The Connecticut State Board of Education policy known as the Common Core of Learning, outlines the skill, knowledge and attitudinal attainments expected of the state's secondary school graduates. This guide identifies the common core elements that can and should be reinforced through the vocational education curriculum. Information on the common core is provided for these subject areas of vocational education: business office education, consumer home economics, occupational home economics, cooperative work education/diversified occupations, health occupations, marketing education, technology education/industrial arts, trade and industrial education, and vocational education in agriculture. Course offerings are examined in each subject area. The common core elements are identified and numbered according to three headings: attributes and attitudes, skills and competencies, and understandings and applications. Each common core element is rated according to how much emphasis it should be given in the curriculum (major, moderate, or minor focus or not a focus). The guide also provides the text of the Common Core of Learning. (KC)
VOCATIONAL EDUCATION
AND
CONNECTICUT’S COMMON CORE OF LEARNING

BUREAU OF VOCATIONAL SERVICES
DIVISION OF
VOCATIONAL, TECHNICAL AND ADULT EDUCATION
STATE DEPARTMENT OF EDUCATION

1988

THIS PROJECT WAS SUPPORTED BY FUNDS MADE AVAILABLE TO THE STATE OF CONNECTICUT UNDER THE CARL D. PERKINS VOCATIONAL EDUCATION ACT (P.L. 98-524)
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FOREWORD

The Connecticut State Board of Education policy known as the Common Core of Learning, outlines the skill, knowledge and attitudinal attainments expected of the State's secondary school graduates. Because vocational education in the comprehensive high schools teaches the basic skills (reading, writing and computing) and the higher order skills (thinking, reasoning and problem solving), integrated with employability attributes and specific occupational skills, it is superbly suited to achieving the objectives of the Common Core.

The goal of vocational education is to help students become productive, self-sufficient and contributing members of society. Vocational education programs in the high schools are not concerned solely with occupationally specific training for entry-level jobs, but also with career ladder opportunities and the potential for further education. Such programs give those students who learn best in a hands-on, practical setting, a unique opportunity to master skills that they might not otherwise acquire in a more conventional classroom. For all students, however, vocational education provides a learning environment in which they may enhance their sense of self-concept and their interpersonal, reasoning, problem-solving and learning skills. These are all essential elements in Connecticut's Common Core of Learning.

In order to implement the Common Core, the Bureau of Vocational Services undertook the task of identifying the Common Core elements which can and should be reinforced through the vocational education curriculum. Subject area committees, composed of key vocational educators from school districts across the state, were charged with the task of integrating the Common Core elements into their respective curricula. Aware that no one subject can, or should be expected to address all a student's needs and that all subjects should be viewed as part of a larger educational experience, the subject area committees identified those elements of the Common Core that can be addressed appropriately through the vocational education curriculum. Together, these teams fashioned a tool which we hope Connecticut's teachers of vocational education will use to reexamine and strengthen their programs so that their students may graduate with the comprehensions, attributes and understandings they will need as citizens in the decades ahead.

We owe a debt of gratitude to the dedicated educators who served on the subject area committees, and to their school district administrators who, appreciating the importance of this undertaking, enabled them to participate.
USING THE INFORMATION

1. Subject areas:

   Business Office Education
   Consumer Home Economics
   Occupational Home Economics
   Cooperative Work Education/Diversified Occupations
   Health Occupations
   Marketing Education
   Technology Education/Industrial Arts
   Trade and Industrial Education
   Vocational Education in Agriculture

2. Courses Offerings

   Each committee examined five course offerings and the corresponding vocational student organization. We believe that it will be possible to extend their findings to additional course offerings in the future.

3. Common Core elements:

   The Common Core elements are identified and numbered under the following headings:

   Attributes and Attitudes
   Skills and Competencies
   Understandings and Applications

   The number assigned to each Common Core element corresponds to the number given in the full-text description on pages 10 to 12.

4. Rating scale:

   Each Common Core element was rated by the committee according to following scale:

   the element should be given major emphasis in the curriculum A
   the element should be given moderate emphasis in the curriculum B
   the element should be given minor emphasis in the curriculum C
   the element cannot be appropriately addressed by the curriculum D

   Note: Students electing fewer courses in a given vocational education sequence are less likely to attain the desired attributes or skills than students enrolled in more intensive programs.
### SKILLS AND COMPETENCIES

<table>
<thead>
<tr>
<th>Course Offerings</th>
<th>Info Pro.</th>
<th>Notetaking</th>
<th>Accounting</th>
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### UNDERSTANDINGS AND APPLICATIONS

**The Arts: Creative and Performing**
1. Expressing Emotions
2. Appreciate the Arts
3. Art Forms and Styles
4. Materials and Tools
5. Language of Each Art Form
6. Aesthetic Qualities

**Careers and Vocations**
1. Positive Attitudes Toward Work
2. Employability Skills
3. Range of Occupations
4. Education and Training
5. Personal Economics
6. Interpersonal Skills
7. Social Studies
8. Pluralistic Society
9. Mutual Dependence

**Literature**
1. Human Experiences
2. Essential Elements
3. Literary Masterpieces
4. Symbolism, Allegory, and Myth
5. Literary Themes
6. Literary Works

**Mathematics**
1. Expressing Quantitative Ideas
2. Problem Solving
3. Consumer and Job-related Tasks
4. Tools for Solving Problems
5. Mathematical and Scientific Concepts
6. Using Numbers

**Science and Technology**
7. Algebraic and Geometric Concepts
8. Statistical Concepts

**Physical Development and Health**
9. Growth and Development
10. Physical Fitness

**Science and Social Sciences**
11. Connecticut, U.S. and World

**Skills and Competencies**

**Reading**
1. Main and Subordinate Ideas
2. Comparisons, Contrasts, Sequences
3. Meaning-Inferential, Literal
4. Predictions, Questions, Conclusion
5. Critical Judgments
6. Varying Reading Speed and Comprehension
7. Features of Reference Materials

**Writing**
1. Sentence Structure
2. Organize and Relate Ideas
3. Sentences and Paragraphs
4. Language Style and Format
5. Concerve Idea
6. Gather Information
7. Restructuring and Rewriting

**Speaking, Listening and Viewing**
1. Oral Exchange of Ideas
2. Ask and Answer Questions
3. Spoken Instructions
4. Distinguish Relevancy from Irrelevant
5. Comprehend Ideas
6. Verbal and Nonverbal Presentations
7. Oral Presentations

**Quantitative Skills**
1. Add, Subtract, Multiply, and Divide
2. Use Measurements
3. Ratios and Proportions
4. Spatial Relationships
5. Estimators and Approximations
6. Probability and Statistics
7. Table, Charts and Graphs

**Reasoning and Problem Solving**
1. Inductive and Deductive
2. Conclusions from Informations
3. Predictions and Hypotheses
4. Concepts and Generalizations
5. Cause and Effect Relationships
6. Formulate Problems
7. Information Pertinent to Problems
8. Solutions to Problems
9. Creative Thinking Skills

**Learning Skills**
1. Goals and Priorities
2. Habits Conducive to Learning
3. Short and Long Term Projects
4. Information Processing

**COMMENTS:**

Information Processing includes both word and data curriculum.

**Social Business** includes Business Training, Business Mathematics, Law and Economics.

Implementation—As the BOE section is reviewed you may find concepts are not included currently in your curriculum. If so, you are urged to weigh the committee's recommendations and expand the concepts you teach accordingly.
Vocational Education and the Common Core of Learning

**CONSUMER HOME ECONOMICS**

See pages for the full text of each element listed in abbreviated form below.

**RATING SCALE**
- A: Element should be given a major focus
- B: Element should be given a moderate focus
- C: Element should be given a minor focus
- D: Element not traditionally a focus

### ATTRIBUTES AND ATTITUDES

<table>
<thead>
<tr>
<th>Positive Self-Concept</th>
<th>Moral and Ethical Values</th>
<th>Interpersonal Relations</th>
<th>Intellectual Curiosity</th>
<th>C</th>
<th>B</th>
<th>A</th>
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<td>1. Worth and Self-esteem</td>
<td>1. Moral and Ethical Conduct</td>
<td>1. Belonging to a Group</td>
<td>1. Questioning Attitude</td>
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<td>2. Personal Effectiveness</td>
<td>2. Values Affect Choices and Conflicts</td>
<td>2. Quality of Life</td>
<td>2. Independence of Thought</td>
<td>A</td>
<td>B</td>
<td>A</td>
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</table>

### SKILLS AND COMPETENCIES

**Reading**
- 1. Main and Subordinate Ideas
- 2. Comparisons, Contrasts, Sequences
- 3. Meaning-Inferential, Literal
- 4. Predictions, Questions, Conclusion
- 5. Critical Judgments
- 6. Varying Reading Speed and Method
- 7. Features of Reference Materials

**Writing**
- 1. Sentence Structure
- 2. Organize and Relate Ideas
- 3. Sentences and Paragraphs
- 4. Language Style and Format
- 5. Conceive Ideas
- 6. Gather Information
- 7. Restating and Reorganizing

**Speaking, Listening and Viewing**
- 1. Oral Exchange of Ideas
- 2. Ask and Answer Questions
- 3. Spoken Instructions
- 4. Distinguish Relevant from Irrelevant
- 5. Comprehend Ideas
- 6. Verbal and Nonverbal Presentation
- 7. Oral Presentations

**Quantitative Skills**
- 1. Add, Subtract, Multiply and Divide
- 2. Use Measurements
- 3. Ratio and Proportions
- 4. Spatial Relationships
- 5. Estimates and Approximations
- 6. Probability and Statistics
- 7. Tables, Charts and Graphs
- 8. Solve Problems

**Reasoning and Problem Solving**
- 1. Inductive and Deductive
- 2. Conclusions from Information
- 3. Prejudices and Hypotheses
- 4. Concepts and Generalizations
- 5. Cause and Effect Relationships
- 6. Formulate Problems
- 7. Information Relevant to Problems
- 8. Solutions to Problems
- 9. Creative Thinking Skills

**Learning Skills**
- 1. Goals and Priority
- 2. Habits Conducive to Learning
- 3. Short and Long Term Projects

### UNDERSTANDINGS AND APPLICATIONS

#### The Arts: Creative and Performing
- 1. Expressing Emotions
- 2. Appreciating the Arts
- 3. Art Forms and Styles
- 4. Materials and Tools
- 5. Language of Each Art Form
- 6. Aesthetic Qualities

#### Career and Vocations
- 1. Positive Attitudes Toward Work
- 2. Employability Skills
- 3. Range of Occupations
- 4. Education and Training
- 5. Personal Economics
- 6. Interpersonal Skills

#### Cultures and Languages
- 1. Common Characteristics
- 2. Differences Among People
- 3. Understanding Other Cultures
- 4. Structure of Language
- 5. Commonalities and Differences
- 6. Foreign Language

#### History and Social Sciences
- 1. American History and Government
- 2. World History
- 3. World Geography
- 4. Social Studies
- 5. Economics
- 6. World Cultures

#### Literature
- 1. Human Experiences
- 2. Essential Elements
- 3. Literary Masterpieces
- 4. Symbolism, Allegory and Myth
- 5. Literary Themes
- 6. Literary Works
- 7. Reading and Literature

#### Mathematics
- 1. Quantifiable Ideas
- 2. Mathematical Logic
- 3. Physical and Social Phenomena
- 4. Symbolism, Allegory and Myth
- 5. Mathematical Concepts
- 6. Mathematics in the World
- 7. Mathematical Applications

#### Physical Development and Health
- 1. Growth and Development
- 2. Physical Fitness
- 3. Scientific Principles
- 4. Social Development
- 5. Elements of Nutrition
- 6. Healthy Environments
- 7. Potential and Limitations

#### Science and Technology
- 1. Basic Principles of the Science
- 2. Natural Resources
- 3. Energy and Power
- 4. Natural Phenomena
- 5. Laboratory Measurements
- 6. Emerging Technologies
- 7. Potential and Limitations

Consumer Home Economics instruction is provided primarily in grades 6-12. Exploratory classes at the middle junior high include instruction in four to five areas such as child development and human relations, consumer skills, clothing care and repair, food and nutrition, and family life. At the high school level, instruction is more skill related in each area. Grade span and scheduling differences may cause the depth of instruction and total attainment of Common Core areas to vary.

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This data spans multiple pages and involves tables, lists, and nested structures, detailing the curriculum and elements of learning across various domains.
Vocational Education and the Common Core of Learning

OCCUPATIONAL HOME ECONOMICS

See pages for the full text of each element listed in abbreviated form below.

**RATING SCALE**
A. Element should be given a major focus
B. Element should be given a moderate focus
C. Element should be given a minor focus
D. Element not traditionally a focus

<table>
<thead>
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**COMMENTS:**
Some of the elements identify a multitude of concepts. The ratings indicate the focus of one or more of the concepts in the elements and are based only upon the components of the elements which are listed. The task force expressed concern that an opportunity be provided for each element to be expanded to reflect additional groups of skills, knowledge, and attitudes.

**NOTE:** Homemaker Home Management program should be taken in combination with the Health Occupations program in order for students to be eligible to receive the certificate required for entry level positions in homemaker home health care agencies.
## Vocational Education and the Common Core of Learning

### COOPERATIVE WORK EDUCATION

See pages for the full text of each element listed in abbreviated form below.

### RATING SCALE
- A: Element should be given a major focus
- B: Element should be given a moderate focus
- C: Element should be given a minor focus
- D: Element not traditionally taught

### ATTRIBUTES AND ATTITUDES

#### Positive Self-Concept
1. Worth and Self-esteem
2. Personal Effectiveness
3. Understanding Strengths and Weaknesses

#### Motivation and Persistence
1. Pride of Accomplishment
2. Desire to Succeed
3. Tasks and Ambitions

#### Responsibility and Self-Reliance
1. Identify Needs and Set Goals
2. Responsibility for Actions
3. Dependability
4. Self-Control

#### Intellectual Curiosity
1. Questioning Attitude
2. Independence of Thought
3. Lifelong Learning
4. Habitual Learning

### SKILLS AND COMPETENCIES

#### Reading
1. Main and Subordinate Ideas
2. Comparisons, Contrast, Sequences
3. Meaning-Inferential, Literal
4. Predictions, Questions, Conclusion
5. Critical Judgments
6. Varying Reading Speed and Method
7. Features of Reference Materials

#### Writing
1. Sentence Structure
2. Organize and Relate Ideas
3. Sentences and Paragraphs
4. Language Style and Form
5. Converse Ideas
6. Gather Information
7. Restructuring and Revising

#### Speaking, Listening and Viewing
1. Oral Exchange of Ideas
2. Ask and Answer Questions
3. Spoken Instructions
4. Distinguish Relevant from Irrelevant
5. Comprehend Ideas
6. Verbal and Nonverbal Presentations
7. Oral Presentations

#### Quantitative Skills
1. Add, Subtract, Multiply and Divide
2. Use Measurements
3. Ratio and Proportions
4. Spatial Relationships
5. Estimates and Approximations
6. Probability and Statistics
7. Tables, Charts and Graphs
8. Solve Problems

#### Reasoning and Problem Solving
1. Inductive and Deductive
2. Conclusions from Information
3. Predictions and Hypotheses
4. Concepts and Generalizations
5. Cause and Effect Relationships
6. Formulate Problems
7. Information Pertinent to Problems
8. Solutions to Problems
9. Creative Thinking Skills

#### Learning Skills
1. Goals and Priorities
2. Habit Conducive to Learning
3. Short and Long Term Projects
4. Use of Information
5. Taking Notes

### UNDERSTANDINGS AND APPLICATIONS

#### The Arts: Creative and Performing
1. Expressing Emotions
2. Appreciate the Arts
3. Art Forms and Styles
4. Materials and Tools
5. Language of Each Art Form
6. Aesthetic Qualities

#### Careers and Vocations
1. Positive Attitudes Toward Work
2. Employability Skills
3. Study, Employment, Occupation
4. Education and Training
5. Personal Economics
6. Interpersonal Skills

#### Cultures and Languages
1. Common Characteristics
2. Differences Among People
3. Understanding Other Cultures
4. Structure of Language
5. Commonalities and Differences
6. Foreign Language

#### History and Social Sciences
1. Connecticut, U.S. and World
2. U.S. History and Government
3. Economics
4. Political and Economic System
5. Disciplines of History
6. World Geography
7. Critical Thinking
8. Pluralistic Society
9. Mutual Dependence

#### Literature
1. Human Experiences
2. Essential Elements
3. Masterpieces
4. Symbolism, Allegory and Myth
5. Literary Themes
6. Story Works
7. Reading as Lifelong Pursuit

#### Mathematics
1. Expressing Quantifiable Ideas
2. Problem Solving
3. Consumer and Job-related Tasks
4. Tools for Solving Problems
5. Physical and Social Phenomena
6. Using Numbers
7. Algebraic and Geometric Concepts
8. Logical Concepts

#### Physical Development and Health
1. Growth and Development
2. Physical Fitness
3. Scientific Principals
4. Social Development
5. Health Environment
6. Elements of Nutrition

#### Science and Technology
1. Basic Principles of the Science
2. Natural Resources
3. Solving Problems
4. Natural Phenomena
5. Laboratory Measuring
6. Emerging Technologies
7. Potential and Limitations

### COMMENTS:
Many of these concepts and activities are part of the on-the-job learning experience, an extension of the classroom. Cooperating employers are responsible for their instruction using state-approved training plans and state CWE DO guidelines.
### Course Offerings

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- 1. Expressing Emotions
- 2. Appropriate the Arts
- 3. Natuural Phenomena
- 4. Materials and Tools
- 5. Language of Each Art Form
- 6. Aesthetic Qualities

#### Careers and Vocations
- 1. Positive Attitudes Toward Work
- 2. Employability Skills
- 3. Range of Occupations
- 4. Education and Training
- 5. Personal Economics
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- 1. Common Characteristics
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- 2. Physical Fitness
- 3. Scientific Principles
- 4. Social Development
- 5. Elements of Nutrition
- 6. Healthy Environment

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- 1. Basic Principles of the Science
- 2. Natural Resources
- 3. Solving Problems
- 4. Natural Phenomena
- 5. Laboratory Measuring
- 6. Emerging Technologies
- 7. Potential and Limitations
- 8. Basic Scientific Process
- 9. Scientific Methodology

### Vocational Education and the Common Core of Learning

**HEALTH OCCUPATIONAL EDUCATION**

See pages for the full text of each element listed in abbreviated form below.
## Vocational Education and the Common Core of Learning

### MARKETING EDUCATION

**SKILLS AND COMPETENCIES**

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- Art Forms and Style
- Materials and Tools
- Language of Each Art Form
- Aesthetic Qualities

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- Disciplines of History
- World Geography

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- Human Experiences
- Essential Elements
- Literary Masterpieces
- Symbolism, Allegory and Myth
- Literary Themes
- Reading as Lifelong Pursuit

#### Mathematics
- Expressing Quantifiable Ideas
- Problem Solving
- Consumer and Job-related Tasks
- Tools for Solving Problems
- Physical and Social Phenomena
- Using Numbers
- Algebraic and Geometric Concepts
- Statistical Concepts

#### Physical Development and Health
- Growth and Development
- Physical Fitness
- Basic Principles of the Science
- Social Development
- Elements of Nutrition
- Health Environment

#### Science and Technology
- Basic Principles of the Science
- Natural Resources
- Solving Problems
- Natural Phenomena
- Laboratory Measurement
- Emerging Technologies
- Potential and Limitations

---

### RATING SCALE

- **A** Element should be given a major focus
- **B** Element should be given a moderate focus
- **C** Element should be given a minor focus
- **D** Element should not traditionally be a focus
Vocational Education and the Common Core of Learning

TRADE AND INDUSTRIAL EDUCATION

See pages for the full text of each element listed in abbreviated form below.

RATING SCALE
A Element should be given a major focus
B Element should be given a moderate focus
C Element should be given a minor focus
D Element not traditionally a focus

ATTRIBUTES AND ATTITUDES

Positive Self-Concept
1. Worth and Self-esteem
2. Personal Effectiveness
3. Understanding Strengths and Weaknesses

Moral and Ethical Values
1. Moral and Ethical Conduct
2. Values Affect Choices and Conflicts
3. Moral Judgments and Ethical Decisions

Intellectual Curiosity
1. Questioning Attitude
2. Independence of Thought
3. Lifelong Learning

Interpersonal Relations
1. Belonging to a Group
2. Quality of Life
3. Values, Standards and Traditions
4. Historical and Ethnic Heritage

Interpersonal Values
1. Positive Attitudes Toward Work
2. Employability Skills
3. Understanding Other Cultures
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6. Foreign Language

History and Social Sciences
1. Connecticut, U.S. and World
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9. Mutual Dependence

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1. Human Experiences
2. Essential Elements
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6. Literary Works
7. Reading as Lifelong Pursuit

Mathematics
1. Expressing Quantifiable Ideas
2. Problem Solving
3. Consumer and Job-related Tasks
4. Tools for Solving Problems
5. Physical and Social Phenomena
6. Using Numbers
7. Algebraic and Geometric Concepts
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Physical Development and Health
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2. Physical Fitness
3. Scientific Principles
4. Social Development
5. Elements of Nutrition
6. Healthy Environment

Science and Technology
1. Basic Principles of the Science
2. Natural Resources
3. Solving Problems
4. Natural Phenomena
5. Laboratory Measuring
6. Emerging Technologies
7. Potential and Limitations

SKILLS AND COMPETENCIES

Reading
1. Main and Subordinate Ideas
2. Comparisons, Contrasts, Sequences
3. Meaning-Inferential, Literature
4. Predictions. Questions, Conclusion
5. Critical Judgments
6. Varying Reading Speed and Method
7. Features of Reference Materials

Writing
1. Sentence Structure
2. Organize and Related Ideas
3. Sentences and Paragraphs
4. Language Style and Format
5. Conative Ideas
6. Gather Information
7. Restructuring and Rewriting

Speaking, Listening and Viewing
1. Oral Exchange of Ideas
2. Ask and Answer Questions
3. Spoken Instruction
4. Distinguish Relevant from Irrelevant
5. Comprehend Ideas
6. Verbal and Nonverbal Presentations
7. Oral Presentations

Mathematics
1. Expressed Quantifiable Ideas
2. Problem Solving
3. Consumer and Job-related Tasks
4. Tools for Solving Problems
5. Physical and Social Phenomena
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Physical Development and Health
1. Growth and Development
2. Physical Fitness
3. Scientific Principles
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Science and Technology
1. Basic Principles of the Science
2. Natural Resources
3. Solving Problems
4. Natural Phenomena
5. Laboratory Measuring
6. Emerging Technologies
7. Potential and Limitations

Understanding and Applications

COURSE OFFERINGS

Vocational Education and the Common Core of Learning

TRADE AND INDUSTRIAL EDUCATION
Vocational Education and the Common Core of Learning

**VOCATIONAL EDUCATION IN AGRICULTURE**

See pages for the full text of each element listed in abbreviated form below.

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| **Reading** | A | A | A | A | A | A | A | A |
| **Writing** | A | A | A | A | A | A | A | A |
| **Quantitative Skills** | A | A | A | A | A | A | A | A |
| **Reasoning and Problem Solving** | A | A | A | A | A | A | A | A |
| **Learning Skills** | A | A | A | A | A | A | A | A |

| **UNDERSTANDINGS AND APPLICATIONS** | The Arts: Creative and Performing | | | | | | |
| **CAREERS AND VOCATIONS** | | | | | | | |
| **HISTORY AND SOCIAL SCIENCES** | | | | | | | |
| **CULTURES AND LANGUAGES** | | | | | | | |
| **ARTS CREATIVE AND PERFORMING** | | | | | | | |
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| **SCIENCE AND TECHNOLOGY** | | | | | | | |

| **ATTRIBUTES AND ATTITUDES** | Positive Self-Concept | | | | | | |
| **SKILLS AND COMPETENCIES** | | | | | | | |

- **Interpersonal Relations**
  - 1. Pride of Accomplishment
  - 2. Desire to Succeed
  - 3. Teamwork and Cooperation

- **Intellectual Curiosity**
  - 1. Questioning Attitude
  - 2. Independence of Thought
  - 3. Lifelong Learning

- **Moral and Ethical Values**
  - 1. Moral and Ethical Conduct
  - 2. Values Affect Choices and Conflicts
  - 3. Moral Judgments and Ethical Decisions

| **RATING SCALE** | See pages |

1. Identify Needs and Set Goals
2. Responsibility for Actions
3. Dependability
4. Self-Control
5. Comprehend Ideas
6. Verbal and Nonverbal Presentations
7. Oral Presentations
8. Solutions to Problems
9. Creative Thinking Skills
10. Inductive and Deductive Reasoning
THE COMMON CORE

ATTRIBUTES AND ATTITUDES
A positive self-image and self-esteem are crucial to learning. These attributes determine goals, behaviors and responses to others. Furthermore, people depend on and influence one another. Therefore, it is important that students take responsibility for their lives and set appropriate goals for themselves. In doing so, they develop lifelong attitudes.

The family and societal forces other than schools play major roles in fostering student growth, and schools can provide a supportive climate for that growth. While it is inappropriate for schools to accept the sole or even primary responsibility for developing these attributes and attitudes, it is also inappropriate to deny the critical importance of these factors as preconditions to learning, as consequences of the teaching of all disciplines, and as desired outcomes for all students.

Positive Self-Concep
As part of education in grades K-12, each student should be able to:
1. appreciate his, her worth as a unique and capable individual and exhibit self-esteem,
2. develop a sense of personal effectiveness and a belief in his, her ability to shape his, her future;
3. develop an understanding of his/her strengths and weaknesses and the ability to maximize strengths and rectify or compensate for weaknesses.

Motivation and Persistence
As part of education in grades K-12, each student should be able to:
1. experience the pride of accomplishment that results from hard work and persistence;
2. act through a desire to succeed rather than a fear of failure, while recognizing that failure is a part of everyone's experience;
3. strive toward and take the risks necessary for accomplishing tasks and fulfilling personal ambitions.

Responsibility and Self-Reliance
As part of education in grades K-12, each student should be able to:
1. assume the primary responsibility for identifying his, her needs and setting reasonable goals;
2. initiate actions and assume responsibility for the consequences of those actions;
3. demonstrate dependability;
4. demonstrate self-control.

Intellectual Curiosity
As part of education in grades K-12, each student should be able to:
1. demonstrate a questioning attitude, open-mindedness and curiosity;
2. demonstrate independence of thought necessary for leadership and creativity;
3. pursue lifelong learning.

Interpersonal Relations
As part of education in grades K-12, each student should be able to:
1. develop productive and satisfying relationships with others based upon mutual respect;
2. develop a sensitivity to and an understanding of the needs, opinions, concerns and customs of others;
3. participate actively in reaching group decisions;
4. appreciate the roles and responsibilities of parents, children and families.

Sense of Community
As part of education in grades K-12, each student should be able to:
1. develop a sense of belonging to a group larger than friends, family and coworkers;
2. develop an understanding of the importance of each individual to the improvement of the quality of life for all in the community;
3. examine and assess the values, standards and traditions of the community;
4. understand and appreciate his, her own historical and ethnic heritage as well as that of others represented within the larger community.

Moral and Ethical Values
As part of education in grades K-12, each student should be able to:
1. recognize the necessity for moral and ethical conduct in a society;
2. recognize that values affect choices and conflicts;
3. develop personal criteria for making informed moral judgments and ethical decisions.

SKILLS AND COMPETENCIES
All educated citizens must possess a core of basic or enabling skills and competencies that provide the critical intellectual foundations for broader acquisition of knowledge. These enabling skills, applied in diverse ways, form the heart of an academic experience as each contributes to the development of understanding within and among disciplines.

Reading
As a result of education in grades K-12, each student should be able to:
1. identify and comprehend the main and subordinate ideas, details and facts in written work and summarize the ideas in his, her own words;
2. identify, comprehend and infer comparisons, contrasts, sequences and conclusions in written work;
3. recognize different purposes and methods of writing, identify a writer's point of view and tone, and interpret a writer's meaning inferentially as well as literally;
4. set purposes, ask questions and make predictions prior to and during reading and draw conclusions from reading;
5. make critical judgments about written work including separating fact from opinion, recognizing propaganda, stereotypes and statements of bias, recognizing inconsistency and judging the validity of evidence and sufficiency of support;
6. vary his, her reading speed and method based on the type of material and the purpose for reading;
7. use the features of books and other reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix and bibliography.

Writing
As a result of education in grades K-12, each student should be able to:
1. write standard English sentences with correct sentence structure, verb forms, punctuation, capitalization, possessives, plural forms, word choice and spelling;
2. select, organize and relate ideas and develop them in coherent paragraphs;
3. organize sentences and paragraphs into a variety of forms and produce writing of an appropriate length using a variety of composition types;
4. use varying language, information, style and format appropriate to the purpose and the selected audience;
As a result of education in grades K-12, each student should be able to:

**Quantitative Skills**

1. add, subtract, multiply and divide using whole numbers, decimals, fractions and integers;
2. make and use measurements in both traditional and metric units to measure lengths, areas, volumes, weights, temperatures and times;
3. use ratios, proportions and percents, powers and roots;
4. understand spatial relationships and the basic concepts of geometry;
5. make estimates and approximations, and judge the reasonableness of results;
6. understand the basic concepts of probability and statistics;
7. organize data into tables, charts and graphs, and read and interpret data presented in these forms;
8. formulate and solve problems in mathematical terms.

**Reasoning and Problem Solving**

1. recognize and use inductive and deductive reasoning, recognize fallacies and examine arguments from various points of view;
2. draw reasonable conclusions from information found in various sources, and defend his/her conclusions rationally;
3. formulate and test predictions and hypotheses based on appropriate data;
4. comprehend, develop and use concepts and generalizations;
5. identify cause and effect relationships;
6. identify and formulate problems;
7. gather, analyze, synthesize and evaluate information pertinent to the problem;
8. develop alternative solutions to problems, weigh relative risks and benefits, make logical decisions and verify results;
9. use critical and creative thinking skills to respond to unanticipated situations and recurring problems.

**Learning Skills**

1. set learning goals and priorities consistent with stated objectives and progress made, and allocate the time necessary to achieve them;
2. determine what is needed to accomplish a task and establish habits conducive to learning independently or with others;
3. follow a schedule that accounts for both short and long term project accomplishment;
4. locate and use a variety of sources of information including print and nonprint materials, computers and other technologies, interviews and direct observations;
5. read or listen to specific information and take effective and efficient notes.

**UNDERSTANDINGS AND APPLICATIONS**

Skills and competencies cannot be ends in themselves. Unless students have the knowledge and experiences needed to apply those learnings and develop a fuller understanding of life, their education will be incomplete. Schools must therefore accept responsibility for leading students through a body of knowledge and its application. This is what comprises the major content of the curriculum.

These understandings and applications have been grouped here under the usual disciplines, but it is important to recognize the inter-relationship among the disciplines and to promote students' ability to transfer knowledge and applications across subject areas.

**The Arts: Creative and Performing**

As a result of education in grades K-12, each student should be able to:

1. express his/her own concepts, ideas and emotions through one or more of the arts (art, music, drama and dance);
2. appreciate the importance of the arts in expressing and illuminating human experiences;
3. understand that personal beliefs and societal values influence art forms and styles;
4. identify the materials, processes and tools used in the production, exhibition and public performance of works of art, music, drama and dance;
5. use and understand language appropriate to each art form when discussing, critiquing and interpreting works in the visual and performing arts;
6. identify significant works and recognize the aesthetic qualities of art, music, drama and dance from different historical periods and cultures.

**Careers and Vocations**

As a result of education in grades K-12, each student should be able to:

1. demonstrate positive attitudes toward work, including acceptance of the necessity of making a living and an appreciation of the social value and dignity of work;
2. demonstrate attitudes and habits (such as pride in good workmanship, dependability and regular attendance) and the employability skills and specialized knowledge that will make the individual a productive participant in economic life and a contributor to society;
3. consider the range of occupations that will be personally satisfying and suitable to his/her skills, interests and aptitudes;
4. identify, continue or pursue the education and training necessary for his/her chosen career/vocation;
5. understand personal economies and its relationship to skills required for employment, promotion and financial independence;
6. exhibit the interpersonal skills necessary for success in the workplace (such as working harmoniously as part of a team, and giving and taking direction).
As a result of education in grades K-12, each student should be able to:

1. recognize characteristics common to all people, such as physical attributes, emotional responses, attitudes, abilities and aspirations;
2. respect differences among people and recognize the pluralistic nature of United States society;
3. demonstrate an understanding of other cultures and their roles in international affairs;
4. analyze the structure of spoken and written language;
5. recognize the commonalities and differences that exist in the structure of languages;
6. understand and communicate in at least one language in addition to English.

History and Social Sciences

As a result of education in grades K-12, each student should be able to:

1. recognize and analyze events, personalities, trends and beliefs that have shaped the history and culture of Connecticut, the United States and the world;
2. demonstrate a knowledge of United States history and government and understand the duties, responsibilities and rights of United States citizenship;
3. understand the basic concepts of economics;
4. analyze and compare the political and economic beliefs and systems of the United States with those of other nations;
5. apply major concepts drawn from the disciplines of history and the social sciences—anthropology, economics, geography, law and government, philosophy, political science, psychology and sociology—to hypothetical and real situations;
6. demonstrate basic knowledge of world geography;
7. apply critical thinking skills and knowledge from history and the social sciences to the decision-making process and the analysis of controversial issues in order to understand the present and anticipate the future;
8. understand the roles played by various racial, ethnic and religious groups in developing the nation’s pluralistic society;
9. appreciate the mutual dependence of all people in the world and understand that our lives are part of a global community joined by economic, social, cultural and civic concerns.

Literature

As a result of education in grades K-12, each student should be able to:

1. understand that literature reflects and illuminates human experiences, motives, conflicts and values;
2. understand the essential elements of poetry, drama, fiction and nonfiction;
3. understand and appreciate selected literary masterpieces, both past and present, that manifest different value systems and philosophies;
4. recognize symbolism, allegory and myth;
5. identify literary themes and their implications;
6. evaluate selected literary works and support each evaluation;
7. enjoy reading as a lifelong pursuit.

Mathematics

As a result of education in grades K-12, each student should be able to:

1. understand that mathematics is a means of expressing quantifiable ideas;
2. apply mathematical knowledge and skills to solve a broad array of quantitative, spatial and analytical problems;
3. use mathematical skills and techniques to complete consumer and job-related tasks;
4. select and use appropriate approaches and tools for solving problems, including mental computation, trial and error, paper and pencil, calculator and computer;
5. use mathematical operations in describing and analyzing physical and social phenomena;
6. demonstrate a quantitative sense by using numbers for counting, measuring, comparing, ordering, scaling, locating and coding;
7. apply basic algebraic and geometric concepts to representing, analyzing and solving problems;
8. use basic statistical concepts to draw conclusions from data.

Physical Development and Health

As a result of education in grades K-12, each student should be able to:

1. understand human growth and development, the functions of the body, human sexuality and the lifelong value of physical fitness;
2. plan and implement a physical fitness program with a variety of conditioning exercises and/or leisure activities;
3. understand the basic scientific principles which apply to human movement and physical activities;
4. understand the role physical activities play in psychological and social development;
5. understand and apply the basic elements of proper nutrition, avoidance of substance abuse, prevention and treatment of illness, and management of emotional stress;
6. recognize the need for a safe and healthy environment, practice proper safety skills, and demonstrate a variety of basic life saving skills.

Science and Technology

As a result of education in grades K-12, each student should be able to:

1. understand and apply the basic principles, concepts and language of biology, chemistry, physics, earth and space science;
2. understand the implications of limited natural resources, the study of ecology and the need for conservation;
3. identify and design techniques for recognizing and solving problems in science, including the development of hypotheses and the design of experiments to test them—the gathering of data, presenting them in appropriate formats, and drawing inferences based upon the results;
4. use observation and analysis of similarities and differences in the study of natural phenomena;
5. demonstrate the ability to work with laboratory measuring, manipulating and sensing devices;
6. understand the implications of existing and emerging technologies on our society and our quality of life, including personal, academic and work environments;
7. recognize the potential and the limitations of science and technology in solving societal problems.
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