

NM Public Education Department

INTRODUCTION TO THE SCIENCE OF AGRICULTURE

END-OF-COURSE EXAM | GRADE 9-12 | YEAR 17-18

ASSESSMENT BLUEPRINT

Purpose Statement

Introduction to the Science of Agriculture

The Introduction to the Science of Agriculture End-of-Course Exam is designed to measure student proficiency of the standards and performance elements aligned to the Common Career Technical Core Standards (https://cte.careertech.org/sites/default/files/CCTC_Standards_Formatted_2014.pdf). This course-level exam is provided to all students who have completed Introduction to the Science of Agriculture.

This exam can be given for the following STARS course code:

0133 - Introduction to the Science of Agriculture

Intended as a final exam for the course, this is a summative exam covering a wide range of content, skills, and applications. Scores are reported to the teacher, school, district, and state levels for the purposes of student grades, curriculum review, and NMTeach summative reports.

New Mexico State University College of Agriculture, Consumer and Environmental Sciences

This blueprint was developed and piloted in 2016 by the New Mexico State University's (NMSU) Secondary Agriculture Education Office (<http://aces.nmsu.edu/>) in partnership with New Mexico agriculture educators. NMSU uses test items with consent from MYCaert, Inc. (<http://www.mycaert.com>). MyCaert has given copyright permissions to the New Mexico Public Education Department (NMPED).

Sample Questions

The NMPED has released sample items (prior test exam questions in the test bank) for each performance element. Due to a limited item bank, only five, EOC specific, sample questions have been provided on the blueprint. The depth of knowledge (DOK) level has also been identified for each sample question.

Blueprint Table—Introduction to the Science of Agriculture

REPORTING CATEGORY	STANDARD	PERFORMANCE ELEMENT
FFA	AG-5	<p>Performance Elements: 5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources (AFNR) Career Pathways.</p>
	AG-BIZ-2, 3, 5	<p>Performance Elements: 2. Use record keeping to accomplish AFNR business objectives, manage budgets, and comply with laws and regulations. 3. Manage cash budgets, credit budgets, and credit for an AFNR business using generally accepted accounting principles. 5. Use sales and marketing principles to accomplish AFNR business objectives.</p>
BUSINESS/MARKETING	AG-BIZ-1, 5	<p>Performance Elements: 1. Apply management planning principles in AFNR businesses. 5. Use sales and marketing principles to accomplish AFNR business objectives.</p> <p>Sample Question: An organizational chart provides which of the following information about agribusiness? A. fiscal management & areas of responsibility B. areas of responsibility & channels of communication * C. business model & chain of command D. facilities map & areas of responsibility DOK 1 AG-BIZ-1</p> <p>Sample Question: What type of contract is generally used between the owner and transporter of goods? A. bill of handling * B. warehouse receipt C. processed order</p>

REPORTING CATEGORY	STANDARD	PERFORMANCE ELEMENT
		D. invoice DOK 1 AG-BIZ-5
AGRI-SCIENCE	AG-1, 3, 5	Performance Elements: 1. Analyze how issues, trends, technologies, and public policies impact systems in the AFNR Career Cluster. 3. Examine and summarize the importance of health, safety, and environmental management systems in AFNR activities. 5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources Career Pathways.
	AG-ANI-4	Performance Elements: 4. Apply principles of animal reproduction to achieve desired outcomes for performance, development, and/or economic production.
	AG-PL-2	Performance Elements: 2. Apply the principles of classification, plant anatomy, and plant physiology to plant production and and/or economic production.
	AG-ENV-5	Performance Elements: 5. Use tools, equipment, machinery, and technology common to tasks in environmental service systems. Sample Question: Evaporation and transpiration in the hydrologic cycle would cause which of the following? A. ground water B. precipitation* C. rivers D. oceans DOK 1
AGRI-SCIENCE (CONT.)	AG-FD-2	Performance Elements: 2. Apply principles of nutrition, biology, microbiology, chemistry, and human behavior to the development of food products.

REPORTING CATEGORY	STANDARD	PERFORMANCE ELEMENT
ANIMAL SCIENCE	AG-3, 5	<p>Performance Elements:</p> <p>3. Examine and summarize the importance of health, safety, and environmental management systems in AFNR activities.</p> <p>5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources Career Pathways.</p>
	AG-ANI-2, 3, 6, 7	<p>Performance Elements:</p> <p>2. Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.</p> <p>3. Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction, and/or economic production.</p> <p>6. Classify, evaluate, and select animals based on anatomical and physiological characteristics.</p> <p>7. Apply principles of effective animal health care.</p> <p>Sample Question:</p> <p>What is the difference between a ration and a balanced ration?</p> <p>A. They are the same thing in large meat animals slaughtered for human consumption.</p> <p>B. A ration is the amount of feed fed while a balanced ration meets an animal's need.*</p> <p>C. A ration is what is fed while a balanced ration shows forage vs. protein level.</p> <p>D. A ration is what animal eats while a balanced ration is human consumption.</p> <p>DOK 2</p> <p>AG-ANI-3</p>
	AG-BIZ-5	<p>Performance Elements:</p> <p>5. Use sales and marketing principles to accomplish AFNR business objectives.</p>
	AG-FD-2, 4	<p>Performance Elements:</p> <p>2. Apply principles of nutrition, biology, microbiology, chemistry, and human behavior to the development of food products.</p> <p>4. Explain the scope of the food industry and the historical and current developments of food products.</p>

REPORTING CATEGORY	STANDARD	PERFORMANCE ELEMENT
ANIMAL SCIENCE (CONT.)		
SOIL SCIENCE	AG-3, 4, 5	<p>Performance Elements:</p> <p>3. Examine and summarize the importance of health, safety, and environmental management systems in AFNR activities.</p> <p>4. Demonstrate stewardship of natural resources in AFNR activities.</p> <p>5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources Career Pathways.</p>
	AG-NR-2, 4	<p>Performance Elements:</p> <p>2. Analyze the interrelationships between natural resources and humans.</p> <p>4. Demonstrate responsible management procedures and techniques to protect or maintain natural resources.</p> <p>Sample Question</p> <p>Which of the following is a large area with a distinct combination of plant and animal life?</p> <p>A. savannah</p> <p>B. home range</p> <p>C. habitat</p> <p>D. biome *</p> <p>DOK 1</p> <p>AG-NR-2</p>
PLANT SCIENCE	AG-5	<p>Performance Element:</p> <p>5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources Career Pathways.</p>
	AG-FD-2, 4	<p>Performance Elements:</p> <p>2. Apply principles of nutrition, biology, microbiology, chemistry, and human behavior to the development of food products.</p> <p>4. Explain the scope of the food industry and the historical and current developments of</p>

REPORTING CATEGORY	STANDARD	PERFORMANCE ELEMENT
PLANT SCIENCE		food products and processing.
	AG-BIZ-5	Performance Element: 5. Use sales and marketing principles to accomplish AFNR business objectives.
	AG-PL-1, 2, 3	Performance Elements: 1. Develop and implement a crop management plan for a given production goal that accounts for environmental factors. 2. Apply the principles of classification, plant anatomy, and plant physiology to plant production and and/or economic production. 3. Propagate, culture, and harvest plants and plant products based on current industry standards.
COMMUNICATIONS	AG-5	Performance Element: 5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources Career Pathways.
	AG-ANI-6	Performance Element: 6. Classify, evaluate, and select animals based on anatomical and physiological characteristics.
	AG-BIZ-5	Performance Element: 5. Use sales and marketing principles to accomplish AFNR business objectives.
NATURAL RESOURCES	AG-4, 5	Performance Elements: 4. Demonstrate stewardship of natural resources in AFNR activities. 5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources Career Pathways.
	AG-NR-2, 4	Performance Elements: 2. Analyze the interrelationships between natural resources and humans. 4. Demonstrate responsible management procedures and techniques to protect or maintain natural resources.

Introduction to Science of Agriculture EoC Reporting Category Alignment Framework					
Reporting Category	Standard	DOK (Count by DOK)			Grand Total
		1	2	3	
Plant Science	AGPL2		3		3
	AGPL3		1		1
	AGFD4	1	1		2
	AG5	1			1
Soil Science	AG3		1		1
	AG4	1			1
	AGNR4	1	2		3
Animal Science	AG3		1		1
	AGANI2		1		1
	AGANI6		1	1	2
	AGANI7		2		2
	AGFD4		1		1
	AGFD2		1		1
	AGBIZ5			1	1
Total		12	30	3	45