



National FFA Career Development Events

*A Special Project of the
National FFA Foundation*

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General Information

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These are the official rules and regulations for National FFA Career Development Events for 2012-2016. Refer to the CDE webpage on ffa.org for the most up-to-date edition of the career development event handbook.

Prepared and published by the National FFA Organization. The National FFA Organization is a resource and support organization that does not select, control or supervise state association, local chapter or individual member activities except as expressly provided for in the National FFA Organization Constitution and Bylaws. The National FFA Organization affirms its belief in the value of all human beings and seeks diversity in its membership, leadership and staff.

FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education. National FFA Online, www.ffa.org, FFA's Internet web site, can provide information about the National FFA Organization.

Philosophy of National FFA Career Development Events

The National FFA Organization is dedicated to organizing experiences that will meet the future needs of students while accomplishing the current purposes of agricultural education. The primary goal of career development events is to develop individual responsibilities, foster teamwork and promote communication while recognizing the value of ethical competition and individual achievement.

The activities in each career development event:

- include problem solving, critical thinking and teamwork skills, where appropriate.
- encourage appreciation for diversity by reducing barriers to participation among members.
- develop general leadership and recognize individual and team achievement.
- promote concentrated focus on future needs of members and society.

The National FFA Organization assumes the leadership role in developing and continuously improving relevant FFA career development events. National career development events should reflect instruction that currently takes place in the entire agricultural education program, including classroom instruction, laboratory instruction, individualized instruction and/or supervised agricultural experience. Career development events and awards are intended to be an outgrowth of instruction. Also, it is appropriate for the national organization to develop career development events and awards that stimulate instruction in emerging areas that reflect both current and future community, national and global work force needs. National FFA Career Development Events should be developed with significant input from FFA members, teachers, partners, respective industry sponsors and others involved in agricultural education. The National FFA Organization continues to encourage accessibility and provide opportunities for achievement and recognition for students with diverse backgrounds.

Career development events that include team activities should be based on cooperation and teamwork while recognizing the value of competition and individual achievement. Where appropriate, team activities will be included that require two or more members from one chapter working cooperatively.

Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards

Agriculture is a highly technical and ever-changing industry upon which everyone is dependent. In order to maintain agriculture as the nation's number one industry, it is crucial to understand the importance of agrisciences, marketing strategies, safe food production and continuous research. Strong, relevant agriscience programs are one way to can maintain the nation's agricultural edge.

The National AFNR Career Cluster Content Standards were developed as part of the National FFA 10 x 15 project to provide state agricultural education leaders and teachers with a forward-thinking guide for what students should know and be able to do through the study of agriculture. The National AFNR Career Cluster Content Standards should be used as a guide to develop well-planned curriculum in agriscience education to be delivered to students throughout the country. For a complete copy of the AFNR Career Cluster Content Standards please visit www.agedlearning.org.

National FFA Organization has adopted the AFNR Career Cluster Content Standards and integrated them into all national award and recognition programs for the benefit of the members, school administration and agriculture as a whole. Details outlining the incorporation of the standards in career development events can be found at the end of each event chapter in the CDE handbook.

Official CDE Rules and Policies – 2012-2016

General Rules

Violations of any of the following rules may be grounds for the event superintendent to disqualify the participants. National FFA staff and event superintendents will use the published rules and procedures to organize and implement the National FFA Career Development Events. Event activities may not be conducted due to lack of necessary materials, expertise or extreme impact to event budgets. Teams that are certified to compete will receive the current event format in a team orientation packet prior to the convention.

Official Dress Recommendations, Number of Participants and Number of Scores for Team Total

Event	Official Dress Appropriate	Number of Participants Allowed (per team)	Number of Scores Counted for Team Score
Agricultural Communications	Yes	3	3
Agricultural Issues Forum	Optional	3-7	Team Score Event
Agricultural Technology and Mechanical Systems	No	4	Top 3 Scores
Agricultural Sales	Yes	4	4
Agronomy	Yes	4	4
Creed Speaking	Yes	1	N/A
Dairy Cattle Management and Evaluation	Yes	4	4
Dairy Cattle Handlers	Yes	1	N/A
Environmental and Natural Resources	No	4	4
Extemporaneous Public Speaking	Yes	1	N/A
Farm Business Management	Yes	4	Top 3 Scores
Floriculture	Yes	4	4
Food Science and Technology	Yes	4	4
Forestry	No	4	4
Horse Evaluation	Yes	4	Top 3 Scores
Job Interview	Yes	1	N/A
Livestock Evaluation	Yes	4	4
Marketing Plan	Yes	3	Team Score Event
Meats Evaluation and Technology	No	4	Top 3 Scores
Milk Quality and Products	Yes	4	4
Nursery/Landscape	Yes	4	Top 3 Scores
Parliamentary Procedure	Yes	6	Team Score Event
Poultry Evaluation	Yes	4	Top 3 Scores
Prepared Public Speaking	Yes	1	N/A
Veterinary Science	No	4	4

Eligibility of Participants

- A. Each participant must be a current, bona fide, dues paying FFA member in good standing with the local chapter, state FFA association and the National FFA Organization during the school year which the participant qualified to participate at the national level.
 - 1. In the event a participant's name is not on the chapter's official roster for the years in which the dues were payable to the National FFA Organization, a past due membership processing fee, in addition to the dues, must be paid prior to the national event.
 - 2. National FFA membership staff will set the processing fee amount annually.
- B. The participant, at the national event, must:
 - 1. Be a high school FFA member; high school refers to grades 9-12. (A graduating senior is considered eligible to compete in state and national career development events up to and including his/her first national convention following graduation.)
 - 2. Have qualified as a 7th, 8th or 9th grade member to participate in the Creed speaking event.
 - 3. While in high school, be enrolled in at least one agricultural education course during the school year and/or follow a planned course of study; either course must include a supervised agricultural experience program, the objective of which is preparation for an agricultural career.
 - 4. If a student moves to a different chapter or a different state once a he/she has qualified as a state representative in a career development event, that student may be allowed to compete in the national event with the school he/she qualified with during the qualifying year.
- C. A student may not participate more than once in the same official National FFA Career Development Event.
- D. No student may participate in more than one National FFA Career Development Event each year.
- E. Each member participating in a National FFA Career Development Event must submit the proper *Waiver, Release of Liability and Consent to Medical Treatment Form* prior to start of event.

Selection and Certification of State Teams

- A. Each state will submit a team declaration form by **June 1** prior to the national FFA convention. An entry processing fee will be charged for participation in each declared event with the exception of the dairy cattle handlers activity.
- B. Each team will be composed of the number of members determined by the specific event rules and formats. The members of a state team must be from the same chapter. Members must qualify in the career development event in which they are to participate at the national level. Teams must be selected at a state or interstate career development event held between the immediate previous national FFA convention and prior to the national FFA convention in which they are participating. States that qualify more than one year out must request and submit a written waiver for approval by the certification deadline.
 - 1. Online certification deadline: **September 15**.
 - 2. Online add/delete deadline: **Tuesday before convention at noon (Eastern)**.
- C. With extenuating circumstances a teacher may substitute another student from the chapter who may not have participated at a state qualifying event, with the exception of Creed speaking, dairy handlers activity, extemporaneous public speaking, job interview and prepared public speaking, which must be submitted and approved by state staff.

- D. The state supervisor of agricultural education or the executive secretary must certify that participants are eligible. If an ineligible student participates in any career development event, the member will be disqualified and may result in the disqualification of the team as well.
- E. All students must be certified online by the designated deadline. Once original certification has been completed, no member may be added without first deleting a member.
- F. The national organization will certify National FFA Career Development Event winners for international competition when states request, with the understanding that the state team will provide their own travel expenses.

Emergency Conditions

Under emergency conditions a state team participating in a National FFA Career Development Event may be made up of less than the required members. States must still certify teams prior to the national FFA convention, but fewer than the required members could compete if an emergency condition such as illness, death in the family or an act of God would occur. Those individuals competing would still be eligible to qualify for individual awards, if applicable.

Disqualification

- A. Any communication, verbal or non-verbal, between participants during a career development event will be sufficient cause to eliminate the team member involved from the career development event. The only exception to this would be communications between team members during the team activity portion of a given career development event.
- B. Teams or participants arriving after the career development event has begun may be disqualified or penalized.
- C. Any assistance given to a team member from any source other than the career development event officials or assistants will be sufficient cause to eliminate the team from the career development event.
- D. Event superintendents may stop any participant if they deem their manner to be hazardous either to themselves or others. Such action shall deem the individuals disqualified for that section of the career development event.
- E. Participants who start an event and do not complete the event without notifying event officials at the time of departure will be disqualified. This can affect the overall team rank and position. In some events this will also disqualify the entire team.
- F. Participants will not be allowed to utilize personal electronic communication devices, other than those approved by the event officials, during the entire course of the event. Participants who access personal electronic communication devices without prior approval of the event officials will be disqualified.
- G. No participant shall gain access to real materials that will be utilized by the event committee during competition. Any team, participant, advisor or coach reported and proven to do so will be disqualified from the national event.

Additions/Deletions of National Events

- A. National FFA staff is expected to be proactive in developing new or initiating changes within existing career development events to ensure that they meet the needs of FFA members.
- B. If fifteen (15) state supervisors/executive secretaries develop a proposal for a new career development event, the national FFA staff will conduct a study for the validity of the career development event and make a recommendation to the chief executive officer. Representatives of these states must be from each of the FFA regions. The same process may be used to eliminate a national career development event.
- C. Three years following the initiation of a new career development event, at least fifteen (15) states should be participating. After the next three-year period, at least twenty-six (26) states should be participating in order to retain the event at the national level.

Rules Committee/Scoring Appeals Process

- A. If a written appeal is filed within the seven (7) calendar days after results announcement, national CDE staff will review the appeal. Upon receiving input from team leader and division director, national CDE staff will accept or deny the appeal. The national CDE staff's recommendation will be shared with appeals committee and National FFA Chief Executive Officer for further input, if necessary.
 1. The written appeal must be filed with the Education Division staff responsible for scoring career development events within seven (7) calendar days of the results announcement and accompanied by a \$50 filing fee. The fee will be returned if the appeal is justified.
- B. The appeals committee will be chaired by the National FFA Awards, Recognition and Career Development Events Advisory Committee chairperson who will in turn appoint a representative of each of the following organizations: National Association of Supervisors of Agricultural Education (NASAE), National Association of Agricultural Educators (NAAE) and the American Association for Agricultural Education (AAAE). The National FFA staff responsible for career development events will also serve on the committee.

Waiver of FFA Rules

Any local chapter seeking a waiver of a National FFA policy or procedure must submit in writing to the chapter's state FFA association office. If the request is approved at the state level, it must be forwarded, under the signature of the state advisor or executive secretary, to the career development events education specialist. After study by the appropriate FFA staff, a recommendation to grant or deny the appeal will be forward to the chief executive officer for his/her approval. The request must be submitted to the national FFA staff at least 30 days prior to the scheduled event or due date for which the waiver is requested. This policy does not supersede any current FFA policy for appeals already established for a particular FFA program.

Selection of CDE Superintendents and CDE Committee Members

- A. Nominations for CDE superintendents may come to National FFA staff from the following sources:
 - 1. standing CDE superintendent
 - 2. current CDE committee members
 - 3. state leadership
 - 4. Team Ag Ed partners
- B. CDE superintendents will be selected by national CDE staff and approved by the National FFA Chief Executive Officer.
- C. Each CDE superintendent will serve a three to five year term. At the end of the superintendent's term, a qualified replacement will assume the duties of superintendent.
- D. National FFA staff and CDE superintendents will select qualified individuals to serve on CDE committees. Selection of committee members will be based on:
 - 1. individual qualifications.
 - 2. recommendations from state leaders, current CDE committee members, CDE superintendents or National FFA staff.
 - 3. recommendations from Team Ag Ed partners.
 - 4. current rotational procedures developed by each CDE committee.
 - 5. provide diversity for the committee.
 - 6. commitment to serve a minimum of three years on the committee.
- E. Final approval of new committee members is the responsibility of the National FFA CDE staff with input and recommendations from CDE event superintendent and committee.

Sanctioning Events

Sanctioning of non-national FFA competitive events (those competitive events conducted by organizations other than the National FFA Organization) as National FFA Career Development Events should occur when:

- 1. The highest quality event possible is conducted.
- 2. Organization conducting event and National FFA Organization agree that event can and should be sanctioned.
- 3. Event is recommended by the National FFA Staff responsible for CDEs with input and agreement from the Award and Recognition Advisory Committee and approved by the National FFA Chief Executive Officer.
- 4. National FFA is represented by staff responsible for career development events on the planning and implementation committee for each event.
- 5. Winners of the national sanctioned event will be recognized in the same manner as national career development events winners are currently recognized.

Official Dress

Participants are expected to observe the National FFA Code of Ethics and the proper use of the FFA jacket during career development events. (Please reference the latest edition of the Official FFA Manual.) Official FFA dress is highly recommended for all participants where appropriate and is required for the awards presentation and recognition.

Accessibility for All Students

All special needs requests and appropriate documentation as outlined in the special needs request policy must be submitted at time of certification.

- 1. Special needs policy is posted on the CDE program page at www.ffa.org/cde
- 2. Special needs request due: **August 15**

Written Document Penalties

A penalty of 10% of the total points allotted will be assessed for the written documents received after the postmarked deadline. If the document is still not received seven days after the postmarked deadline, the team/individual may be subject to disqualification.

1. National staff will mark late entries as such.
2. Event officials will be notified of late entries at the time written documents are provided for judging.
3. Event superintendent will ensure that penalty is applied.

National FFA Poultry Evaluation Career Development Event

A Special Project of the National FFA Foundation

Important Note

Please thoroughly read the Introduction Section at the beginning of this handbook for complete rules and procedures that are relevant to all National FFA Career Development Events.

I. Purpose

The National FFA Poultry Evaluation Career Development Event encourages learning through activities relative to production and management, processing, marketing and food safety and quality of poultry products.

II. Objectives

- A. The National FFA Poultry Evaluation Career Development Event provides opportunities for the participant to:
 1. make accurate observations and logical decisions.
 2. discuss and justify decisions (orally and written).
 3. communicate industry and product terminology.
 4. promote USDA standards of product quality.
 5. identify consumer preferences for products.
 6. recognize economic importance of value-added products.
 7. collaborate with others to analyze industry scenarios.
 8. demonstrate the use of appropriate information technology used in the poultry industry.
- B. Specifically, participants will:
 1. evaluate and select live meat-type chickens and orally defend the selection.
 2. evaluate and place live egg-type hens and orally defend the selection.
 3. evaluate and grade ready-to-cook carcasses and parts of chickens and turkeys.
 4. evaluate, grade and place ready-to-cook carcasses of chickens or turkeys and orally defend the placing.
 5. evaluate and grade individual shell eggs for interior quality.
 6. evaluate and grade individual shell eggs for exterior quality and indicate factors governing the grading.
 7. evaluate pre-cooked further processed poultry meat products and indicate factors governing the evaluation.
 8. identify poultry carcass parts.
 9. complete a written examination on poultry production, management and science.
 10. perform a team activity related to poultry science.

III. Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards

With the recommendation of the National FFA Board of Directors, all national FFA programs have incorporated these standards to guide the direction and content of program materials and activities. Refer to Appendix A in this chapter of the handbook for a complete list of the measurable activities that participants will carry out in this event. For details about the incorporation of AFNR standards, refer to the Introduction chapter of the CDE handbook.

IV. Event Rules

- A. **Team Make-up:** Teams may consist of three or four members. Team ranking is determined by combining the scores of the top three students from each team. Teams that have fewer than three members are not eligible for team awards, but students may receive individual awards.
- B. **Humane Treatment of Live Animals:** All live animals must be treated with the utmost care and respect. Violation of this rule will automatically disqualify an offending team member from the event. The supervision, interpretation and enforcement of this rule will be the responsibility of the event superintendent or his/her designee.
- C. Each team will report to the team orientation meeting for instructions at the specified time and place listed in the current year's team orientation packet. No participant, coach or advisor may enter the event area before the specified time.
- D. Each team will receive computer scan sheets during the National FFA Poultry Evaluation Career Development Event team orientation meeting.
- E. Participants will have ten minutes per class to complete Classes 1 through 12. An appropriate amount of time, as determined by the event officials, will be provided for Classes 13 and 14. A warning signal will inform the participants when time expires for each class. Participants will have approximately one minute to move from class to class.
- F. Any participant in possession of any electronic device is subject to disqualification.

V. Event Format

A. Equipment

1. **Materials provided by the participant:** Each participant must have two clean, sharpened No. 2 pencils and an electronic calculator. Calculators permissible for use in this event are those that are battery operated, non-programmable and silent. **A calculator may have the following functions: addition, subtraction, multiplication, division, equals, percent, square root, +/- key and one memory register. Calculators that are capable of storing equations, definitions and/or terms are not permitted.** Participant use of unauthorized electronic devices will result in disqualification.
2. **Materials provided by the event officials:** Participants will be provided a clipboard for the purpose of providing storage of the scan sheet during the event. No other containers or devices (e.g. student provided clipboards, folders or envelopes) will be permitted for participant use during the event. In addition, participants will be provided a standard form ("Official Notes of National FFA Poultry Career Development Event Placings/ Grades") and clean sheets of paper for recording decisions made during the event. This document will serve as a participant's personal record of decisions made during the event.
3. **NO OTHER MATERIALS** will be permitted. Participants attempting to use unauthorized materials will be disqualified.

B. Individual Activities

Live Poultry

1. Each participant will place a class of four market broilers. Each participant will be permitted to "handle" the birds, as long as the birds are inspected in a professional and humane manner. Participants may not remove the broilers from the holding unit.
2. Each participant will place a class of four egg-type hens. The birds will be Single-Comb White Leghorns, or commercial strains of Leghorn-type (inbred cross). The birds may have trimmed beaks. Each participant will be permitted to "handle" the birds, as long as the birds are inspected in a professional and humane manner.

3. Each participant will present oral reasons for either the placing class of market broilers or for the class of egg-type hens. The class for which participants should develop oral reasons for presentation will be clearly identified during the event. Participants will have ten minutes to prepare and two minutes to present their oral reasons. Reasons should include current USDA and poultry industry terminology and standards.

Class #	Points
1. Market broilers	50
2. Egg-type hens	50
3. Oral reasons for Class 1 or 2	50

Ready-to-Cook Poultry

4. Each participant will grade a class of ten ready-to-cook chicken **and/or** turkey carcasses **and/or** parts. Criteria for grading will be derived from USDA standards for chicken carcasses weighing two pounds to six pounds and for turkey carcasses weighing six to sixteen pounds or carcasses weighing greater than sixteen pounds. Four categories may be used, including the USDA quality grades A, B, C and the category NG (nongradable). Participants may not touch any carcass or part; doing so will result in disqualification. If used, the shackle holding a carcass may be rotated to show the entire carcass.
5. Each participant will place a class of four ready-to-cook chicken or turkey carcasses. Criteria for placing will be derived from USDA standards relative to poultry weight classes. Participants may not touch any carcass; doing so will result in disqualification. If used, the shackle holding a carcass may be rotated to show the entire carcass.
6. Each participant will present oral reasons for their placing of the class of ready-to-cook chicken or turkey carcasses. Participants will have ten minutes to prepare and two minutes to present their reasons. Reasons should include current USDA and poultry industry terminology and standards.

Class #	Points
4. Ten chicken and/or turkey carcasses and/or parts for quality grading	50
5. Four RTC carcasses for placing	50
6. Oral reasons for Class 5	50

Shell Eggs

7. Each participant will grade a class of ten white (or white-tint) shell eggs. Criteria for grading will be derived from USDA standards for interior quality of market eggs. The USDA quality grades will be AA, A, B and Loss. Participants must candle the eggs to determine the appropriate USDA quality grade, but improper handling of eggs will result in disqualification.
8. Each participant will grade a class of fifteen shell eggs (white, brown or other). Criteria for grading will be derived from USDA standards for exterior quality of market eggs. The USDA quality grades will be AA/A, B and NG (nongradable). Criteria for grading may include decisions related to the following quality factors: **Soundness** (unbroken, check, dented check or leaker); **Stains** (slight/moderate stain or prominent stain); **Adhering Dirt or Foreign Material**; **Egg Shape** (approximately normal shape, unusual or decidedly misshapen); **Shell Texture** (large calcium deposits, body check or pronounced ridges); **Shell Thickness** (pronounced thin spots); **No Defect**.
9. Each participant will determine written factors for the grading of the exterior chicken eggs. The written factors will relate to the criteria used for grading exterior quality of eggs.

Class #	Points
7. Ten white-shell eggs for interior quality grading	50
8. Fifteen chicken eggs for exterior quality grading	50
9. Evaluation criteria for Class 8	50

Further Processed Poultry

- Each participant will determine written quality factors for a class of ten boneless further processed poultry meat products (e.g. precooked, poultry meat patties, tenders, nuggets or other boneless products). Criteria for evaluation will include coating defects, color defects, consistency of shape/size, broken and/or incomplete products, cluster/marriages and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.
- Each participant will determine written quality factors for a class of ten bone-in further processed poultry meat products (e.g., precooked, bone-in wings or other bone-in poultry meat products). Criteria for evaluation will include coating defects, color defects, consistency of size, broken products, miscut products, mixed products and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.
- Each participant will identify ten poultry parts. Poultry parts to be identified will be randomly selected and consistent with those used in the chicken processing and merchandising industries. The participant may not touch any part; doing so will result in disqualification.

Class #	Points
10. Boneless Further Processed Poultry Meat Products	50
11. Bone-In Further Processed Poultry Meat Products	50
12. Ten chicken carcass parts for identification	50

Poultry Management Written Exam

- Each participant will complete a 30 item written examination on poultry production, management, anatomy and physiology. Five or more items will require mathematical calculations. Examination items will be developed from information found in the references (see Section IX).

Class #	Points
13. Written Examination	150

C. Team Activity – 200 points

For the team activity, all members of a team will work collaboratively to perform an activity related to poultry science. Team members will observe **and/or** be provided information about a poultry industry situation or problem scenario(s). Then, team members will answer up to 25 questions related to the information gained from the situation/scenario and from reference material studied in preparation for the career development event. The team activity may require participants to use information technology that is appropriate for the poultry industry (e.g. computers, software applications, Internet resources and related technologies). Specific information about the team activity will be made available to coaches in the team orientation packet as needed.

VI. Scoring

	Individual	Team
Twelve Classes	600	1800
Written Exam	150	450
Total Individual Points Possible	750	2,250
Team Activity		200
Total Team Points Possible		2,450

VII. Tiebreakers

If ties occur, the following classes will be used in order to determine the ranking of award recipients:

1. Written Management Exam
2. Evaluation of Live Birds

VIII. Awards

Awards will be presented to individuals and/or teams based upon their rankings at the awards ceremony. Awards are sponsored by a cooperating industry sponsor(s) as a special project, and/or by the general fund of the National FFA Foundation.

IX. References

This list of references is not intended to be all-inclusive. Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Available from Instructional Materials Service (IMS), Texas A&M University, 2588 TAMUS, College Station, TX 77843-2588 (Phone: 979-845-6601; FAX: 979-845-6608; ims@tamu.edu; <http://www-ims.tamu.edu/>).

- Poultry Grading Manual - Agriculture Handbook Number 31 (latest USDA edition) (IMS Catalog #0414)
- Egg-Grading Manual - Agriculture Handbook Number 75 (latest USDA edition) (IMS Catalog #0417)

National FFA Core Catalog

- Poultry Science Manual for National FFA Career Development Events. (sixth edition) (IMS Catalog #0418-5) (or from the National FFA Core Catalog, product number PSM-06, online at <http://shop.ffa.org/poultry-science-manual-p38844.aspx>). All examination items will be derived from this reference.
- The Hormel Computing Slide is available through the National FFA Core Catalog, Item #HCSS, 888-332-2668 or online at <http://shop.ffa.org/hormel-computing-slide-p38052.aspx>
- Poultry Evaluation Scan Form—<http://shop.ffa.org/poultry-evaluation-scan-form-p38843.aspx>
- CDE Q&A's—<http://shop.ffa.org/cde-qas-c1413.aspx>

FFA Learn

- 2005 & 2006 CDE Q&A's —<https://ffa.learn.com/learncenter.asp?id=178409&page=31>

X. Examples - Scoring Format Summary

A. *Placing Classes*

Class 1, 2 and 5 are placing classes. Each class has a value of 50 points per participant. The event superintendent obtains the “official placing” of the class and the “basis of grading” from the judge. The “basis of grading” is the numerical difference or “cut” between each of the three pairs—top, middle and bottom—in the placing class. The three “cuts” are totaled; the total cannot exceed 15 points. From the judge’s information and the directions printed on the Hormel Computing Slide, the correct scores are obtained for all (24) possible placings (refer to references section for the source of the computing slide). The computer scoring system uses the

Hormel Scoring format when calculating a participant's score for each placing class.

B. Oral Reasons Classes

Class 3 and Class 6 are oral reasons for Class 1 or 2 and Class 5, respectively. Each class has a value of 50 points per participant. The score is based on oral reasons scorecard (refer to the "Presenting Oral Reasons" section of the Poultry Science Manual for National FFA Career Development Events, sixth edition).

C. Grading Classes

Classes 4, 7 and 8 are grading classes. Each class has a value of 50 points per participant.

1. **Class 4 – Scoring for Parts and Carcass Grading**

Participant's Grade	Official Grade			
	A	B	C	NG
A	5	3	1	0
B	3	5	3	0
C	1	3	5	0
NG	0	0	0	5

As shown above, Class 4 is scored based on the USDA quality grades A, B, C and the category NG. Each correct grade receives a score of five points. If the item is graded one quality grade below or above the correct grade, two points will be deducted to obtain a score of three points. If the item is graded two quality grades below or above the correct grade, four points are deducted to obtain a score of one point. However, if the "NG" line is "crossed" (i.e., an incorrect judgment), all five points are deducted to obtain a score of zero points. (Adapted from information provided by Don Sheets, Retired, Kansas Board of Agriculture, Topeka, Kansas.)

2. **Class 7 – Scoring for Interior Egg Quality Grading**

Participant's Grade	Official Grade			
	AA	A	B	Loss
AA	5	3	1	0
A	3	5	3	0
B	1	3	5	0
Loss	0	0	0	5

As shown above, Class 7 is scored based on the USDA quality grades AA, A, B and Loss. In the case of Class 7, each correct grade receives a score of five points. If the item is graded one quality grade below or above the correct grade, two points will be deducted to obtain a score of three points. If the item is graded two quality grades below or above the correct grade, four points are deducted to obtain a score of one point. However, if the "Loss" line is "crossed" (i.e., an incorrect judgment), all five points are deducted to obtain a score of zero points.

3. Class 8 – Scoring for Exterior Egg Quality Grading

Participant's Grade	Official Grade			
	AA/A	B	NG	
	AA/A	3	2	0
	B	2	3	0
NG	0	0	3	

As shown above Class 8 is scored based on the USDA quality grades AA/A, B and NG (nongradable). In the case of Class 8, each correct grade receives a score of three points. If the item is graded one quality grade below or above the correct grade, one point will be deducted to obtain a score of two points. However, if the “NG” line is “crossed” (i.e., an incorrect judgment), all three points are deducted to obtain a score of zero points.

Exterior Egg Quality Score Card

Egg Number	Class 8 Exterior Quality Grades		
	AA/A	B	NG
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

D. Written Factors Classes

Class 9 is written factors for Class 8 and has a value of 50 points per participant. Classes 10 and 11 are written factors for further processed poultry meat products and have a value of 50 points per class for each participant.

For Class 9 each item is evaluated for twelve different quality factors. For Class 10, each item is evaluated for seven different quality factors. For Class 11, each item is evaluated for eight different quality factors. Each item may be determined to have “no defect” or to have one or more defects.

For each correct match with the judge, zero points are deducted.

For each “defect” or “no defect” missed or added, two (2) points are deducted.

No score will be less than zero.

1. Class 9 – Egg Exterior Quality Written Factors

Defect	Class 9 Egg Number														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Checked															
Dented Checked															
Leaker															
Slight/Moderate Stain															
Prominent Stain															
Adhering Dirt/Foreign Material															
Decidedly Misshapen															
Large Calcium Deposits															
Body Check															
Pronounced Ridges															
Pronounced Thin Spots															
No Defect															

2. Class 10 – Boneless Further Processed Poultry Meat Products

Defect	Class 10 Product Number									
	1	2	3	4	5	6	7	8	9	10
Coating Void										
Inconsistent Color										
Inconsistent Shape/Size										
Broken/Incomplete										
Cluster/Marriages										
Foreign Material										
No Defect										

3. Class 11 – Bone-In Further Processed Poultry Meat Products

Defect	Class 11 Product Number									
	1	2	3	4	5	6	7	8	9	10
Coating Void										
Inconsistent Color										
Inconsistent Size										
Broken/Broken Bone										
Miscut										
Mixed Products										
Foreign Material										
No Defect										

E. Identification Class

Class 12 is an identification class consisting of ten poultry carcass parts. The class has a value of 50 points per participant. Each correct answer receives a score of five points.

F. Written Examination Class

Class 13 is an examination consisting of 30 multiple-choice items. The class has a value of 150 points per participant. Each correct answer receives a score of five points.

G. Team Activity Class

Class 14 is a team activity containing up to 25 questions. The class has a value of 200 points **per team**. Each correct answer receives a score of 10 points. (Note: This class does not apply to individual participant scores.)

SAMPLE SCORECARD FOR IDENTIFICATION OF PARTS

Directions: Darken the poultry carcass part that you consider correct for each of the ten items.										
Part No.	1	2	3	4	5	6	7	8	9	10
Half	0	0	0	0	0	0	0	0	0	0
Front Half	0	0	0	0	0	0	0	0	0	0
Rear Half	0	0	0	0	0	0	0	0	0	0
Whole breast with ribs	0	0	0	0	0	0	0	0	0	0
Bnls., skinless whole breast with rib meat	0	0	0	0	0	0	0	0	0	0
Whole breast	0	0	0	0	0	0	0	0	0	0
Bnls., skinless whole breast	0	0	0	0	0	0	0	0	0	0
Split breast with ribs	0	0	0	0	0	0	0	0	0	0
Bnls., skinless split breast with rib meat	0	0	0	0	0	0	0	0	0	0
Split breast	0	0	0	0	0	0	0	0	0	0
Bnls., skinless split breast	0	0	0	0	0	0	0	0	0	0
Breast quarter	0	0	0	0	0	0	0	0	0	0
Breast quarter without wing	0	0	0	0	0	0	0	0	0	0
Tenderloin	0	0	0	0	0	0	0	0	0	0
Wishbone	0	0	0	0	0	0	0	0	0	0
Leg quarter	0	0	0	0	0	0	0	0	0	0
Leg	0	0	0	0	0	0	0	0	0	0
Thigh w/ back portion	0	0	0	0	0	0	0	0	0	0
Thigh	0	0	0	0	0	0	0	0	0	0
Bnls., skinless thigh	0	0	0	0	0	0	0	0	0	0
Drumstick	0	0	0	0	0	0	0	0	0	0
Bnls., skinless drum	0	0	0	0	0	0	0	0	0	0
Wing	0	0	0	0	0	0	0	0	0	0
Drumette	0	0	0	0	0	0	0	0	0	0
Wing portion	0	0	0	0	0	0	0	0	0	0
Liver	0	0	0	0	0	0	0	0	0	0
Gizzard	0	0	0	0	0	0	0	0	0	0
Heart	0	0	0	0	0	0	0	0	0	0
Neck	0	0	0	0	0	0	0	0	0	0
Paws	0	0	0	0	0	0	0	0	0	0

Poultry Evaluation CDE
Sample Scorecard for Oral Reasons: Broiler or Egg-Type Hens and R-T-C Turkey Carcasses

* To be used as a scoring guide by the official judges.	Possible Points	Participant's Score
1. IMPORTANCE OF POINTS COVERED		
a. Did the participant actually tell why one bird/carcass was selected/placed over another, or did the participant only vaguely describe the birds/carcasses?	5	_____
b. Did the participant stress the crucial differences, or did he/she make stereotypic ("canned") comparisons of various factors?	8	_____
c. Did the participant tell all there was to tell of importance, or were there other significant reasons that should have been given for the selection/placing?	5	_____
TOTAL POINTS	18	_____
2. APPEARANCE AND DELIVERY		
a. Did the participant stand still on two feet and face the judge?	2	_____
b. Did the participant speak clearly, distinctly and loud enough to be heard?	2	_____
c. Did the participant have an appropriate opening and closing statement?	2	_____
d. Did the participant speak smoothly without long pauses?	2	_____
e. Was the participant confident? Was the participant convincing?	4	_____
TOTAL POINTS	12	_____
3. PROPER USE OF TERMS		
a. Did the participant use relevant terminology properly?	4	_____
b. Did the participant understand the terms used?	3	_____
c. Was the participant able to define the terms used? (Participants may be asked to define terms used.)	3	_____
TOTAL POINTS	10	_____
4. ACCURACY OF STATEMENTS		
a. Did the participant describe the birds/carcasses based on their actual visual appearance?	5	_____
b. Did the participant present accurate statements?	5	_____
TOTAL POINTS	10	_____
GRAND TOTAL OF POINTS	50	_____

Appendix A: AFNR Career Cluster Content Standards

	Performance Measurement Levels	Event Activities Addressing Measurements	Related Academic Standards
	ABS.01.01. Performance Indicator: Apply principles of capitalism in the business environment.		Social Studies: 7b and 7g
	ABS.01.01.01.a. Recognize principles of capitalism as related to AFNR businesses.	exam	
	ABS.01.02. Performance Indicator: Apply principles of entrepreneurship in businesses.		Social Studies: 7d
	ABS.01.02.01.a. Describe the meaning, importance and economic impact of entrepreneurship.	exam	
	ABS.02.03. Performance Indicator: Apply appropriate management skills to organize a business.		Language Arts: 12 Social Studies: 7f
	ABS.02.03.01.a. Identify organizational structures and chains of command in AFNR businesses.	exam	
	ABS.02.03.02.a. Identify appropriate local, state, federal, international and industry regulations for AFNR businesses.	exam, USDA grading, parts ID	
	ABS.03.01. Performance Indicator: Prepare and maintain all files needed to accomplish effective record keeping.		Math: 5A and 6B Language Arts: 8
	ABS.03.01.01.b. Analyze records to improve efficiency and profitability of an AFNR business.	exam, team activity	
	ABS.04.01. Performance Indicator: Use accounting fundamentals to accomplish dependable bookkeeping and fiscal management.		Math: 1C, 5A, 5C Social Studies: 7h
	ABS.04.01.02.b. Use accounting information to estimate the cost of goods sold and margins on the goods.	exam, team activity	
	ABS.05.01. Performance Indicator: Maintain and interpret financial information (income statements, balance sheets, inventory, purchase orders, accounts receivable and cash-flow analyses) for businesses.		Math: 1C, 5A and 5C Language Arts: 8
	ABS.05.01.04.a. Calculate percentages, ratios and related business applications.	exam, team activity	
	ABS.07.01. Performance Indicator: Prepare a step-by-step production plan that identifies needed resources.		Language Arts: 4, 5 and 8
	ABS.07.01.01.b. Identify and assess alternative production systems and ways products can be produced.	exam, team activity	
	AS.01.01. Performance Indicator: Evaluate the development and implications of animal origin, domestication and distribution.		Science: C3 Social Studies: 7h
	AS.01.01.01.b. Evaluate and describe characteristics of animals that developed in response to the animals' environment and led to their domestication.	exam	
	AS.01.01.02.b. Outline the development of the animal industry and the resulting products, services and careers.	exam, team activity	

AS.02.01. Performance Indicator: Classify animals according to hierarchical taxonomy and agricultural use.		Science: C3
AS.02.01.01.c. Classify animals according to the taxonomical classification system.	exam	
AS.02.01.02.c. Appraise and evaluate the economic value of animals for various applications in the agriculture industry.	placing, grading, evaluation, exam, team activity	
AS.02.02. Performance Indicator: Apply principles of comparative anatomy and physiology to uses within various animal systems.		Science: C1, C5 and F2
AS.02.02.01.c. Explain how the components and systems of animal anatomy and physiology relate to the production and use of animals.	exam, oral reasons	
AS.02.02.03.a. Describe the basic functions of animal cells in growth and reproduction.	exam	
AS.02.02.04.c. Explain the importance and uses made of animal tissues in the agriculture industry.	all classes	
AS.02.02.05.a. Describe the properties, locations, functions and types of animal organs.	exam	
AS.02.02.06.c. Explain the impact of animal body systems on performance, health, growth and reproduction.	exam, team activity, live bird classes	
AS.02.03. Performance Indicator: Select animals for specific purposes and maximum performance based on anatomy and physiology.		Science: C5
AS.02.03.01.c. Evaluate and select animals to maximize performance based on anatomical and physiological characteristics that affect health, growth and reproduction.	live bird classes	
AS.02.03.02.b. Assess an animal to determine if it has reached its optimal performance level based on anatomical and physiological characteristics.	live bird classes	
AS.03.01. Performance Indicator: Prescribe and implement a prevention and treatment program for animal diseases, parasites and other disorders.		Science: C4, F1 and F5
AS.03.01.01.a. Explain methods of determining animal health and disorders.	exam, team activity	
AS.03.01.02.b. Diagnose illnesses and disorders of animals based on symptoms and problems caused by diseases, parasites and physiological disorders.	exam, team activity	
AS.03.01.03.b. Evaluate preventive measures for controlling and limiting the spread of diseases, parasites and disorders among animals.	exam, team activity	
AS.03.01.05.a. Identify and describe zoonotic diseases.	exam, team activity	
AS.03.02. Performance Indicator: Provide for the biosecurity of agricultural animals and production facilities.		Science: F5 and F6 Social Studies: 9d
AS.03.02.01.a. Explain the importance of biosecurity to the animal industry.	exam, team activity	

AS.04.01. Performance Indicator: Formulate feed rations to provide for the nutritional needs of animals.		Math: 1C and 6B Science: A4 and C5
AS.04.01.01.a. Compare and contrast common types of feedstuffs and the roles they play in the diets of animals.	exam, team activity	
AS.04.01.02.b. Appraise the adequacy of feed rations using data from the analysis of feedstuffs, animal requirements and performance.	exam	
AS.04.02. Performance Indicator: Prescribe and administer animal feed additives and growth promotants in animal production.		Science: C5
AS.04.02.01.a. Explain the purpose and benefits of feed additives and growth promotants in animal production.	exam	
AS.05.01. Performance Indicator: Evaluate the male and female reproductive systems in selecting animals.		Science: C1 and C3
AS.05.01.01.b. Describe the functions of major organs in the male and female reproductive systems.	exam, live bird classes	
AS.05.02. Performance Indicator: Evaluate animals for breeding readiness and soundness.		Science: C6
AS.05.02.01.c. Evaluate and select animals for reproductive readiness.	live bird classes	
AS.05.02.02.a. Discuss the importance of efficient and economic reproduction in animals.	exam	
AS.05.03. Performance Indicator: Apply scientific principles in the selection and breeding of animals.		Math: 6C Science: A4, C2 and E2
AS.05.03.01.b. Explain the advantages of using genetically superior animals in the production of animals and animal products.	oral reasons, exam, live bird classes	
AS.05.03.02.a. Define natural and artificial breeding methods.	exam, team activity	
AS.05.03.05.a. Discuss the uses and advantages and disadvantages of natural breeding and artificial insemination.	exam, team activity	
AS.06.02. Performance Indicator: Implement procedures to ensure that animal products are safe.		Science: F1 and F5
AS.06.02.01.b. Discuss consumer concerns with animal production practices relative to human health.	exam, team activity	
AS.07.01. Performance Indicator: Design animal housing, equipment and handling facilities for the major systems of animal production.		Science: C6 and F6
AS.07.01.01.a. Identify facilities needed to house and produce each animal species safely and efficiently.	exam, team activity	
AS.07.01.02.b. Explain how modern equipment and handling facilities enhance the safe and economic production of animals.	live bird classes	

AS.08.01. Performance Indicator: Reduce the effects of animal production on the environment.		Science: C4 and F4
AS.08.01.01.a. Evaluate the effects of animal agriculture on the environment.	exam	
AS.08.02. Performance Indicator: Evaluate the effects of environmental conditions on animals.		Science: C6 and F4
AS.08.02.01.b. Describe the effects of environmental conditions on animal populations and performance.	exam, team activity, live bird class reasons	
BS.01.01. Performance Indicator: Distinguish major innovators, historical developments and potential applications of biotechnology in agriculture.		Science: E2, F6 and G3 Language Arts: 8 Social Studies: 2b, 8a, 8c and 8e
BS.01.01.02.a. Investigate current applications of biotechnology in agriculture.	exam	
BS.01.01.03.c. Assess the future impact agricultural biotechnology could have on world populations.	exam	
ESS.04.01. Performance Indicator: Use pollution control measures to maintain a safe facility environment.		Science: F4 and F5
ESS.04.01.01.a. Identify types of pollution and distinguish between point source and nonpoint source pollution.	exam	
ESS.04.01.02.a. Describe ways in which pollution can be managed and prevented.	exam	
ESS.04.02. Performance Indicator: Manage safe disposal of all categories of solid waste.		Science: F1, F4 and F5
ESS.04.02.01.b. Evaluate environmental hazards created by different types of solid waste, solid waste accumulation and solid waste disposal.	exam	
ESS.04.05. Performance Indicator: Manage hazardous materials to assure a safe facility and to comply with applicable regulations.		Science: F4 and F5
ESS.04.05.01.b. Describe risks related to hazardous materials and describe health and safety practices to reduce risks from hazardous materials.	exam	
FPP.01.01. Performance Indicator: Evaluate the significance and implications of changes and trends in the food products and processing industry.		Science: F1 Language Arts: 7 and 8 Social Studies: 1g and 8c
FPP.01.01.01.a. Discuss the history and describe and explain the components (e.g., processing, distribution, byproducts) of the food products and processing industry.	exam	
FPP.01.01.02.a. Identify and explain environmental and safety concerns about the food supply.	exam	

FPP.01.02. Performance Indicator: Work effectively with industry organizations, groups and regulatory agencies affecting the food products and processing industry.		Language Arts: 12 Social Studies: 6c and 8f
FPP.01.02.01.a. Explain the purposes of organizations that are part of or regulate the food products and processing industry.	exam	
FPP.01.02.02.b. Discuss the application of industry standards in the food products and processing industry.	further processed and ready to cook classes, exam	
FPP.02.02. Performance Indicator: Implement Hazard Analysis and Critical Control Point (HACCP) procedures to establish operating parameters.		Science: F5 Language Arts: 8
FPP.02.02.01.a. Describe contamination hazards (physical, chemical and biological) associated with food products and processing.	exam	
FPP.02.03. Performance Indicator: Apply safety and sanitation procedures in the handling, processing and storing of food products.		Science: A2 and F5
FPP.02.03.01.a. Explain techniques and procedures for the safe handling of food products.	exam	
FPP.02.03.02.b. Perform quality-assurance tests on food products.	egg classes, further processed classes	
FPP.03.01. Performance Indicator: Apply principles of science to food processing to provide a safe, wholesome and nutritious food supply.		Science: A2, B3 and F1
FPP.03.01.04.a. Discuss common food constituents (e.g., proteins, carbohydrates, fats, vitamins, minerals).	exam	
FPP.04.01. Performance Indicator: Utilize harvesting, selection and inspection techniques to obtain quality food products for processing.		Science: F1 Language Arts: 12
FPP.04.01.01.c. Assign quality and yield grades to food products according to industry standards.	grading classes	
FPP.04.01.02.b. Perform quality-control inspections of raw food products for processing.	carcass classes, parts grading	
FPP.04.01.03.a. Identify and describe accepted animal treatment and harvesting techniques.	exam	
FPP.04.01.04.c. Conduct pre-mortem and post-mortem inspections of animals.	all placing classes, team activity	
FPP.04.02. Performance Indicator: Evaluate, grade and classify processed food products.		Science: F1 Language Arts: 8
FPP.04.02.01.c. Evaluate, grade and classify processed meat, egg, poultry, fish and dairy products.	all classes	
FPP.04.03. Performance Indicator: Process, preserve, package and present food and food products for sale and distribution.		Math: 1C, 4A and 4B Science: F1
FPP.04.03.02.c. Evaluate foods prepared for the fresh-food market based on factors such as shelf life, shrinkage, appearance and weight.	ready to cook classes, egg classes	
FPP.04.03.04.c. Evaluate ready-to-eat food products.	further processed classes	
FPP.04.03.06.a. Identify and explain storage conditions to preserve product quality.	exam	

Appendix B: Related Academic Standards

National academic standards for mathematics, science, English language arts and social studies related to this event are reported below. The statements are based on information in reports of the respective associations/organizations in the academic areas. Some adjustment of numbering was done to facilitate the process of alignment with the standards that have been developed in the pathways of the Agriculture, Food and Natural Resources (AFNR) Career Cluster.

The approach was to determine the presence of alignment between the content standards, expectations or thematic strands of the four academic areas and the performance indicators of the AFNR Standards. Supporting statements have been included to clarify content of the respective content standards, expectations or thematic strands. The statements were initially developed independently by the respective organizations and, therefore, are not parallel in wording and presentation. Occasionally minor editing was done to adjust the background or stem of a statement but not the statement itself.

Mathematics

1. Standard and Expectations: Number and Operations
 - 1C. Compute fluently and make reasonable estimates.
4. Standard and Expectations: Measurement
 - 4A. Understand measurable attributes of objects and the units, systems and processes of measurement.
 - 4B. Apply appropriate techniques, tools and formulas to determine measurements.
5. Standard and Expectations: Data Analysis and Probability
 - 5A. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.
 - 5C. Develop and evaluate inferences and predictions that are based on data.
6. Standard and Expectations: Problem Solving
 - 6B. Solve problems that arise in mathematics in other contexts.
 - 6C. Apply and adapt a variety of appropriate strategies to solve problems.

Science

- A. Content Standard: Science as an Inquiry
 - A2. Design and conduct scientific investigations.
 - A4. Formulate and revise scientific explanations and models using logic and evidence.
- B. Content Standard: Physical Science
 - B3. Chemical reactions.
- C. Content Standard: Life Science
 - C1. The cell.
 - C2. Molecular basis of heredity.
 - C3. Biological evolution.
 - C4. Interdependence of organisms.
 - C5. Matter, energy and organization in living systems.
 - C6. Behavior of organisms.
- E. Content Standard: Science and Technology
 - E2. Understanding about science and technology.
- F. Content Standard: Science in Personal and Social Perspectives
 - F1. Personal and community health.
 - F2. Population growth.
 - F4. Environmental quality.
 - F5. Natural and human-induced hazards.
 - F6. Science and technology in local, national and global challenges.

G. Content Standard: History and Nature of Science
G3. Historical perspectives.

English Language Arts

4. Students adjust their use of spoken, written and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
5. Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
7. Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.
8. Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.
12. Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Social Studies

1. Thematic Strand: Culture
 - 1g. construct reasoned judgments about specific cultural responses to persistent human issues;
2. Thematic Strand: Time, Continuity and Change
 - 2b. apply key concepts such as time, chronology, causality, change, conflict and complexity to explain, analyze and show connections among patterns of historical change and continuity;
6. Thematic Strand: Power, Authority and Governance
 - 6c. analyze and explain ideas and mechanisms to meet needs and wants of citizens, regulate territory, manage conflict, establish order and security and balance competing conceptions of a just society;
7. Thematic Strand: Production, Distribution and Consumption
 - 7f. compare how values and beliefs influence economic decisions in different societies;
 - 7g. compare basic economic systems according to how rules and procedures deal with demand, supply, prices, the role of government, banks, labor and labor unions, savings and investments and capital;
 - 7h. apply economic concepts and reasoning when evaluating historical and contemporary social developments and issues;
 - 7d. describe relationships among the various economic institutions that comprise economic systems such as households, business firms, banks, government agencies, labor unions and corporations;
 - 7b. analyze the role that supply and demand, prices, incentives and profits play in determining what is produced and distributed in a competitive market system;
8. Thematic Strand: Science, Technology and Society
 - 8a. identify and describe both current and historical examples of the interaction and interdependence of science, technology and society in a variety of cultural settings;
 - 8c. analyze how science and technology influence the core values, beliefs and attitudes of society, and how the core values, beliefs and attitudes of society shape scientific and technological change;

8e. recognize and interpret varied perspectives about human societies and the physical world using scientific knowledge, ethical standards and technologies from diverse world cultures;

8f. formulate strategies and develop policies for influencing public discussions associated with technology-society issues, such as the greenhouse effect.

9. Thematic Strand: Global Connections

9d. analyze the causes, consequences, and possible solutions to persistent, contemporary and emerging global issues, such as health, security, resource allocation, economic development and environmental quality;