

Family and Consumer Sciences

Middle Level

The Iowa model for middle level family and consumer sciences includes national standards, national benchmarks, model Iowa competencies (indicators), and academic proficiencies for each identified standard. (Revalidated National Standards 2009)

Career, Community and Family Connections

Standard 1: Integrate multiple life roles and responsibilities in family, work, and community settings.

Benchmarks:

1. Analyze the impact of individual and family participation in community activities.
2. Analyze strategies to manage multiple individual, family, career, and community roles and responsibilities.

Model Iowa Competencies (Indicators):

1. Identify time management skills in relation to family, school and community.
2. Demonstrate communication and leadership skills.
3. Explore a variety of careers.
4. Develop an awareness of other cultures.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Adapts listening strategies to utilize verbal and nonverbal content of communication
- Demonstrates competence in making oral formal and informal presentations, including selecting and using media
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation

Mathematics

- Adds, subtracts, divides, and multiplies whole and mixed numbers, fractions, and decimals
- Mentally adds, subtracts, divides and multiplies whole numbers

Consumer and Family Resources

Standard 2: Evaluate management practices related to the human, economic, and environmental resources.

Benchmarks:

1. Understands the importance of money and time management.
2. Understands how to budget personal income.
3. Knows shopping techniques used to make consumer decisions (e.g., comparing the quality, features, and costs of similar products).
4. Knows methods used to conserve, preserve, and recycle resources.
5. Understands the relationship between advertising, product, and price.

Model Iowa Competencies (Indicators):

1. Identify the difference between consumer wants and needs.
2. Develop an awareness of the steps needed in achieving personal goals.
3. Formulate a personal plan for managing resources needed in achieving goals.
4. Examine environmental trends and issues affecting families and future generations.
5. Determine the decision-making process used to effectively use the resources of time, energy, and money.
6. Demonstrate methods used to conserve, reuse, and recycle resources.
7. Use the decision-making process to evaluate media/marketing advertising techniques.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation
- Demonstrates competence in making oral formal and informal presentations, including selecting and using media
- Adapts listening strategies to utilize verbal and nonverbal content of communication

Mathematics

- Interprets charts, tables, and graphs
- Adds, subtracts, divides, and multiplies, mixed numbers, fractions, and decimals
- Uses a calculator to add, subtract, divide, and multiply whole and mixed numbers, decimals, calculate square root, percentages and ratios
- Mentally adds, subtracts, divides and multiplies whole numbers

Consumer Services

Standard 3: Integrate knowledge, skills, and practices required for careers in consumer service.

Benchmarks:

1. Analyze career paths within consumer service industries.
2. Analyze factors that impact consumer advocacy.

Model Iowa Competencies (Indicators):

1. Identify the rights and responsibilities of consumers.
2. Demonstrate effective consumer communication skills.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Adapts listening strategies to utilize verbal and nonverbal content of communication
- Demonstrates competence in making oral formal and informal presentations, including selecting and using media
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation

Mathematics

- Interprets charts, tables, and graphs
- Solves problems and generates conclusions using deductive reasoning
- Mentally, manually, and by calculator, adds, subtracts, divides, multiplies whole and mixed numbers, fractions, decimals, calculates square root, percentages, and formulas
- Understands and applies basic and advanced methods of measurement
- Understands sampling theory, probability theory, and error of measure
- Calculates and evaluates algebraic expressions; and solves problems and generates conclusions using deductive reasoning
- Calculates and evaluates basic statistical routines
- Constructs charts, tables, and graphs

Science

- Applies and uses maps, charts, tables and graphs to complete tasks
- Applies and uses scientific methods to solve problems
- Identifies operational definitions
- Uses computers for information processing

Early Childhood, Education and Services

Standard 4: Integrate knowledge, skills, and practices required for careers in early childhood education and services.

Benchmarks:

1. Demonstrate professional practices and standards related to working with children.
2. Demonstrate a safe and healthy learning environment for children.
3. Understands the concepts and principles related to the physical, emotional, social, and cognitive development of children.
4. Understands the causes, prevention, and treatment of child abuse and neglect.

Model Iowa Competencies (Indicators):

1. Explore childcare skills.
2. Select and use child guidance techniques.
3. Describe the stages of human growth and development.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation

Mathematics

- Adds, subtracts, divides, and multiplies whole and mixed numbers, fractions, and decimals

Science

- Applies and uses maps, charts, tables, and graphs to complete tasks
- Applies and uses scientific methods to solve problems
- Describes and explains organisms development and adaptation
- Uses computers for information processing
- Identifies operational definitions
- Knows the environmental impact of materials (solid, liquid, gaseous)
- Understands the effect of chemicals on humans and plants

Facilities Management and Maintenance

Standard 5: Integrate knowledge, skills, and practices required for careers in facilities management and maintenance.

Benchmarks:

1. Explore career paths within the facilities management and maintenance areas.
2. Demonstrate planning, organizing, and maintaining an efficient housekeeping operation.

Model Iowa Competencies (Indicators):

1. Demonstrate the use of equipment, supplies, and facilities following standard procedures.
2. Identify the importance of taking personal responsibility for maintaining a safe and clean environment.
3. Demonstrate problem-solving techniques used when maintaining a safe and secure environment.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Adapts listening strategies to utilize verbal and nonverbal content of communication
- Demonstrates competence in making oral formal and informal presentations, including selecting and using media

Mathematics

- Interprets charts, tables, and graphs
- Adds, subtracts, divides, multiplies whole and mixed numbers, fractions, and decimals
- Uses a calculator to add, subtract, divide, multiply whole and mixed numbers, decimals, calculate square root, percentages, and ratios
- Mentally adds, subtracts, divides, and multiplies whole numbers
- Understands and applies basic and advanced methods of measurement
- Precisely calculates areas, circumferences, perimeters, volume, and surface areas of geometric figures
- Solves problems and generates conclusions using deductive reasoning
- Understands geometric figures using visual perception and line and angle relationships
- Distinguishes characteristics of angles, circles, and arcs
- Measures angles
- Constructs lines, both parallel and perpendicular

Science

- Uses computers for information processing
- Knows the environment impact of materials (solid, liquid, gaseous)

- Identifies acids and bases
- Describes and explains chemical reactions related to contamination

Family

Standard 6: Evaluate the significance of family and its effects on the well being of individuals and society.

Benchmarks:

1. Understands the functions of the family (e.g., providing for the economic, emotional and physical needs of its members).
2. Knows the rights, responsibilities, and expectations of different members of the family.
3. Knows the different types of families (e.g., nuclear, blended, extended, single parent, foster, adoptive).
4. Knows experiences that characterize and contribute to family unity (e.g., traditions, leisure activities, goal setting).
5. Understands the influence of cultural differences on the division of family roles and responsibilities.

Model Iowa Competencies (Indicators):

1. Examine the evolving roles of families across the life span.
2. Demonstrate respect for cultural diversity and the impact on individuals and families.
3. Explore the ways family and consumer sciences careers assist the works of the family.
4. Examine family as the basic unit of society.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation

Family and Community Services

Standard 7: Synthesize knowledge, skills, and practices required for careers in family and community services.

Benchmarks:

1. Explore career opportunities in family and community services.
2. Analyze factors related to providing family and community services.

Model Iowa Competencies (Indicators):

1. Develop ideas for family, career and community projects.
2. Identify various volunteer opportunities.
3. Identify characteristics of a responsible citizen.
4. Identify resources available to families and community members.
5. Understand human, cultural, and socio-economic diversity among individuals, families and communities.
6. Demonstrate problem-solving techniques relating to families and community services.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Demonstrates competence in writing, editing, and proofing reports, summaries, and documentation using correct English spelling, grammar, and punctuation
- Adapts listening strategies to utilize verbal and nonverbal content of the communication

Mathematics

- Interprets charts, tables, and graphs

Science

- Analyzes drugs impact on society
- Uses computers for information processing
- Applies and uses maps, charts, tables, and graphs to complete tasks

Food Production and Services

Standard 8: Integrate knowledge, skills, and practices required for careers in food production and services.

Benchmarks:

1. Explore career paths within the food production and food services industries.
2. Demonstrate planning menu items based on standardized recipes to meet customer needs.
3. Demonstrate food safety and sanitation procedures.

Model Iowa Competencies (Indicators):

1. Demonstrate food preparation skills and techniques.
2. Plan, prepare, serve, and evaluate a nutritious meal.
3. Conduct consumer comparisons of food products.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation
- Follows written and oral directions to complete tasks
- Informally discusses, requests, and supplies information to associates
- Adapts listening strategies to utilize verbal and nonverbal content of communication

Mathematics

- Interprets charts, tables, and graphs
- Adds, subtracts, divides, multiplies whole and mixed numbers, fractions, and decimals
- Uses a calculator to add, subtract, divide, multiply whole and mixed numbers, decimals, calculate square root, percentages, and ratios
- Mentally adds, subtracts, divides, and multiplies whole numbers
- Measures time, temperature, volume, and weight
- Converts word problems to mathematical expressions
- Uses inductive and deductive reasoning to solve problems
- Distinguishes proportions and congruence
- Identifies the application of statistical processes
- Uses a calculator or computer to manipulate formulas
- Understands and applies basic and advanced methods of measurement
- Calculates and evaluates algebraic expressions; and solves problems and generates conclusions using deductive reasoning

Science

- Knows effect of chemicals on humans and plants
- Analyzes and evaluates environmental issues related to waste management
- Applies and uses laboratory techniques safely
- Applies and uses maps, charts, tables and graphs to complete tasks
- Applies and uses scientific methods to solve problems
- Converts measurement units from metric to English and metric
- Describes and explains heat conduction/convection, insulation requirements, radiant heating, temperature, and converts Fahrenheit to centigrade and vice versa
- Measures time to complete a task
- Measures weight, temperature, time and the volumes of liquids and solids
- Uses computers for information processing
- Describes and explains chemical reactions including inhibitors
- Describes and explains the energy conversion process

- Describes and explains pulleys and levers as work saving devices
- Knows the environmental impact of materials (solid, liquid, gaseous)
- Understands the effect of chemicals on humans and plants
- Understands the interaction of organisms with their environment
- Describes the immune system, the digestive system, selected diseases, and causes of weight gain and loss

Food Sciences, Dietetics, and Nutrition

Standard 9: Integrate knowledge, skills, and practices required for careers in food science, dietetics, and nutrition.

Benchmarks:

1. Analyze career paths within food science, dietetics, and nutrition industries.
2. Evaluate nutrition principles, food plans, preparation techniques, and specialized dietary plans.
3. Explore the use of current technology in food product development and marketing.

Model Iowa Competencies (Indicators):

1. Analyze nutritional needs across the life span.
2. Analyze food products and labeling for nutrition information.
3. Critique sample menus for nutritional value.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation
- Demonstrates competence in speaking to provide, distribute, or find information
- Demonstrates competence in making oral formal and informal presentations, including selecting and using media
- Adapts listening strategies to utilize verbal and nonverbal content of communication
- Informally discusses, requests, and supplies information to associates

Mathematics

- Interprets charts, tables, and graphs
- Uses inductive and deductive reasoning to solve problems
- Distinguishes proportions and congruence
- Identifies the application of statistical processes
- Measures time, temperature, volume, and weight

- Mentally, manually, and by calculator, adds, subtracts, divides, multiplies whole and mixed numbers, fractions, decimals; calculates square root, percentages, and formulas
- Understands and applies basic and advanced methods of measurement
- Calculates and evaluates basic statistical routines
- Distinguishes proportions and congruence
- Estimates and rounds to determine estimated outcomes
- Formulates and verifies mathematical questions, determines the validity arguments, and establishes conclusions
- Identifies missing or irrelevant information when solving mathematical problems
- Interprets common symbols such as $<$, $>$, and $=$
- Understands sampling theory, probability theory, and error of measure
- Calculates and evaluates algebraic expressions; and solves problems and generates conclusions using deductive reasoning

Science

- Understands the effect of chemicals on humans and plants
- Analyzes and evaluates environmental issues related to waste management
- Applies and uses laboratory techniques safely
- Applies and uses maps, charts, tables and graphs to complete tasks
- Applies and uses scientific methods to solve problems
- Converts measurement units from metric
- Describes and explains heat conduction/convection, insulation requirements, radiant heating, and temperature
- Measures weight, temperature, time and the volumes of liquids and solids
- Analyzes and evaluates food additives, MSG, and vitamins
- Uses computers for information processing
- Measures temperature using Fahrenheit and centigrade scales
- Describes and explains the relationship of heat and temperature
- Measures time to complete a task
- Knows the environmental impact of materials (solid, liquid, gaseous)
- Understands the interaction of organisms with their environment
- Describes the immune system, the digestive system, selected diseases, and causes of weight gain and loss
- Describes and explains pulleys and levers as work saving devices

Hospitality, Tourism, and Recreation

Standard 10: Integrate knowledge, skills, and practices required for careers in hospitality, tourism, and recreation.

Benchmarks:

1. Explore the career paths within the hospitality, tourism, and recreation industries.
2. Apply concepts of service to meet customer expectations.

Model Iowa Competencies (Indicators):

1. Demonstrate employability-related skills.
2. Explore the relationship between an employee attitude and customer satisfaction.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information

Mathematics

- Interprets charts, tables, and graphs

Science

- Uses computers for information processing

Housing and Interior Design

Standard 11: Integrate knowledge, skills, and practices required for careers in housing and interior design.

Benchmarks:

1. Understands the importance of cleanliness, organization, safety, and maintenance of the household environment.
2. Analyze techniques used to organize and decorate space in the home to ensure a safe environment for self and others and to provide for the needs of various family members.
3. Identifies techniques (e.g., the use of appropriate products and equipment) used for the routine care of the home.

Model Iowa Competencies (Indicators):

1. Evaluate individual and family needs, safety, space, and technology when making housing and interior design decisions.
2. Design functional areas in housing design and interiors.
3. Specify procedures used for household maintenance, safety, sanitation, and care.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary

- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Demonstrates competence in making oral formal and informal presentations, including selecting and using media
- Adapts listening strategies to utilize verbal and nonverbal content of communication
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation

Mathematics:

- Constructs and interprets charts, tables, and graphs
- Adds, subtracts, divides, multiplies whole and mixed numbers, fractions, and decimals
- Uses a calculator to add, subtract, divide, multiply whole and mixed numbers, decimals, and calculate square root, calculate percentages, ratios, and formulas
- Mentally adds, subtracts, divides, and multiplies whole numbers
- Precisely calculates areas, circumferences, perimeters, and surface areas of geometric figures
- Estimates and rounds to determine estimated outcomes
- Measures distance, using standard measurement tools
- Distinguishes proportions and congruence
- Identifies the application of statistical processes
- Constructs angles, geometric figures, and lines
- Distinguishes characteristics of angles, circles, and arcs
- Interprets common symbols such as $<$, $>$, and $=$
- Identifies parallel/perpendicular, vertical/horizontal lines, and line rays/segments

Science:

- Uses computers for information processing
- Analyzes and evaluates environmental issues

Human Development

Standard 12: Analyze factors that impact human growth and development.

Benchmarks:

1. Analyze principles of human growth and development across the life span.
2. Analyze strategies that promote growth and development across the life span.
3. Analyze conditions that influence human growth and development.

Model Iowa Competencies (Indicators):

1. Examine the interrelationship between physical emotional, social, and intellectual aspects of human growth and development.
2. Investigate the impact of heredity and environment on human growth and development.

3. Demonstrate communication and nurturing skills that promote human growth and development.

Academic Proficiencies

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks

Science

- Describes human development processes

Interpersonal Relationships

Standard 13: Demonstrate respectful and caring relationships in the family, workplace, and community.

Benchmarks:

1. Demonstrate communication skills that contribute to positive relationships.
2. Evaluate effective conflict prevention and management techniques.
3. Demonstrate teamwork and leadership skills in the family, workplace, and community.

Model Iowa Competencies (Indicators):

1. Analyze the relationship between self-concept and behavior.
2. Demonstrate methods of dealing with peer pressure that reflect a positive self-esteem.
3. Identify methods used to build healthy relationships.
4. Demonstrate the use of conflict resolution skills.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Adapts listening strategies to utilize verbal and nonverbal content of communication
- Demonstrates competence in making oral formal and informal presentations, including selecting and using media

Nutrition and Wellness

Standard 14: Demonstrate nutrition and wellness practices that enhance individuals and family well-being.

Benchmarks:

1. Analyze factors that influence nutrition and wellness practices across the life span.
2. Evaluate factors that affect food safety, from production through consumption.

Model Iowa Competencies (Indicators):

1. Evaluate diets based on individual needs and personal health.
2. Identify and evaluate factors that promote personal wellness.
3. Describe social and cultural influences that affect food choices.
4. Analyze and select foods based on nutritional value.

Academic Proficiencies:

Language

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in speaking to provide, distribute, or find information
- Adapts listening strategies to utilize verbal and nonverbal content of communication

Mathematics

- Adds, subtracts, divides, multiplies whole and mixed numbers, fractions, and decimals
- Uses a calculator to add, subtract, divide, multiply whole and mixed numbers, decimals, and calculate square root
- Mentally adds, subtracts, divides, and multiplies whole numbers

Science

- Analyzes chemicals in society
- Analyzes and evaluates environmental issues
- Describes and explains diseases
- Identifies organisms such as bacteria and fungi
- Uses common laboratory equipment and procedures
- Applies and uses laboratory techniques safely
- Measures weight, temperature, time and the volumes of liquids and solids
- Applies and uses maps, charts, tables and graphs to complete tasks
- Describes human maintenance and weight gain or loss

Parenting

Standard 15: Evaluate the impact of parenting roles and responsibilities on strengthening the well-being of individuals and families.

Benchmarks:

1. Explore the expectations and responsibilities of parenting.
2. Understand the impact of parenthood on the individuals involved.
3. Understands the causes, prevention, and treatment of child abuse and neglect.

Model Iowa Competencies (Indicators):

1. Identify strategies that promote positive relationships between family members.
2. Evaluate factors that promote physical and emotional health of a child and parent/s.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts, and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation
- Demonstrates competence in speaking to provide, distribute, or find information
- Adapts listening strategies to utilize verbal and nonverbal content of communication

Textiles and Apparel

Standard 16: Integrate knowledge, skills, and practices required for the careers in textiles and apparel.

Benchmarks:

1. Explore the various career paths within textiles and apparel design industries.
2. Evaluate elements of textiles and apparel merchandising.

Model Iowa Competencies (Indicators):

1. Identify and practice personal care skills.
2. Examine the effect that fabric, texture, and pattern have on visual appearance.
3. Understand the importance of personal image.
4. Discuss the importance of clothing selection and care.
5. Use a variety of equipment, tools, and supplies used for apparel and textile construction, alteration, and/or repair.

Academic Proficiencies:

Language Arts

- Applies the reading process and strategies to directions or tasks that are relatively short, with limited categories of information, directions, concepts and vocabulary
- Demonstrates competence in using various information sources, including knowledge-based and technical texts, to perform specific tasks
- Adapts listening strategies to utilize verbal and nonverbal content of communication
- Demonstrates competence in speaking to provide, distribute, or find information

- Demonstrates competence in writing and editing documents, using correct grammar, and punctuation

Mathematics

- Adds, subtracts, divides, and multiplies whole and mixed numbers, fractions, and decimals
- Uses a calculator to add, subtract, divide, multiply, whole and mixed numbers, decimals, calculate square root, percentages and ratios
- Mentally adds, subtracts, divides and multiplies whole numbers
- Understands and applies basic methods of measurement
- Calculates and evaluates precision measurements
- Measures distance using standard measurement tools
- Interprets charts, tables, and graphs

Science

- Uses computers for information processing
- Analyzes chemicals in society
- Applies and uses laboratory techniques safely
- Applies and uses maps, charts, tables and graphs to complete tasks
- Describes and explains chemical reactions
- Uses computers for information processing

Updated: February, 2011 with Revalidated National Standards

Mary Ann Adams
Family and Consumer Sciences Consultant
Iowa Department of Education