....12%**
  - A. Society: The Medieval World
  - B. Music in the Catholic Church
  - C. Innovations in Medieval Music
  
- III. MUSIC AND THE RENAISSANCE .....12%**
  - A. Society: The Renaissance “Rebirth”
  - B. Innovations in Renaissance Music
  
- IV. MUSIC AND THE BAROQUE .....12%**
  - A. Society: Going for “Baroque”
  - B. Innovations in Baroque Music
  
- V. MUSIC AND THE CLASSICAL ERA .....12%**
  - A. Society: The Classical Era and the Age of Reason
  - B. Innovations in Classical Music
  
- VI. MUSIC AND THE ROMANTIC ERA .....12%**
  - A. Society: The Romantic Era and Transcendence
  - B. Innovations in Romantic Music
  
- VII. MUSIC AND THE MODERN ERA ..... 20%**
  - A. Society: Marvels of the Modern Era
  - B. Innovations in Art Music
  - C. Innovations in Popular Music



# Science

## AN INTRODUCTION TO ENERGY CONVERSION

- I. TRADITIONAL ENERGY GENERATION .....10%**
  - A. Energy and Energy Consumption
  - B. Units of Energy and Power
  - C. Turbines, Pumps, and Compressors
- II. THERMODYNAMICS AND ELECTRODYNAMICS ..... 25%**
  - A. Temperature, Heat, and the First Law of Thermodynamics
  - B. The Kinetic Theory of Gases
  - C. Entropy and the Second Law of Thermodynamics
  - D. Electricity and Magnetism
- III. CHEMISTRY AND BATTERIES ..... 25%**
  - A. Inorganic Chemistry
  - B. Electrochemistry
  - C. Catalysis
- IV. OPTICS AND AN INTRODUCTION TO QUANTUM PHYSICS ..... 20%**
  - A. Geometrical and Physical Optics
  - B. Solid State Physics and the Photoelectric Effect
  - C. Solar Cells
- V. NUCLEAR ENERGY ..... 18%**
  - A. The Structure of Atoms and their Nuclear Properties
  - B. Nuclear Power Generation
- VI. RENEWABLE ENERGY ..... 2%**
  - A. Wind Power
  - B. Solar Energy
  - C. Solar-Powered Transportation
  - D. Biofuels
  - E. Fuel-Cell Cars

# Social Science

## ENERGY POLICY, THE ENVIRONMENT, AND THE NEW ENERGY ECONOMY

- I. THE HISTORICAL ARC OF ENERGY POLICY AND DEVELOPMENT ..... 33%**
  - A. Energy in the Nineteenth and Twentieth Centuries
  - B. The Evolution of U.S. Energy Policy
- II. ENERGY AND THE ENVIRONMENT ..... 33%**
  - A. The Modern Environmental Movement
  - B. The Global Commons and Climate Change
- III. THE NEW ENERGY ECONOMY ..... 34%**
  - A. Trending Toward Renewable Energy
  - B. Public Electric Utilities
  - C. Dethroning King Coal: The Shale Gas Revolution
  - D. Low-Hanging Fruit: The Future of Energy Efficiency
  - E. The Renaissance of Nuclear Power

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# 2014 USAD National Finals Awards

## Awards Distributed at the 2014 United States Academic Decathlon® National Finals

**Robert D. Peterson National Award**

**2014 National Champions**  
DIVISION ONE • DIVISION TWO • DIVISION THREE

**Rookie of the Year**  
DIVISION ONE • DIVISION TWO • DIVISION THREE

**Kristin Caperton Scholarship Award**

**B. Franklin Reinauer  
Economics Scholarship Award**

**Norman Katz Scholarship Award**

**Most Improved Varsity Student Award**

**Most Valuable Team Member Scholarship**

## Awards Distributed at the 2014 United States Academic Decathlon® Online National Finals

**2014 National Champions**

SMALL SCHOOL • MEDIUM SCHOOL • LARGE SCHOOL

### Overall Individual Scholarship Awards

#### HONOR

Division One Gold Honor  
Division One Silver Honor  
Division One Bronze Honor  
Division Two Gold Honor  
Division Two Silver Honor  
Division Two Bronze Honor  
Division Three Gold Honor  
Division Three Silver Honor  
Division Three Bronze Honor

#### SCHOLASTIC

Division One Gold Scholastic  
Division One Silver Scholastic  
Division One Bronze Scholastic  
Division Two Gold Scholastic  
Division Two Silver Scholastic  
Division Two Bronze Scholastic  
Division Three Gold Scholastic  
Division Three Silver Scholastic  
Division Three Bronze Scholastic

#### VARSITY

Division One Gold Varsity  
Division One Silver Varsity  
Division One Bronze Varsity  
Division Two Gold Varsity  
Division Two Silver Varsity  
Division Two Bronze Varsity  
Division Three Gold Varsity  
Division Three Silver Varsity  
Division Three Bronze Varsity

### Highest Scoring Student Scholarship Awards

Highest Scoring Student—Alaska  
Highest Scoring Student—Arizona  
Highest Scoring Student—California  
Highest Scoring Student—Colorado  
Highest Scoring Student—Connecticut  
Highest Scoring Student—Florida  
Highest Scoring Student—Georgia  
Highest Scoring Student—Hawai'i  
Highest Scoring Student—Idaho  
Highest Scoring Student—Illinois  
Highest Scoring Student—Indiana  
Highest Scoring Student—Iowa  
Highest Scoring Student—Kansas  
Highest Scoring Student—Maine  
Highest Scoring Student—Massachusetts  
Highest Scoring Student—Minnesota  
Highest Scoring Student—Mississippi  
Highest Scoring Student—Missouri  
Highest Scoring Student—Nebraska  
Highest Scoring Student—New Jersey  
Highest Scoring Student—New Mexico  
Highest Scoring Student—New York  
Highest Scoring Student—Ohio  
Highest Scoring Student—Oklahoma  
Highest Scoring Student—Pennsylvania  
Highest Scoring Student—Rhode Island  
Highest Scoring Student—South Carolina  
Highest Scoring Student—South Dakota  
Highest Scoring Student—Tennessee  
Highest Scoring Student—Texas  
Highest Scoring Student—Utah  
Highest Scoring Student—Wisconsin  
Highest Scoring Student—Wyoming  
Highest Scoring Student—China  
Highest Scoring Student—London

### Overall Individual Scholarship Awards

#### HONOR

Small School Gold Honor  
Small School Silver Honor  
Small School Bronze Honor  
Medium School Gold Honor  
Medium School Silver Honor  
Medium School Bronze Honor  
Large School Gold Honor  
Large School Silver Honor  
Large School Bronze Honor

#### SCHOLASTIC

Small School Gold Scholastic  
Small School Silver Scholastic  
Small School Bronze Scholastic  
Medium School Gold Scholastic  
Medium School Silver Scholastic  
Medium School Bronze Scholastic  
Large School Gold Scholastic  
Large School Silver Scholastic  
Large School Bronze Scholastic

#### VARSITY

Small School Gold Varsity  
Small School Silver Varsity  
Small School Bronze Varsity  
Medium School Gold Varsity  
Medium School Silver Varsity  
Medium School Bronze Varsity  
Large School Gold Varsity  
Large School Silver Varsity  
Large School Bronze Varsity

### Highest Scoring Student Scholarship Awards

Highest Scoring Student—Arizona  
Highest Scoring Student—California  
Highest Scoring Student—Georgia  
Highest Scoring Student—Idaho  
Highest Scoring Student—Indiana  
Highest Scoring Student—Iowa  
Highest Scoring Student—Kansas  
Highest Scoring Student—Maine  
Highest Scoring Student—Maryland  
Highest Scoring Student—Minnesota  
Highest Scoring Student—Nebraska  
Highest Scoring Student—New Jersey  
Highest Scoring Student—New York  
Highest Scoring Student—Ohio  
Highest Scoring Student—Pennsylvania  
Highest Scoring Student—Tennessee  
Highest Scoring Student—Texas  
Highest Scoring Student—Utah  
Highest Scoring Student—Wisconsin

# 2014 USAD National Finals Winners



**ROBERT D. PETERSON NATIONAL AWARD**  
El Camino Real HS, California



**KRISTIN CAPERTON  
SCHOLARSHIP**  
Beatrice Braeuer  
Scarborough HS, Maine



**B. FRANKLIN REINAUER  
ECONOMICS SCHOLARSHIP AWARD**  
Sandra Vadhin  
El Camino Real HS, California



**FOUNDER'S  
SCHOLARSHIP AWARD**  
Yin Zhao  
Whitney Young HS, Illinois





**OVERALL SCHOLARSHIP WINNERS**



**HIGHEST SCORING STUDENTS**



**FIRST PLACE — DIVISION ONE**  
El Camino Real HS, California



**SECOND PLACE — DIVISION ONE**  
Granada Hills Charter HS, California



**FIRST PLACE — DIVISION TWO**  
Madison Central HS, Mississippi



**SECOND PLACE — DIVISION TWO**  
Wilmot HS, Wisconsin



**FIRST PLACE — DIVISION THREE**  
Oakwood HS, Ohio



**SECOND PLACE — DIVISION THREE**  
Kamehameha Schools Hawai'i, Hawai'i



**THIRD PLACE — DIVISION ONE**  
Rockwall HS, Texas



**ROOKIE OF THE YEAR — DIVISION ONE**  
Boulder Creek HS, Arizona



**ROOKIE OF THE YEAR — DIVISION TWO**  
Wilmot HS, Wisconsin



**THIRD PLACE — DIVISION TWO**  
Scarborough HS, Maine



**ROOKIE OF THE YEAR — DIVISION THREE**  
Vail Christian HS, Colorado



**THIRD PLACE — DIVISION THREE**  
Northwest PA Collegiate Academy, Pennsylvania



**NORMAN KATZ SCHOLARSHIP AWARD**  
Kailin Li, Granada Hills Charter, California



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