

NM Public Education Department

APPLIED SCIENCE IN AGRICULTURE

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

ASSESSMENT BLUEPRINT

Purpose Statement

Applied Science in Agriculture

The Applied Science in 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 Applied Science in Agriculture.

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

0136 - Applied Science in 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.mycart.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—Applied Science in Agriculture

REPORTING CATEGORY	STANDARD	PERFORMANCE ELEMENT
Animal Systems	AG-ANI.1	Performance Element: Analyze historic and current trends impacting the animal systems industry.
	AG-ANI.2	Performance Element: Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.
	AG-ANI.4	Performance Element: Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production.
	AG-ANI.5	Performance Element: Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health. Sample Question: Which group of non-chemical factors would be effective for disinfecting a poultry house? A. electricity, sunlight, wind, rain B. sunlight, heat, time, electricity * C. sunlight, heat, time, rain D. electricity, sunlight, wind, heat DOK 3
	AG-ANI.6	Performance Element: Classify, evaluate and select animals based on anatomical and physiological characteristics.
Plant Systems	AG-PL.1	Performance Element: Develop and implement a crop management plan for a given production goal that accounts for environmental factors.

	AG-PL.2	<p>Performance Element: Apply the principles of classification, plant anatomy and plant physiology to plant production and management.</p> <p>Sample Question: Which material is the framework of the plant cell walls?</p> <p>A. fiber B. phloem particles C. cellulose * D. xylem tissue</p> <p>DOK 1</p>
	AG-PL.3	<p>Performance Element: Propagate, culture and harvest plants and plant products based on current industry standards.</p> <p>Sample Questions: What are seeds produced by crossing two parental lines resulting in more uniform, stronger plants known as?</p> <p>A. alleles B. asexually produces seeds C. hybrids* D. zygotes</p> <p>DOK 1</p> <p>Which of the following best describes the lumber industry term “timber cruising”?</p> <p>A. The process of determining the average height of the stand to align the removal techniques. B. The process of determining estimates of timer volume/growth. * C. The process of determining estimates of pulp wood production. D. The process of determining estimates of re-seeding programs.</p> <p>DOK 1</p>
	AG-PL.4	Performance Element:

		<p>Apply principles of design in plant systems to enhance an environment (e.g., floral, forest, landscape and farm).</p> <p>Sample Question: Why do landscape architects use repetition in the design plan?</p> <p>A. When objects are repeated it simplifies cost projections. B. It provides for a sense of stability. C. It aids in proportional development of the plan. D. When objects are repeated they simplify and unify a composition. *</p> <p>DOK 2</p>
Environmental Service Systems	AG-ENV.1	<p>Performance Element: Use analytical procedures and instruments to manage environmental service systems.</p>
	AG-ENV.2	<p>Performance Element: Evaluate the impact of public policies and regulations on environmental service system operations.</p>
	AG-ENV.3	<p>Performance Element: Develop proposed solutions to environmental issues, problems and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry and ecology.</p>
Power, Structural & Technical Systems	AG-PST.4	<p>Performance Element: Plan, build and maintain AFNR structures.</p>
Agriculture, Food & Natural Resources	AG.5	<p>Performance Element: Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways.</p>
Agribusiness Systems	AG-BIZ.1	<p>Performance Element: Apply management planning principles in AFNR businesses.</p>

Applied Science in Agriculture EoC Reporting Category Alignment Framework					
Reporting Category	Standard	DOK (Item # by DOK)			Grand Total
		1	2	3	
Animal Systems	AG-ANI.1		1		1
	AG-ANI.2		2		2
	AG-ANI.4		1		1
	AG-ANI.5	1		4	5
	AG-ANI.6		1		1
Plant Systems	AG-PL.1		1	3	4
	AG-PL.2	2	3	1	6
	AG-PL.3	9	4		13
	AG-PL.4	4	6		10
Environmental Service Systems	AG-ENV.1		3	2	5
	AG-ENV.2		1		1
	AG-ENV.3		2		2
Power, Structural & Technical Systems	AG-PST.4	1			1
Agriculture, Food & Natural Resources	AG.5		1		1
Agribusiness Systems	AG-BIZ.1	1	1		2
Total		18	27	10	55