NEW JERSEY FFA

CAREER AND LEADERSHIP
DEVELOPMENT EVENTS

Poultry Evaluation

2017-2021

Purpose

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

Objectives

The New Jersey FFA Poultry Evaluation Career Development Event provides opportunities for the participant to:

- Make accurate observations and logical decisions.
- Discuss and justify decisions (orally and written).
- Communicate industry and product terminology.
- Identify USDA standards of product quality.
- Identify consumer acceptance criteria of products.
- Recognize economic importance of value-added products.
- Collaborate with others to analyze industry scenarios.
- Demonstrate the use of appropriate information technology used in the poultry industry.

Specifically, participants will:

- Evaluate and place live meat-type chickens and orally defend the selection.
- Evaluate and place live egg-type hens and orally defend the selection.
- Evaluate, grade and place ready-to-cook carcasses of chickens or turkeys and orally defend the placing.
- Evaluate and grade ready-to-cook carcasses and parts of chickens and turkeys.
- Evaluate and grade individual shell eggs for interior quality.
- Evaluate and grade individual shell eggs for exterior quality and indicate factors governing the grading.
- Evaluate pre-cooked or par-cooked further processed poultry meat products and indicate factors governing the evaluation.
- Identify poultry carcass parts.
- Complete a written examination on poultry production, management and science.
- Contribute to a team practicum and oral presentation related to poultry science.

NOTE: All rules and format are subject to change by discretion of the PA FFA Day officials and event coordinators. Those changes will be communicated through the event coordinators prior to the event. Please use this handbook as a guide, not as a guarantee of format.

Event Rules

TEAM MAKE-UP

- Teams will consist of four members. Team ranking is determined by combining the scores of all team members.
- Recommended attire is FFA t-shirt, long pants and closed toe shoes.
- Each team will register with NJ FFA and PA FFA. No participant, coach or advisor may enter the event area before the specified time.

PARTICIPANTS

- An appropriate amount of time, as determined by the event officials, will be provided for the exam and each class of the event.
- Any participant in possession of any electronic device not required by event rules is subject to disqualification.

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 coordinator and/or his/her designee.

Event Format

EQUIPMENT

Materials students must provide:

- Two sharpened No. 2 pencils
- A clean clipboard
- Calculator (non-programable, basic)

Materials provided by the event officials:

- Scantron sheet
- Clean sheets of paper for recording decisions
- All other event materials

INDIVIDUAL ACTIVITIES

LIVE POULTRY

MARKET BROILER PLACING (50 POINTS)

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.

EGG-TYPE HEN PLACING (50 POINTS)

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.

ORAL REASONS (50 POINTS)

Each participant may 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.

The oral reasons scorecard can be used a guideline for preparing (refer to the "Presenting Oral Reasons" section of the Poultry Science Manual for National FFA Career Development Events, current edition).

LIVE POULTRY SCORING

CRITERIA	Points
Market broilers placing	50
Egg-type hens placing	50
Oral reasons	50

READY-TO-COOK POULTRY

CARCASS GRADING (50 POINTS)

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.

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, carcass grading 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.)

CARCASS PLACING (50 POINTS)

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 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.

ORAL REASONS (50 POINTS)

Each participant may present oral reasons for this class as determined by event officials. 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.

READY-TO-COOK POULTRY SCORING

CRITERIA	Poi
Carcass grading	5
Carcasses placing	5
Oral reasons	5

SHELL EGGS

INTERIOR GRADING (50 POINTS)

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.

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, interior egg quality grading is scored based on the USDA quality grades AA, A, B and Loss. In the case of Class 76, 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.

EXTERIOR GRADING (50 POINTS)

Each participant will grade a class of ten 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.

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.

Scoring for exterior egg quality grading:

Participant's Grade	OFFICIAL GRADE		
	AA/A	B	NG
AA/A	5	2	0
B	2	5	0
NG	0	0	5
Loss	0	0	0

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

WRITTEN FACTORS CLASS (50 POINTS)

Written factors for exterior egg quality grading and has a value of 50 points per participant.

Exterior egg quality grading is evaluated for twelve different quality factors. Further processed poultry meat products are evaluated for seven 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 points are deducted.
- No score will be less than zero.

SHELL EGGS SCORING

CLASS	Points
Interior grading	50
Exterior grading	50
Written factor for Class	50

FURTHER PROCESSED POULTRY

BONELESS FURTHER PROCESSED (50 POINTS)

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), and identify the parts. 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.

Boneless Further Processed Poultry Meat Products:

DEFECT	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										

BONE-IN FURTHER PROCESSED (50 POINTS)

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) and identify the parts. Criteria for evaluation will include coating defects if applicable, color defects, consistency of size, broken products, miscut products, and evidence of foreign material. Participants may not touch any product; doing so will result in disqualification.

CARCASS PARTS IDENTIFICATION (50 POINTS)

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.

The 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.

FURTHER PROCESSED POULTRY SCORING

CLASS	Points
Boneless Further Processed	50
Bone-In Further Processed	50
Carcass Parts Identification	50

Scoring

	Individual	Team
Eleven Classes		
Written Exam		
Total Points Possible		

TIEBREAKERS

If ties occur, the following classes will be used in order to determine the ranking of award recipients:
INDIVIDUALS
1. Total scores of placing classes
2. Written management exam
TEAM
1. Score of team activity practicums

Awards

Awards will be presented to individuals and the first team based on their rankings at the CDE awards ceremony at the New Jersey State FFA Convention. Awards are sponsored by the National FFA Foundation and the New Jersey FFA Association.

The 1st place team will represent New Jersey at the National FFA Convention in October (if 60% mastery is met).

Individual
- Overall Medals
  - Medals – Top three individuals
- H.O. Sampson Certificates (hands-on sections ONLY)
  - Certificate – Top five individuals

Team
- Plaque Sponsored by the National FFA Foundation – 1st place

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 on 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*
- CDE Q & A – *FFA.org*
- One Less Thing
- Poultry Judging Handbook Lessons – *www.onelessthing.net*

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Exterior Egg Quality Scorecard

EGG NUMBER	EXTERIOR QUALITY GRADES		
	AA/A	B	NG
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

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Sample Scorecard

Egg Exterior Quality Written Factors

DEFECT	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															

Bone-In Further Processed Poultry Meat Products

DEFECT	PRODUCT NUMBER									
	1	2	3	4	5	6	7	8	9	10
Coating Void										
Inconsistent Color										
Inconsistent Size										
Broken/Broken Bone										
Miscut										
Foreign Material										
No Defect										

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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	o	o	o	o	o	o	o	o	o	o
Front Half	o	o	o	o	o	o	o	o	o	o
Rear Half	o	o	o	o	o	o	o	o	o	o
Whole breast with ribs	o	o	o	o	o	o	o	o	o	o
Bnls., skinless whole breast with rib meat	o	o	o	o	o	o	o	o	o	o
Whole breast	o	o	o	o	o	o	o	o	o	o
Bnls., skinless whole breast	o	o	o	o	o	o	o	o	o	o
Split breast with ribs	o	o	o	o	o	o	o	o	o	o
Bnls., skinless, split breast with rib meat	o	o	o	o	o	o	o	o	o	o
Split breast	o	o	o	o	o	o	o	o	o	o
Bnls., skinless split breast	o	o	o	o	o	o	o	o	o	o
Breast quarter	o	o	o	o	o	o	o	o	o	o
Breast quarter without wing	o	o	o	o	o	o	o	o	o	o
Tenderloin	o	o	o	o	o	o	o	o	o	o
Wishbone	o	o	o	o	o	o	o	o	o	o
Leg quarter	o	o	o	o	o	o	o	o	o	o
Leg	o	o	o	o	o	o	o	o	o	o
Thigh w/ back portion	o	o	o	o	o	o	o	o	o	o
Thigh	o	o	o	o	o	o	o	o	o	o
Bnls., skinless thigh	o	o	o	o	o	o	o	o	o	o
Drumstick	o	o	o	o	o	o	o	o	o	o
Bnls., skinless drum	o	o	o	o	o	o	o	o	o	o
Wing	o	o	o	o	o	o	o	o	o	o
Drumette	o	o	o	o	o	o	o	o	o	o
Wing Portion	o	o	o	o	o	o	o	o	o	o
Liver	o	o	o	o	o	o	o	o	o	o
Gizzard	o	o	o	o	o	o	o	o	o	o
Heart	o	o	o	o	o	o	o	o	o	o
Neck	o	o	o	o	o	o	o	o	o	o
Paws	o	o	o	o	o	o	o	o	o	o

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Sample Scorecard for Oral Reasons: Broilers, Egg-Type Hens or Ready to Cook Turkey Poultry Carcasses*

	Possible Points	Total Points
IMPORTANCE OF POINTS COVERED		
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	
Did the participant stress the crucial differences, or did he/she make stereotypic ("canned") comparisons of various factors?	8	
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	
SUB TOTAL POINTS	**18**	
APPEARANCE AND DELIVERY		
Did the participant stand still on two feet and face the judge?	2	
Did the participant speak clearly, distinctly and loud enough to be heard?	2	
Did the participant have an appropriate opening and closing statement?	2	
Did the participant speak smoothly without long pauses?	2	
Was the participant confident? Was the participant convincing?	4	
SUB TOTAL POINTS	**12**	
PROPER USE OF TERMS		
Did the participant use relevant terminology properly?	4	
Did the participant understand the terms used?	3	
Was the participant able to define the terms used? ** (**Participants may be asked to define terms used.)	3	
SUB TOTAL POINTS	**10**	
ACCURACY OF STATEMENTS		
Did the participant describe the birds/carcasses based on their actual visual appearance?	5	
Did the participant present accurate statements?	5	
SUB TOTAL POINTS	**10**	
TOTAL OF POINTS	**50**	

* To be used as a scoring "guide" by the official judges.

JUDGE'S NAME   JUDGE'S SIGNATURE   DATE

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Team Activity – Preparation Rubric

50 points

CHAPTER   TEAM NUMBER

INDICATOR	Very strong evidence of skill is present 5–4 points	Moderate evidence of skill is present 3–2 points	Weak evidence of skill is present 1–0 points	Weight	Total Points
Effective listening	Clearly evident that all team members are listening.	Listening occurs but distraction is evident.	Not listening to each other and/or talking over each other.	X2	
Oral communication	Clearly evident that all team members are discussing the topic.	Communication occurs but side conversations are occurring or two to three members dominating.	One member dominating conversation.	X2	
Demonstrated cooperation	Clearly all team members are completing tasks, sharing written and oral solutions.	Tasks are primarily completed by two to three members, other members assist occasionally.	Tasks primarily completed by one member, other members contributing only slightly.	X2	
Participated in the team preparation	Clearly all team members are engaged, attentive and making notes for the full term of event.	Members are engaged and attentive with two to three making notes, participation fades over time.	One to two members form the primary team, other members participate occasionally early, fade over time.	X2	
Demonstrated time management skills	Clearly all team members demonstrate efficient use of his/her time in comprising the plan.	Most team members demonstrate efficient use of his/her time in comprising the plan.	One to two team members demonstrate efficient use of his/her time in comprising the plan.	X2	
				TOTAL	

JUDGE'S NAME   JUDGE'S SIGNATURE   DATE

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Team Activity – Oral Presentation Rubric

200 points

CHAPTER   TEAM NUMBER

INDICATOR	Very strong evidence of skill is present 5–4 points	Moderate evidence of skill is present 3–2 points	Weak evidence of skill is present 1–0 points	Weight	Total Points
Articulating facts and issues and drawing conclusions	Exemplary in connecting facts and issues and articulating how they impact the issue based on their conclusions. Possesses a strong knowledge-base and is able to effectively articulate information regarding related facts and current issues.	Sufficient in connecting facts and issues and articulating how they impact the issue based on their conclusions. Possesses a good knowledge-base and is able to, for the most part, articulate information regarding related facts and current issues.	Has difficulty with connecting facts and issues and articulating how they impact the issue based on their conclusions. Possesses some knowledge-base but is unable to articulate information regarding related facts and current issues.	X8	
Oral communication	Clearly evident that all team members are discussing the topic.	Communication occurs but side conversations are occurring or two to three members dominating.	One member dominating conversation.	X8	
Demonstrated cooperation	Clearly all team members completing tasks, sharing written and oral solutions.	Tasks primarily completed by two to three members, other members assist occasionally.	Tasks primarily completed by one member, other members contributing only slightly.	X8	
Participated in the team preparation	Clearly all team members are engaged, attentive and making notes for the full term of event.	Members are engaged and attentive with two to three making notes, participation fades over time.	One to two members form the primary team, other members participate occasionally early, fade over time.	X8	
Demonstrated time management skills	Clearly all team members demonstrate efficient use of his/her time in comprising the plan.	Most team members demonstrate efficient use of his/her time in comprising the plan.	One to two team members demonstrate efficient use of his/her time in comprising the plan.	X8	
				TOTAL POINTS	

JUDGE'S NAME   JUDGE'S SIGNATURE   DATE

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CAREER AND LEADERSHIP DEVELOPMENT EVENTS

Agriculture, Food and Natural Resources Content Standards

Measurement Assessed	Where measured in event	Academic Content Standards Addressed
ABS.01. Performance Element: Apply management planning principles in AFNR businesses.		
ABS.01.01.01.b. Apply microeconomic principles to calculate values associated with different inputs and outputs in AFNR businesses (e.g., price, point of equilibrium, opportunity costs, marginal costs, etc.).	Team activity	CCSS.ELA-Literacy.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4 CCSS.MATH.CONTENT.HSS.ID.C.7 CCSS.MATH.CONTENT.HSS.IC.B.6 Financial Investing: Benchmarks: Grade 12, Statement 9
ABS.01.02. Performance Indicator: Read, interpret, evaluate and write statements of purpose to guide business goals, objectives and resource allocation.		
ABS.01.02.02.a. Identify the meaning and importance of goals and objectives in AFNR business enterprises.	Team activity	CCSS.ELA-LITERACY.W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.W.9-10.9 CCSS.ELA-LITERACY.W.11-12.9 CCSS.ELA-LITERACY.RI.9-10.4 CCSS.ELA-LITERACY.RI.11-12.4
ABS.02.02. Performance Indicator: Assemble, interpret and analyze financial information and reports to monitor AFNR business performance and support decision-making (e.g., income statements, balance sheets, cash-flow analysis, inventory reports, break-even analysis, return on investment, taxes, etc.).		
ABS.02.02.02.b. Use accounting information to prepare financial reports associated with inventory in AFNR businesses (e.g., cost of goods sold, margins on goods, etc.).	Team activity	CCSS.ELA-LITERACY.W.9-10.9 CCSS.ELA-LITERACY.W.11-12.9 CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.11-12.7 CCSS.MATH.CONTENT.HSS.ID.C.7 CCSS.MATH.CONTENT.HSS.IC.B.6 CCSS.MATH.CONTENT.HSN.Q.A.1 Savings: Benchmarks: Grade 12, Statements 3 Savings: Benchmarks: Grade 12, Statements 4 Savings: Benchmarks: Grade 12, Statements 6 Savings: Benchmarks: Grade 12, Statements 7 Financial Investing: Benchmarks: Grade 12, Statement 2

ABS.04.02. Performance Indicator: Develop production and operational plans for an AFNR business.		
ABS.04.02.01.c. Make recommendations to improve operational plans for an AFNR business based on best practices.	Team activity	AFNR Career Cluster – Agribusiness Systems Pathway, Statement 3 CCSS.ELA-LITERACY.ELA-W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4
ABS.04.02.02.b. Identify and assess alternative production systems for a specific agricultural product.	Team activity Exam	AFNR Career Cluster – Agribusiness Systems Pathway, Statement 3 CCSS.ELA-LITERACY.ELA-W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4
ABS.05.03. Performance Indicator: Assess marketing principles and develop marketing plans to accomplish AFNR business objectives.		
ABS.05.03.01.b. Assess alternative marketing strategies as related to marketing principles for AFNR businesses (e.g. value-adding, branding, niche marketing, etc.).	Team activity	AFNR Career Cluster – Agribusiness Systems Pathway, Statement 4 CCSS.ELA-LITERACY.L.9-10.6 CCSS.ELA-LITERACY.L.11-12.6 CCSS.ELA-LITERACY.RST.9-10.4 CCSS.ELA-LITERACY.RST.11-12.4 CCSS.ELA-LITERACY.W.9-10.2 CCSS.ELA-LITERACY.W.11-12.2 CCSS.ELA-LITERACY.RH.9-10.7 CCSS.ELA-LITERACY.RH.11-12.7 CCSS.ELA-LITERACY.SL.9-10.6 CCSS.ELA-LITERACY.SL.11-12.6 Buying Goods & Services: Benchmarks: Grade 12, Statements 1 Buying Goods & Services: Benchmarks: Grade 12, Statements 3 Buying Goods & Services: Benchmarks: Grade 12, Statements 4 Buying Goods & Services: Benchmarks: Grade 12, Statements 7
CS.01.01. Performance Indicator: Examine issues and trends that impact AFNR systems on local, state, national and global levels.		
CS.01.01.01.c. Evaluate and explain AFNR issues and their impacts to audiences with limited AFNR knowledge.	Team activity	
CS.01.01.02.c. Evaluate emerging trends and the opportunities they may create within the AFNR systems.	Team activity	

CS.01.02. Performance Indicator: Examine technologies and analyze their impact on AFNR systems.		
CS.01.02.01.c. Solve problems in AFNR workplaces or scenarios using technology.	Team activity Exam	
CS.01.02.02.b. Analyze how technology is used in AFNR systems to maximize productivity.	Team activity Exam	
CS.01.03. Performance Indicator: Identify public policies and their impact on AFNR systems.		
CS.01.03.01.c.Evaluate a public policy within AFNR systems and defend or challenge it.	Team activity	
CS.02.01. Performance Indicator: Research geographic and economic data related to AFNR systems.		
CS.02.01.02.c. Devise a strategy to solve a problem in an AFNR system using a set of economic data.	Team activity	
CS.02.02. Performance Indicator: Examine the components of the AFNR systems and their impact on the local, state, national and global society and economy.		
CS.02.02.01.c. Devise a strategy for explaining components of AFNR systems to audiences with limited knowledge.	Team activity	
CS.02.02.02.c. Evaluate how society traditions, customs or policies have resulted from practices with AFNR systems.	Team activity Exam	
CS.02.02.03.c. Evaluate how positive or negative changes in the local, state, national or global economy impacts AFNR systems.	Exam	
CS.05.02. Performance Indicator: Examine careers in each of the AFNR pathways.		
CS.05.02.01.a. Categorize careers in each of the AFNR pathways.	Exam	

CS.06.01. Performance Indicator: Explain foundational cycles and systems of AFNR.

CS.06.01.02.b. Analyze AFNR systems and determine their impact on producing and processing food, fiber and fuel.	Exam	

AS.01.01. Performance Indicator: Evaluate the development and implications of animal origin, domestication and distribution on production practices and the environment.

AS.01.01.01.c. Evaluate the implications of animal adaptations on production practices and the environment.	Exam	HS-LS4-3
AS.01.01.02.b. Describe the historical and scientific developments of different animal industries and summarize the products, services and careers associated with each.	Exam	HS-LS4-3
AS.01.02.01.c. Evaluate the effectiveness of different production methods and defend the use of selected methods using data and evidence.	Team activity Exam	HS-LS4-3

AS.01.02. Performance Indicator: Assess and select animal production methods for use in animal systems based upon their effectiveness and impacts.

AS.01.02.02.b. Calculate costs of marketing versus predicted increases in sales.	Team activity Exam	AFNR Career Cluster, Statement 1 AFNR Career Cluster – Animal Systems Pathway, Statement 3 STEM Career Cluster, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 3
AS.01.02.03.b. Analyze and evaluate the accuracy and effectiveness of records used in an animal system business.	Team activity Exam	AFNR Career Cluster, Statement 1 AFNR Career Cluster – Animal Systems Pathway, Statement 3 STEM Career Cluster, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 1 Buying Goods and Services, Benchmarks: Grade 12, Statement 3

AS.01.03. Performance Indicator: Analyze and apply laws and sustainable practices to animal agriculture from a global perspective.

AS.01.03.01.b. Analyze the structure of laws governing	Exam	AFNR Career Cluster, Statement 2 AFNR Career Cluster – Animal Systems Pathway, Statement 1

animal industries, international trade and animal production policies.		STEM Career Cluster, Statement 1, 4 CCSS.ELA-Literacy.W.9-10.9b CCSS.ELA-Literacy.W.11-12.9b CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.11-12.1 HS-ETS1-1
AS.01.03.02.b. Analyze the local and global impact of sustainable animal agriculture practices on human and environmental systems.	Team activity Exam	AFNR Career Cluster, Statement 2 AFNR Career Cluster – Animal Systems Pathway, Statement 1 STEM Career Cluster, Statement 1, 4 CCSS.ELA-Literacy.W.9-10.9b CCSS.ELA-Literacy.W.11-12.9b CCSS.ELA-Literacy.RI.9-10.1 CCSS.ELA-Literacy.RI.11-12.1 HS-ETS1-1
AS.02.01. Performance Indicator: Demonstrate management techniques that ensure animal welfare.		
AS.02.01.01.c. Implement and evaluate quality-assurance programs and procedures for animal production.	Team activity Exam Placing classes	HS-ETS1-2
AS.02.01.03.b. Analyze and document animal husbandry practices and their impact on animal welfare.	Exam	HS-ETS1-2
AS.02.02. Performance Indicator: Analyze procedures to ensure that animal products are safe for consumption.		
AS.02.02.02.c. Research and evaluate programs to assure the safety of animal products for consumption.	Placing and grading classes	HS-ETS1-2
AS.03.01. Performance Indicator: Analyze the nutritional needs of animals.		
AS.03.01.01.c. Assess nutritional needs for an individual animal based on its growth stage and production system. – Exam	Exam	
AS.03.01.02.b. Correlate a species' nutritional needs to feedstuffs that could meet those needs.	Exam	
AS.03.02 Performance Indicator: Analyze feed rations and assess if they meet the nutritional needs of animals.		
AS.03.02.01.c. Select appropriate feedstuffs for animals based on a variety of factors (e.g., economics, digestive system and nutritional needs, etc.).	Team activity Exam	

AS.03.02.02.c. Select and utilize animal feeds based on nutritional requirements, using rations for maximum nutrition and optimal economic production.	Team activity Exam	
AS.03.02.03.c. Make and defend decisions regarding whether to use feed additives and growth promotants after researching and considering scientific evidence, production system needs and goals, and input from industry professionals.	Team activity Exam	
AS.03.03 Performance Indicator: Utilize industry tools to make animal nutrition decisions.		
AS.03.03.01.c. Select, evaluate and defend the use of specific tools or equipment used to perform animal nutrition tasks.	Exam	
AS.03.03.03.c. Research and recommend technology improvements to provide proper nutrition to animals.	Team activity Exam	
AS.04.01. Performance Indicator: Evaluate animals for breeding readiness and soundness.		
AS.04.01.01.c. Select breeding animals based on characteristics of the reproductive organs.	Placing classes - hens	
AS.04.01.02.c. Evaluate and select animals for reproductive readiness.	Placing classes - hens	
AS.04.01.03.c. Treat or cull animals with reproductive problems.	Team activity	
AS.04.02. Performance Indicator: Apply scientific principles to select and care for breeding animals.		
AS.04.02.01.c. Select and evaluate a breeding system based on the principles of genetics.	Placing classes Exam	CCSS.MATH.CONTENT.HSS.MD.A.3 HS-LS3-2 HS-LS3-3
AS.04.02.02.c. Select and evaluate breeding animals and determine the probability of a given trait in their offspring.	Placing classes	CCSS.MATH.CONTENT.HSS.MD.A.3 HS-LS3-2 HS-LS3-3

AS.04.02.04.c. Create a plan to differentiate care of a species of breeding animals throughout their growth stages.	Team activity Exam	CCSS.MATH.CONTENT.HSS.MD.A.3 HS-LS3-2 HS-LS3-3

AS.04.03 Performance Indicator: Apply scientific principles to breed animals.

AS.04.03.01.c. Select animal breeding methods based on reproductive and economic efficiency.	Exam	
AS.04.03.02.c. Evaluate the implementation and effectiveness of artificial insemination techniques.	Exam	
AS.04.03.04.c. Select and assess animal performance based on quantitative breeding values for specific characteristics.	Placing classes	

AS.05.01. Performance Indicator: Design animal housing, equipment and handling facilities for the major systems of animal production.

AS.05.01.01.b. Critique designs for an animal facility and prescribe alternative layouts and adjustments for the safe, sustainable and efficient use of the facility.	Exam	AFNR Career Cluster – Animal Systems Pathway, Statement 2 STEM Career Cluster, Statement 4 STEM Career Cluster, Statement 5
AS.05.01.02.c. Select, use and evaluate equipment, technology and handling procedures to enhance sustainability and production efficiency.	Exam	AFNR Career Cluster – Animal Systems Pathway, Statement 2 STEM Career Cluster, Statement 4 STEM Career Cluster, Statement 5

AS.06.01. Performance Indicator: Classify animals according to taxonomic classification systems and use (e.g. agricultural, companion, etc.).

AS.06.01.01.c. Assess taxonomic characteristics and classify animals according to the taxonomic classification system.	Placing classes Exam	
AS.06.01.03.c. Apply knowledge of classification terms to communicate with others about animal systems in an effective and accurate manner.	Team activity Exam Placing classes	

AS.06.02. Performance Indicator: Apply principles of comparative anatomy and physiology to uses within various animal systems.		
AS.06.02.01.c. Correlate the functions of animal cell structures to animal growth, development, health and reproduction.	Exam	HS-LS1-2
AS.06.02.02.c. Apply the processes of meiosis and mitosis to solve animal growth, development, health and reproductive problems.	Exam	HS-LS1-2
AS.06.02.03.c. Apply knowledge of anatomical and physiological characteristics of animals to make production and management decisions.	Team activity Placing classes	HS-LS1-2
AS.06.03. Performance Indicator: Select animals for specific purposes and maximum performance based on anatomy and physiology.		
AS.06.03.01.c. Evaluate and select animals to maximize performance based on anatomical and physiological characteristics that affect health, growth and reproduction.	Team activity Exam Placing classes	STEM Career Cluster, Statement 5
AS.06.03.02.c. Choose, implement and evaluate sustainable and efficient procedures (e.g., selection, housing, nutrition and management) to produce consistently high-quality animals that are well suited for their intended purposes.	Team activity Exam	STEM Career Cluster, Statement 5
AS.06.03.03.c. Evaluate and select animals to produce superior animal products based on industry standards.	Team activity Placing and grading classes	STEM Career Cluster, Statement 5
AS.07.01. Performance Indicator: Design programs to prevent animal diseases, parasites and other disorders and ensure animal welfare.		
AS.07.01.01.c. Select and use tools and technology to meet specific animal health management goals.	Team activity Exam	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3

AS.07.01.02.c. Determine when an animal health concern needs to be referred to an animal health professional.	Team activity Exam	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
AS.07.01.03.b. Identify and describe common illnesses and disorders of animals based on symptoms and problems caused by wounds, diseases, parasites and physiological disorders.	Team activity Exam	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
AS.07.01.04.c. Design and implement a health maintenance and a disease and disorder prevention plan for animals in their natural and/or confined environments.	Team activity Exam	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
AS.07.01.05.c. Identify and describe surgical and nonsurgical veterinary treatments and procedures to meet specific animal health care objectives.	Exam	CCSS.MATH.CONTENT.HSN.Q.A.1 CCSS.MATH.CONTENT.HSN.Q.A.2 CCSS.MATH.CONTENT.HSN.Q.A.3
AS.07.02. Performance Indicator: Analyze biosecurity measures utilized to protect the welfare of animals.		
AS.07.02.01.c. Design and evaluate a biosecurity plan for an animal production operation.	Team activity	
AS.07.02.02.c. Research and evaluate the effectiveness of zoonotic disease prevention methods and procedures to identify those that are best suited to ensure public safety and animal welfare.	Team activity	
AS.08.01. Performance Indicator: Design and implement methods to reduce the effects of animal production on the environment.		
AS.08.01.01.b. Assess methods of reducing the effects of animal agriculture on the environment.	Team activity Exam	AFNR Career Cluster – Environmental Service Systems Pathway, Statement 1 HS-LS2-6 HS-LS2-7
AS.08.02. Performance Indicator: Evaluate the effects of environmental conditions on animals and create plans to ensure favorable environments for animals.		
AS. 08.02.01.c. Apply valid and reliable research evidence to predict the potential effects of	Exam	HS.LS4-6

different environmental conditions for an animal population.		
AS.08.02.02.c. Devise and improve plans to establish favorable environmental conditions for animal growth and performance based on a variety of factors (e.g., economic feasibility, environmental sustainability, impact on animals, etc.).	Exam	HS.LS4-6
CRP.04.01. Performance Indicator: Speak using strategies that ensure clarity, logic, purpose and professionalism in formal and informal settings.		
CRP.04.01.02.b. Apply strategies for speaking with clarity, logic, purpose and professionalism in a variety of situations in formal and informal settings.	Placing classes Oral reasons Team activity	
CRP.04.02. Performance Indicator: Produce clear, reasoned and coherent written communication in formal and informal settings.		
CRP.04.02.01.c. Evaluate the effectiveness of different forms of written communication for achieving their intended purpose.	Team activity	
CRP.04.02.02.c. Compose clear and coherent written documents (e.g., agendas, audio-visuals, drafts, forms, etc.) for formal and informal settings.	Team activity	
CRP.04.03. Performance Indicator: Model active listening strategies when interacting with others in formal and informal settings.		
CRP.04.03.01.c. Evaluate personal effectiveness and devise a plan to improve active listening skills.	Team activity	
CRP.04.03.02.c. Model active listening strategies in formal and informal settings.	Team activity	
CRP.06.01. Performance Indicator: Synthesize information, knowledge and experience to generate original ideas and challenge assumptions in the workplace and community.		
CRP.06.01.02.c. Devise	Team activity	

strategies (e.g., ask questions, brainstorm ideas, present facts and information etc.) to challenge common assumptions in workplace and community situations.		
CRP.07.01. Performance Indicator: Select and implement reliable research processes and methods to generate data for decision-making in the workplace and community.		
CRP.07.01.01.a. Identify and summarize reliable research processes and methods used to generate data for decision-making.	Team activity	
CRP.07.02. Performance Indicator: Evaluate the validity of sources and data used when considering the adoption of new technologies, practices and ideas in the workplace and community.		
CRP.07.02.01.b. Assess data sources for reliability and validity.	Team activity	
CRP.07.02.02.b. Assimilate data to assist in making a decision about the adoption of a new technology, practice or idea by workplaces and community organizations.	Team activity	
CRP.12.01. Performance Indicator: Contribute to team-oriented projects and builds consensus to accomplish results using cultural global competence in the workplace and community.		
CRP.12.01.01.b. Formulate action plans to complete team-oriented projects in the workplace and community, including plans for personal contributions.	Team activity	
ESS.03.02. Performance Indicator: Apply soil science and hydrology principles to environmental service systems.		
ESS.03.02.04.b. Assess precautions taken to prevent or reduce contamination of groundwater supplies.	Exam	CCSS.ELA-LITERACY.RST.11-12.1 CCSS.ELA-LITERACY.RST.11-12.2 CCSS.ELA-LITERACY.RST.11-12.7 CCSS.ELA-LITERACY.WHST.9-10.7 CCSS.ELA-LITERACY.WHST.11-12.7 CCSS.MATH.CONTENT.HSN-Q.A.1 CCSS.MATH.CONTENT.HSN-Q.A.2 CCSS.MATH.CONTENT.HSN-Q.A.3 HS-ESS2-5 HS-ESS2-6

ESS.03.04. Performance Indicator: Apply microbiology principles to environmental service systems.		
ESS.03.04.03.a. Examine the role that microbes play in wastewater treatment.	Exam	CCSS.ELA-LITERACY.RST.11-12.1 CCSS.ELA-LITERACY.WHST.9-10.2 CCSS.ELA-LITERACY.WHST.11-12.2 CCSS.ELA-LITERACY.WHST.9-10.5 CCSS.ELA-LITERACY.WHST.11-12.5 CCSS.ELA-LITERACY.WHST.9-10.9 CCSS.ELA-LITERACY.WHST.11-12.9 CCSS.MATH.CONTENT.HSF.BF.A.1 HS-LS2-3 HS-LS3-2 HS-ET1-2
ESS.04.01. Performance Indicator: Use pollution control measures to maintain a safe facility and environment.		
ESS.04.01.01.a. Identify and distinguish types of pollution and distinguish between point source and nonpoint source pollution.	Exam	HS-ETS1-2
ESS.04.02. Performance Indicator: Manage safe disposal of all categories of solid waste in environmental service systems.		
ESS.04.02.01.c. Develop a plan for solid waste disposal for a given situation that considers the environmental hazards, economic realities and social concerns associated with this task.	Exam	HS-ETS1-2
ESS.04.02.03.c. Evaluate the appropriateness of composting methods in different situations.	Exam	HS-ETS1-2
FPP.01.01. Performance Indicator: Analyze and manage operational and safety procedures in food products and processing facilities.		
FPP.01.01.01.b. Analyze and document attributes and procedures of current safety programs in food products and processing facilities.	Exam	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 1 AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2 AFNR Career Cluster, Statement 6 Manufacturing Career Cluster – Maintenance, Installation and Repair Pathway Statement 2 Manufacturing Career Cluster – Maintenance, Installation and Repair Pathway Statement 4 Manufacturing Career Cluster – Production Pathway 2 Manufacturing Career Cluster – Production Pathway 3
FPP.01.01.02.a. Research and	Exam	AFNR Career Cluster – Food Products and Processing Systems

categorize types of equipment used in food products and processing systems.		Pathway, Statement 1 AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2 AFNR Career Cluster, Statement 6 Manufacturing Career Cluster – Maintenance, Installation and Repair Pathway Statement 2 Manufacturing Career Cluster – Maintenance, Installation and Repair Pathway Statement 4 Manufacturing Career Cluster – Production Pathway 2 Manufacturing Career Cluster – Production Pathway 3
FPP.01.02. Performance Indicator: Apply food safety and sanitation procedures in the handling and processing of food products to ensure food quality.		
FPP.01.02.01.c. Identify sources of contamination in food products and/or processing facilities and develop ways to eliminate contamination.	Placing class – further processed	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 1 AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2
FPP.01.02.04.a. Describe the effects food-borne pathogens have on food products and humans.	Exam	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 1 AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2
FPP.01.03. Performance Indicator: Apply food safety procedures when storing food products to ensure food quality.		
FPP.01.03.01.a. Identify and summarize purposes of food storage procedures (e.g., first in/first out, temperature regulation, monitoring, etc.).	Exam	
FPP.03.01. Performance Indicator: Implement selection, evaluation and inspection techniques to ensure safe and quality food products.		
FPP.03.01.01.c. Outline procedures to assign quality and yield grades to food products according to industry standards.	Placing – grading, further processed, exterior egg classes	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 1 AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2 Buying Goods and Services, Benchmarks: Grade 12, Statement 7
FPP.03.01.02.b. Assemble procedures to perform quality-control inspections of raw food products for processing.	Placing and grading classes	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 1 AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2 Buying Goods and Services, Benchmarks: Grade 12, Statement 7
FPP.03.01.03.b. Examine and evaluate inspection and	Placing and grading classes	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 1

harvesting of animals using regulatory agency approved or industry-approved techniques.		AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2 Buying Goods and Services, Benchmarks: Grade 12, Statement 7
FPP.03.01.04.c. Evaluate and grade food products from different classifications of food products.	Placing, grading, further processed, egg classes	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 1 AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 2 Buying Goods and Services, Benchmarks: Grade 12, Statement 7
FPP.03.02. Performance Indicator: Design and apply techniques of food processing, preservation, packaging and presentation for distribution and consumption of food products.		
FPP.03.02.01.b. Compare weights and measurements of products and perform conversions between units of measure.	Team activity	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 3
FPP.03.02.02.c. Evaluate food quality factors on foods prepared for different markets (e.g., shelf life, shrinkage, appearance, weight, etc.).	Placing, grading, further processed, egg classes	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 3
FPP.03.02.03.a. Identify methods of food preservation and give examples of foods preserved by each method.	Exam	AFNR Career Cluster – Food Products and Processing Systems Pathway, Statement 3
FPP.03.03. Performance Indicator: Create food distribution plans and procedures to ensure safe delivery of food products.		
FPP.03.03.03.c. Propose distribution plans for food products that meet specific market demands.	Team activity	AFNR Career Cluster, Statement 7 AFNR Career Cluster – Food Products and Processing Pathway, Statement 3 Manufacturing Career Cluster – Logistics and Inventory Control, Pathway 2 Manufacturing Career Cluster – Manufacturing Product Process Development Pathway, Statement 1 Manufacturing Career Cluster – Manufacturing Product Process Development Pathway, Statement 2 Transportation, Distribution and Logistics Career Cluster, Statement 3 CCSS.ELA-Literacy.W.9-10.2 CCSS.ELA-Literacy.W.11-12.2 HS-ETS1-2
FPP.04.01. Performance Indicator: Examine the scope of the food industry by evaluating local and global policies, trends and customs for food production.		
FPP.04.01.03.a. Compare and	Exam	AFNR Career Cluster, Statement 7

contrast cultural differences regarding food products and processing practices.		AFNR Career Cluster – Food Products and Processing Pathway, Statement 3 Manufacturing Career Cluster – Logistics and Inventory Control, Pathway 2 Manufacturing Career Cluster – Manufacturing Product Process Development Pathway, Statement 1 Manufacturing Career Cluster – Manufacturing Product Process Development Pathway, Statement 2 Transportation, Distribution and Logistics Career Cluster, Statement 3 CCSS.ELA-Literacy.W.9-10.2 CCSS.ELA-Literacy.W.11-12.2 HS-ETS1-2
FPP.04.02. Performance Indicator: Evaluate the significance and implications of changes and trends in the food products and processing industry in the local and global food systems.		
FPP.04.02.01.b. Analyze and document significant changes and trends in the food products and processing industry.	Exam	Buying Goods and Services, Benchmarks: Grade 12, Statement 1
FPP.04.03. Performance Indicator: Identify and explain the purpose of industry organizations, groups and regulatory agencies that influence the local and global food systems.		
FPP.04.03.01.a. Examine and summarize the purposes of organizations that influence or regulate the food products and processing industry.	Exam	Transportation, Distribution and Logistics Career Cluster – Transportation Systems/Infrastructure Planning, Management and Regulation Pathway, Statement 4 Buying Goods and Services, Benchmarks: Grade 12, Statement 7
FPP.04.03.02.b. Assess the application of industry standards in the food products and processing industry.	Exam	Transportation, Distribution and Logistics Career Cluster – Transportation Systems/Infrastructure Planning, Management and Regulation Pathway, Statement 4 Buying Goods and Services, Benchmarks: Grade 12, Statement 7