

Master of Public Health
Integrative Learning Experience Report

***HAPPY HEALTH SNACK PROGRAM: AN EFFORT TO
ADDRESS FOOD INSECURITY IN SCHOOLS IN SOUTHEAST
KANSAS***

by
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submitted in partial fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

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Summary

This integrated learning report provides a comprehensive review of my educational experience in completing the Applied Practice Experience (APE). I completed this project with K-State Research and Extension (KSRE) Wildcat Extension District, assisting in the expansion of the Health Happy Snack Project (HHSP). The HHSP is a nutrition curriculum implemented in southeast Kansas to address food insecurity in public schools.

For this APE, I designed a nutrition-based curriculum for school-aged children in kindergarten through second grade. The goal of this project was to promote nutrition and wellness among early elementary students and to increase their knowledge of childhood nutrition and the MyPlate guidelines. The curriculum included nutrition lessons covering MyPlate categories, as well as hydration, handwashing, and food allergies. The lessons also included physical activity, tasting opportunities, in-class activities, and send-home recipes to promote family involvement after the in-school lessons. Additionally, I presented this curriculum to Blue Valley school nurses as part of professional development, offering one hour of credit for continuing education units (CEUs). I was also able to pilot the first lesson of the curriculum, hand washing, in local first and second-grade classrooms. I received feedback from nurses after the CEU presentation, and teachers following the handwashing lesson. This project allowed me to synthesize skills in program planning, health communication, and evaluation acquired throughout the MPH program.

Subject Keywords: nutrition, nutrition education, Happy Healthy Snack Project, MyPlate, health promotion, childhood nutrition

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Chapter 1 - Literature Review

Research shows that children in the United States consistently under consume fruits, vegetables, and whole grains, while exceeding the recommended intake of added sugars. These patterns persist into adolescence and adulthood, emphasizing the need for early interventions like the HHSP. Children in low-income rural settings, such as southeast Kansas, face additional risks due to food insecurity such as limited access to stores with healthy and affordable food, while being inundated with fast food options that are nutritionally poor and calorically dense (Cotwright et al., 2020). KSRE Wildcat district contains Crawford, Labette, Montgomery, and Wilson counties as seen in Figure 1.1. These four counties rank among the least healthy and wealthy in the state, with one in four children experiencing food insecurity (Wildcat Extension Education Foundation [WEEF], 2023).

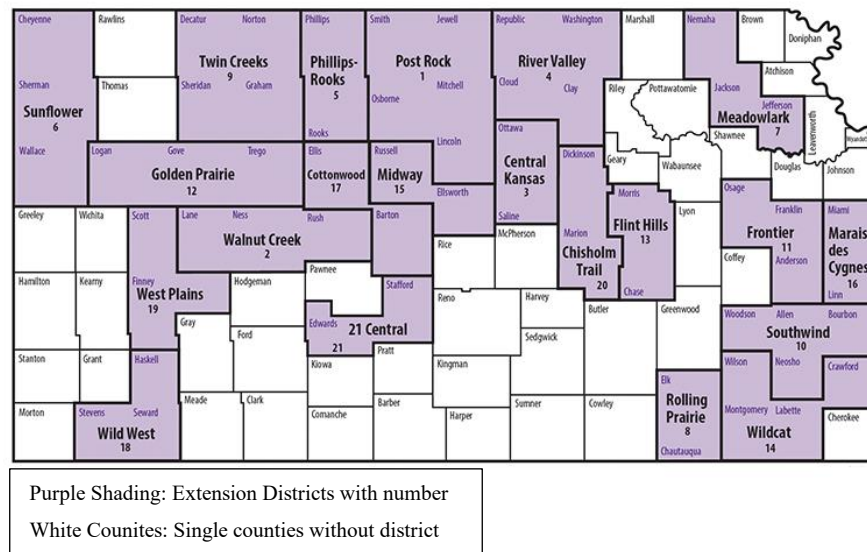


Figure 1.1 KSRE County and District Extension Offices

Adapted from *Kansas State Research and Extension: Statewide Locations*, by Kansas State University, 2024

In 2023, Feeding America estimated there were over 5,450 children that faced food insecurity within these four counties. According to Feeding America (2023), children in Southeast Kansas face high levels of need, as reflected in eligibility for federal nutrition programs. In Crawford County, an estimated 91% of children are eligible, compared to 85% in Wilson County, 83% in Montgomery County, and 73% in Labette County. Figures 1.2-1.5 highlight substantial disparities and highlight the importance of strengthening nutrition programs.

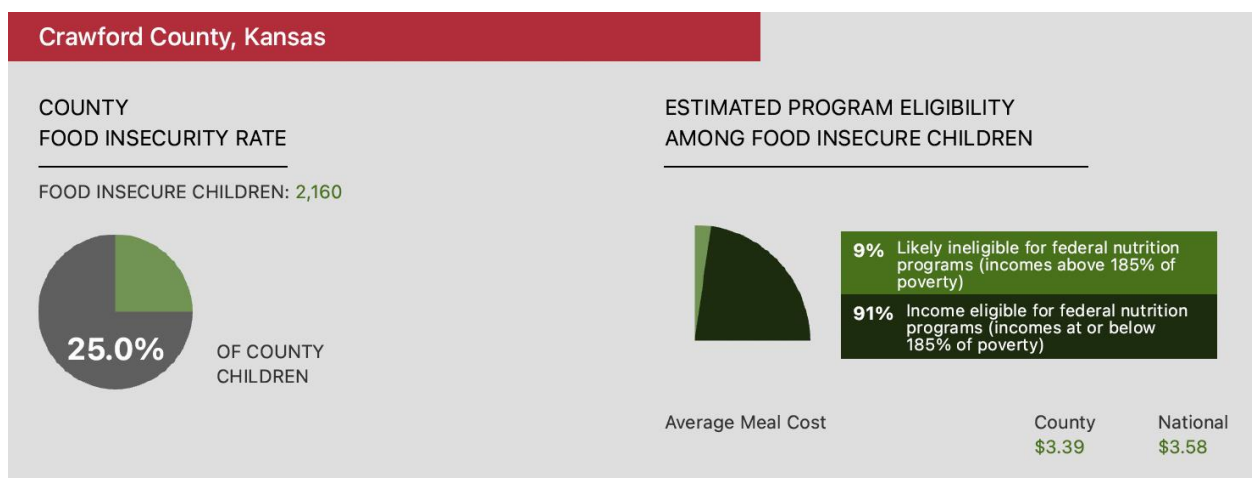


Figure 1.2 Crawford County Food Insecurity Rate

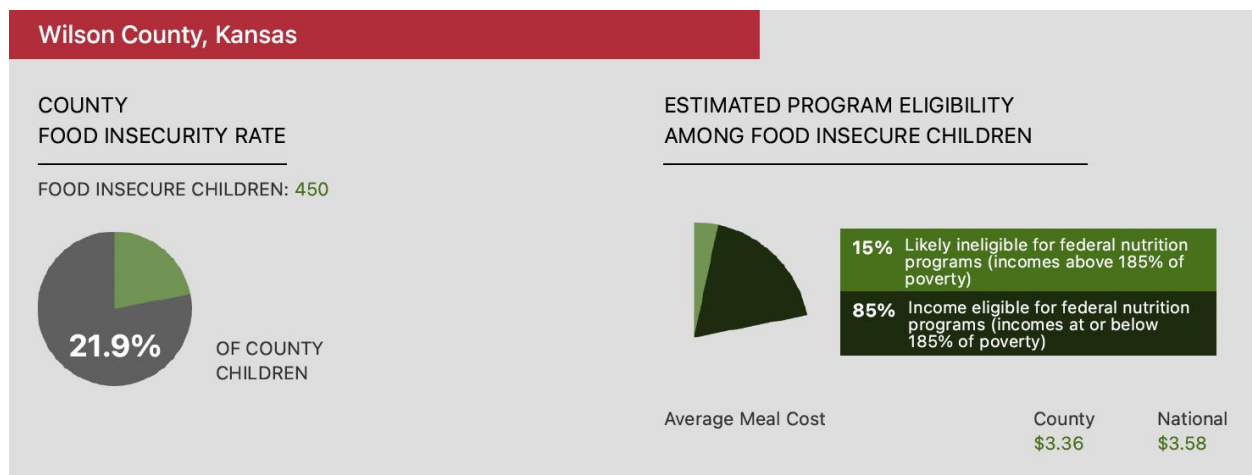


Figure 1.2 Wilson County Food Insecurity Rate

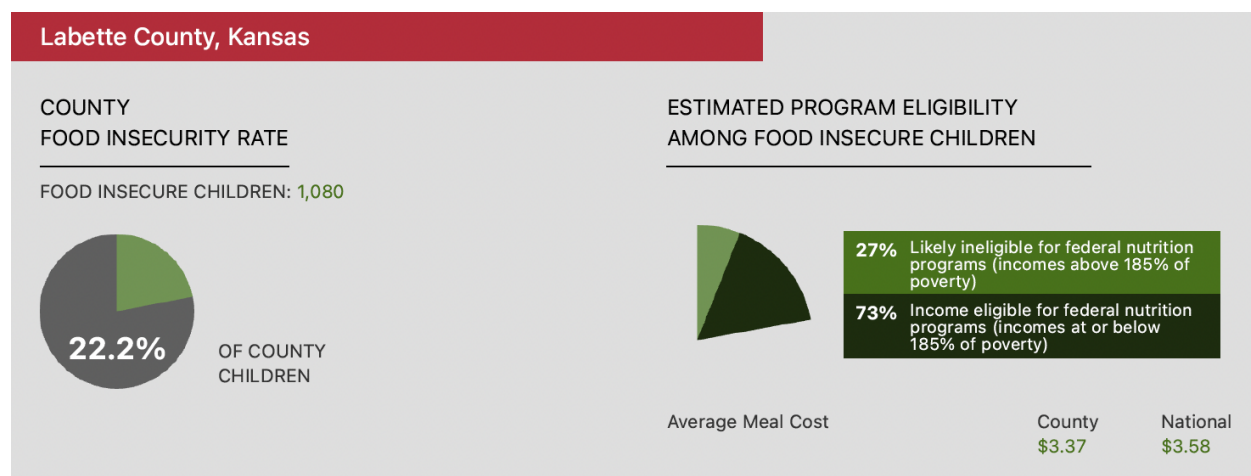


Figure 1.3 Labette County Food Insecurity Rate

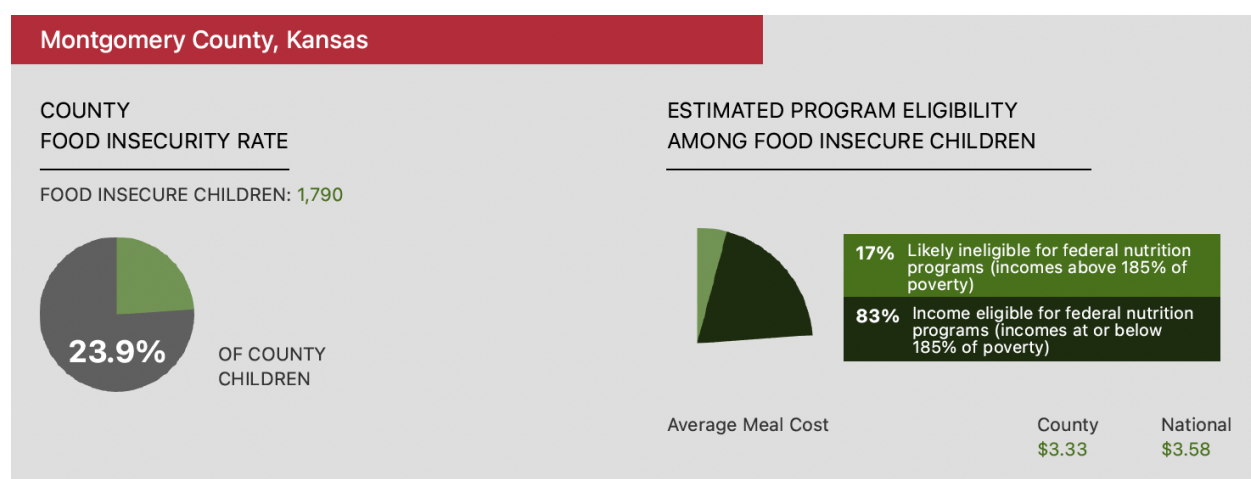


Figure 1.4 Montgomery County Food Insecurity Rate

Figure 1.2 – 1.5 Adapted from Feeding America, 2023

Addressing childhood nutrition and food insecurities requires a comprehensive and evidence-based approach that includes community involvement. KSRE has created a grant funded program, HHSP an effort to drive out food insecurity in southeast Kansas schools. The HHSP is grounded in Social Ecological Model (SEM) highlighting the multiple layers of influence on childhood nutrition. Addressing dietary inequities in

these communities requires both educational and structural interventions delivered in settings where children spend much of their day: schools. HHSP is being implemented in Wildcat district elementary schools currently with room for improvement and growth. Educating students on nutrition basics may help reduce these health burdens (Marchello et al., 2024). Cotwright et al.,(2020) report that children's food preferences are shaped early through exposure, repetition, and modeling. Interactive experiences such as taste testing paired with fun; relatable characters have been shown to increase willingness to try new foods. Also, the use of art-based approaches results in increased understanding and a more positive attitude about the message. This approach may be promising for low-income children who lack exposure to fruits and vegetables. Hesitancy to try unfamiliar foods is common in early childhood but can be reduced through repeated taste exposures. Multiple opportunities to try the same food increases liking and acceptance.

The United States Department of Agriculture (USDA) introduced MyPlate in 2011 as a replacement for the Food Pyramid, a simplified graphic designed to promote balanced meals. Awareness of the model has been linked to healthier diets (Schwartz & Vernarelli, 2019). MyPlate is a powerful tool; however, the rural teacher study revealed that teachers with lower nutrition literacy also had weaker knowledge of MyPlate, suggesting that professional development is critical for its effective implementation. Rural districts often have fewer financial and training resources than urban ones; incorporating MyPlate into teacher-friendly curricula can help reduce disparities in nutrition education delivery (Marchello et al., 2024). In a recent survey of rural Midwestern teachers, none scored in the "high nutrition literacy" category, and

knowledge of MyPlate was modest, with teachers citing limited time, training, and resources as barriers to integrating nutrition (Marchello et al., 2024). Complementing these findings, an online focus group study of Midwestern K–12 teachers found mixed awareness and inconsistent use of MyPlate, with some educators unaware of its existence. In contrast, others described incorporating it into math, science, or English lessons. Teachers reported barriers such as competing curriculum demands, cultural differences among students, and a lack of clarity on who should facilitate MyPlate lessons. They identified physical education and health teachers as likely facilitators but also emphasized the potential role of parents and cafeteria staff in reinforcing MyPlate messages (Hastert et al., 2022). These findings illustrate the importance of addressing teacher knowledge gaps while creating structured, age-appropriate lessons for elementary students. Structured lessons, such as those provided by the HHSP, integrate MyPlate into classroom practice through interactive activities, taste testing, and family engagement with send-home recipes according to much of the research in this field.

Research demonstrates that classroom-based nutrition lessons are most effective when paired with environmental support and family engagement. Roseman, Riddell, and Haynes (2011) identified best-practice components including behavioral focus, parental involvement, and supportive food environments. Similarly, Cotton et al. (2020) found that teacher-led interventions improved fruit and vegetable consumption and nutrition knowledge when combined with practical activities and take-home resources. Teacher and school nurse involvement is especially critical in emphasizing nutrition literacy. Nutrition literacy, defined as the ability to identify food groups,

interpret food guidance systems such as MyPlate, and make informed food decisions, provides a foundation for lifelong healthy behaviors (Ubbes *et al.*, 2024). Panunzio *et al.* (2007) showed that teacher-led nutrition lessons were more effective than those led by external specialists in improving dietary behaviors. The use of trusted relationships and daily reinforcement supports this point. Within HHSP, equipping teachers with structured lessons, tools, and professional development ensures consistent delivery, despite the challenges of time and training.

The HHSP is grounded in the Social Ecological Model (SEM), which emphasizes that health behaviors are influenced by multiple levels, including individual, interpersonal, organizational, community, and policy levels. The HHSP equips teachers within the Wildcat District with resources to provide students with a nutritious afternoon snack. In its first year, over 60% of students qualified for free or reduced lunch, and teachers reported that some children attempted to save food for later, underscoring the prevalence of hunger at home (WEEF, 2023). The project fills a crucial gap by offering a second snack that reduces hunger, improves classroom focus, and alleviates student anxiety about food insecurity. A classroom snack policy was created with support from K-State Extension SNAP-Ed and EFNEP, requiring that at least 50% and now aiming for 75% of snacks meet standards such as whole grains, 100% fruit, and low in added sugar, fat, and sodium (WEEF, 2023).

Kansas standards for English Language Arts, including reading for foundation, literature, and information, as well as writing, speaking, and listening, are all addressed through the HHSP curriculum. Kansas curricular student competencies for physical education are also met by developing a variety of motor skills, knowledge to move, and

develop personal and social skills related to movement. As well as developing personal skills, identifying the personal benefits of movement, and choosing to engage in physical activity.

The HHSP operates under the Wildcat Extension Education Foundation (WEEF), a nonprofit 501(c)(3) organization which supports the KSRE Wildcat District. WEEF's mission is to enhance the Wildcat Extension District's efforts to build strong communities through enduring financial support for research-based education and collaboration. The foundation provides relevant, reliable information and programs related to Agriculture, Family and Consumer Sciences, Horticulture, 4-H and Youth Development, Expanded Food and Nutrition Education Program (EFNEP), Supplemental Nutrition Assistance Program Education (SNAP-Ed), Family Life, Healthy Living, and much more. It assists individuals, businesses, and communities in their efforts to find solutions, develop their knowledge base, and better themselves as a whole.

My APE preceptor, Katherine Pinto, M.S., is a Nutrition, Food Safety and Health Extension Agent with KSRE Wildcat District. With a background in nutrition education, SNAP-Ed, and EFNEP programming, she specializes in childhood food insecurity interventions and leads program evaluation for HHSP. Her expertise ensures alignment with USDA standards and community-based best practices, integrating classroom nutrition education with environmental and family-level strategies to promote healthy lifestyles.

Chapter 2 - Learning Objectives and Project Description

This chapter outlines the learning objectives and the work completed during my APE with the K-State Research and Extension, located in Girard, KS, a part of the Wildcat Extension District. Kansas State Research and Extension provides Kansans with research-based educational opportunities to improve their lives, livelihoods, and communities. My APE work centered around the Wildcat District's HHSP. The HHSP is an effort to drive out food insecurity in schools in Southeast Kansas. My primary objectives include:

1. Building the HHSP curriculum from the existing six lessons to twelve lessons to ensure evidence-based, population-centered nutrition lessons to include safe, healthy, fun, and practical nutrition and wellness materials.
2. Design and implement a population-based nutrition education curriculum focused on promoting nutrition and wellness among early elementary students.
3. Evaluate curriculum based on feedback and process assessment tools to ensure effectiveness and engagement.
4. Communicate public health content clearly and appropriately to both professional and community audiences.
5. Engage in interprofessional collaboration with public health professionals, educators, and school nurses to support and sustain the implementation of the curriculum within the school-based setting.

These objectives guided my project in a direction that enabled me to connect my public health education to practical and age-appropriate lessons. I designed and implemented a population-based nutrition education curriculum focused on promoting

nutrition and wellness among early elementary students to further the HHSP. I evaluated the HHSP curriculum that KSRE Agents had previously used in kindergarten through second grade and expanded the curriculum to include twelve more lessons. The original HHSP consisted of six lessons, each including a book reading, a coloring sheet, an activity, and a tasting experience. The lessons I created covered topics such as germs and handwashing, MyPlate, fruits and vegetables, whole grains, dairy, hydration, protein, and physical activity. I was able to expand on each of these lessons to enhance further the students' knowledge of the previously presented topics. The original lessons are provided in Appendix 1.

To review and build on existing lessons, I applied a detailed evaluation framework. The evaluation framework used to guide this project was adapted from a model originally developed by Tory Kay Dickey, MPH, at Kansas State University (2025), as a part of *Child Health Initiative for Lifelong Eating and Exercise*. Framework for the HHSP was used to assess lessons for evidence-based information, availability (seasonal and year-round), safety (allergies and choking), affordability, and USDA DGA compliance. This evaluation framework is illustrated in Table 2.1. Each lesson was evaluated for evidence-based components. Research has shown that exposure, repetition, and modeling increase the liking and acceptance of new foods (Ubbes et al., 2024). Accessibility of food is important, as often rural communities lack grocery stores, making fresh fruit and vegetables less available. Safety is a critical part of school-based nutrition curriculum. According to Food Allergy Research & Education FARE (2025). One in every thirteen children has a food allergy meaning roughly two students in every U.S. classroom. Choking is a risk when serving or consuming small foods such

as grapes and blueberries. The use of toothpicks in the send-home recipe was highlighted with a warning label. Affordability is also important, as mentioned in the literature review, the three counties this curriculum will serve are below the poverty line. Affordability was estimated by comparing the average cost of a USDA MyPlate aligned grocery basket from a rural Kansas grocery store to median county household income and SNAP benefits. The resulting cost - to - income ratio served as an indicator of affordability. Due to the rural location and travel needed to access groceries in southeast Kansas, adjustments are included in the cost - to - income ratio. The USDA Thrifty Food Plan (TFP) was utilized to ensure consistency with national standards and align with SNAP benefits for nutritious, practical diets. By utilizing the TFP, local food prices were compared to federal affordability guidelines. The use of fresh ingredients such as fruits and vegetables is encouraged by the USDA DGA. The guidelines also recommends no added sugars or sweeteners; therefore, recipes were either edited to meet compliance requirements or substituted with an alternative.

Table 2.1 Evaluation Framework

LESSON	EVIDENCE BASED	ACCESS	SAFE	AFFORDABILITY	USDA DGA
Protein - Egg	Yes	Yes	allergen risk	Yes	Yes
Fruit - Apples	Yes	Yes - fresh in fall	Yes	Yes	Yes
Hydration - Water	Yes	Yes	Yes	Yes	Yes
Vegetable	Yes	Yes	Yes	Yes	Yes
Fruit	Yes	Yes	cut grapes/blueberry	Moderate	Yes
Vegetable	Yes	Yes	Yes	Yes	Yes
Allergy	Yes	Yes	Yes	Yes	NA
MyPlate	Yes	Yes	Yes	Yes	Yes
Grains	Yes	Yes	allergen risk	Yes	Yes
Handwashing	Yes	Yes	Yes	Yes	NA
Dairy	Yes	Yes	allergen risk	Yes	Yes

Adapted from the Evaluation Framework developed by Tory Kay Dickey, MPH, Kansas State University, 2025

Chapter 3 - Results

The HHSP goal of promoting nutrition and wellness among early elementary students was achieved by developing and piloting a kindergarten through second-grade nutrition curriculum with lessons that aligned with MyPlate and USDA DGA, while meeting Kansas ELA and physical education benchmarks. During my time with KSRE, I designed nutrition lessons centered on protein, grains, fruits, vegetables, and dairy products, all of which are components of MyPlate. I also created a lesson focused on MyPlate, which could be used to introduce the food groups. I added lessons on handwashing and germs as an introductory lesson for the curriculum. I also felt it was important to address food allergies as they are becoming more prevalent in children in schools. A physical activity lesson was also included in the curriculum. A hydration lesson was also added to increase water consumption in elementary schools. I designed a second lesson on both fruits and vegetables, as research proves that repeated exposure is critical in helping children try and enjoy foods they once avoided. For each of these lessons, I was able to find a corresponding children's book, an activity, a food tasting item, a coloring sheet, and a send-home recipe. All lessons have learning objectives that are age-appropriate for kindergarten through second grade. Food tastings align with the topic of the lesson and meet USDA DGA standards. Learning objectives were aligned with Kansas English Language Arts and Physical Education benchmarks.

The HHSP used a logo from its prior lessons, a cheerful and colorful design featuring fruits and vegetables. I chose to continue using and followed the color theme

from the cartoon apple and orange that appear in the logo. I began my project by designing a PowerPoint presentation that can be used as a visual aid in kindergarten through second-grade classrooms. Classrooms have large smart boards on which these slides can be viewed. The graphics are appealing and age appropriate. Each slide features a visual representation of the book, including its title and author. Learning objectives are clear and defined, and a list of tasting activities, coloring sheets, and send-home recipes is provided. The slides include links that can be used in a classroom setting. The handwashing book includes a link to a read-aloud book, as the print copy was difficult to obtain. The handwashing book also has live links to the germ handwashing activity and facts about handwashing. The hydration lesson features a video about water fountains and how to use them properly, as many children who have come to school after COVID-19 have not previously used a water fountain. The allergy lesson includes great resources from Food Allergy Research and Education for classroom fun and education, such as a send-home infographic and information on how to become a PAL (Protect a Life) for those with food allergies.

To find age-appropriate books, I consulted with the school librarian at Morse Elementary and the Olathe Public Library librarians. Together, we found books that were age-appropriate and followed MyPlate and USDA DGA. I consulted with former and current teachers to ensure that lessons and learning objectives aligned with Kansas ELA and physical education benchmarks. Activities within the lessons promote physical activity and align with the Kansas Curricular Student Competencies for Physical Education, which have been developed in accordance with the SHAPE America National Standards.

When designing in-class tastings, it was essential to keep the offerings simple for easy preparation, as well as accommodate many students who would be participating in the tasting. Send-home recipes were sourced from FoodHero.org and given credit when rebranded with the HHSP logo. Send-home recipes follow USDA DGA guidelines and are within a reasonable difficulty level for kindergarten through second-grade students to assist with reading at home.

Post surveys were created in two different formats to appeal to different age groups. The first post-survey is aimed at younger students, such as kindergarten and early first-grade students. This form includes smiley faces to be circled to answer questions, such as happy, flat, or sad faces. It also includes a question about what their favorite part of the lesson was, with three options to pick from. The post-survey, aimed at older first graders and second graders, included an area for students to reflect on and write about what they had learned that day. There is a thumbs-up or thumbs-down option to choose from for the tasting, along with an area to write in their reasons for their choice.

The fall fruit lesson includes a taste test and a custom feedback form used to rate three varieties of apples, including texture, taste, and preferences of what was liked or disliked. I also created fruit and vegetable 'I Spy' activity papers. Additionally, a second fruit lesson includes a cut-and-paste pineapple activity. The grain lesson features a maze that was sourced from MyPlate/USDA. I created a hydration tracker to be sent home after the hydration lesson to encourage water drinking throughout the week. A coloring sheet from *Pig in Jeans* was used with the handwashing lesson and was well-liked by the Blue Valley first and second graders (see Appendix 5).

I created teacher feedback forms to facilitate the collection of feedback and ratings on the lesson. These forms contained questions regarding age-appropriateness, enjoyment, activities, understanding, and further education. The forms have a write-in section for advice or suggestions to enhance the HHSP. A program audit form was also designed to ensure that all aspects of the lesson are addressed. This form is intended to be given to a teacher or adult in the classroom, as well as the presenter, to serve as a checkpoint to ensure the lesson is completed.

After seeking counsel from my preceptor, Katherine, and Dr. Brenes about what Extension Agents utilize, I made a lesson overview that includes theme, overview, introduction, books, activity, tasting, physical activity, review, and materials needed. This form was initially created in Canva to be visually appealing and align with the curriculum's theme and color scheme; however, I learned Extension Agents prefer a simple approach, such as using a Word or Google Doc. Further information, such as the expected time for each part of the lesson, was also added. For book readings, a synopsis of the book was written, and questions for the audience to consider after the reading were added to the lesson overview.

I created a budget for the HHSP to reflect the costs necessary to deliver an age-appropriate nutrition curriculum. General supplies, such as copy paper, utensils, and reusable equipment like a crockpot, egg cooker, and blender, account for a large portion of the expenses. These items are an essential investment for use across multiple classrooms and schools. Tasting foods was part of the budget, as well as books, games, and activities.

As I created these lessons, I utilized the SEM to ensure the HHSP met the standards at the individual, interpersonal, organizational, community, and policy levels to become a successful multilevel intervention. The individual level was met through students gaining nutritional literacy and skills. Tastings were offered to help students recognize healthy foods and build positive relationships with multiple offerings of fruits and vegetables. Handwashing and allergy awareness training are essential skills for kindergarten through second-grade students to learn and practice. The interpersonal level was addressed by teachers modeling healthy behaviors and participating in tastings and activities that promoted healthy behaviors. Families would receive send-home recipes to engage in healthy eating at home after the lessons were taught in school. At the organizational level, the schools adopt classroom lessons and snack policies that align with USDA DGA and school-specific lists. Teachers can reinforce lessons taught with additional material. At the community level, a snack collection via an Amazon list or donation drive can be used to offer healthy snacks for students who lack the means to provide snacks for school days. Southeast Kansas schools partner with KSRE to participate in programs such as the HHSP. Policy level aligns with USDA DGA guidelines for tastings and recipes, as well as Kansas state education standards for curriculum.

I had the opportunity to present the HHSP curriculum to Blue Valley School District Nurses for one hour of continuing education under the supervision of the District Coordinating Nurse. I gave this presentation to twenty-seven nurses who care for students within the district, working as either a school nurse, overseeing entire schools, or nurse paraeducators who care for students one-on-one. The presentation focused

on the HHSP and ways to integrate lessons like this into their schools and classrooms. The presentation highlighted the use of fun, age-appropriate methods in classrooms to engage students in playful learning, demonstrating firsthand how nutrition education can be effective and enjoyable. Highlighting how the lessons meet education standards is important due to the current pressures schools and teachers face to complete the curriculum. Encouraging nurses to step out of their comfort zones and ask to get involved in classroom learning is something I am passionate about, and I wanted to encourage others to do so. School nurses play an important role in modeling healthy choices for students. The HHSP curriculum offers a fun and effective way to get involved in early elementary classrooms.

Chapter 4 - Discussion

The development and piloting of the expanded HHSP curriculum provided important insights into the feasibility and effectiveness of school-based nutrition curriculum for early elementary students in southeast Kansas. The results confirmed existing research demonstrating that exposure, repetition, and modeling improve children's willingness to try new foods (Cotwright et al., 2020). By aligning lessons with MyPlate and USDA DGA, the HHSP created an age-appropriate curriculum that promotes nutrition and wellness among early elementary students, increasing childhood nutrition and MyPlate knowledge, while influencing food preferences at an early age.

The findings highlight the value of integrating nutrition education directly into classroom settings. Teachers and nurses who observed or participated in the lessons reported that the activities were age-appropriate and engaging. Students responded positively to interactive components. This finding reinforces earlier research, which has shown that classroom-based nutrition programs are most effective when combined with hands-on learning and family engagement (Roseman et al., 2011). Notably, the use of send-home recipes and activity sheets provided a bridge between school and home environments, addressing one of the gaps identified in the literature: limited parental involvement in rural nutrition interventions (Cotwright et al., 2020).

The project also improved local understanding of how school nurses can contribute to classroom nutrition education. Prior research highlights teachers as key facilitators; the HHSP demonstrated that nurses can also successfully deliver nutrition content, model healthy behaviors, and serve as advocates for improved nutrition and

wellness within schools. This expands the potential workforce that can sustain nutrition education in rural districts where resources are limited.

New insights emerged from this project. First, incorporating lessons on food allergies and handwashing alongside MyPlate food groups broadened the definition of nutrition education to include safety and hygiene. Both of which are highly relevant in the classroom and public health contexts. Second, feedback from nurses and teachers highlighted the need for flexible delivery, some expressed concerns about the feasibility of tastings due to allergy and cultural considerations. In contrast, others suggested condensing content for more straightforward implementation into busy school schedules. This suggests that sustainability will depend on tailoring lesson plans to the unique constraints of each school while maintaining evidence-based core components.

Another key insight is that gaps in nutrition literacy among educators continue to be a significant barrier. While the HHSP materials were intentionally designed to be user-friendly, the research and piloting revealed that many rural teachers still have limited background knowledge in nutrition. This highlights the importance of pairing ready-to-use lesson plans with professional development opportunities to build educator confidence, ensure consistency of delivery, and support long-term success.

Several limitations should be acknowledged. The project was piloted on a small scale, with full implementation across the Wildcat District yet to occur. Feedback was primarily qualitative and came from teachers and nurses. Although the curriculum incorporated evidence-based strategies, the short timeframe of the APE limited the ability to measure long-term outcomes. Cultural relevance is another limitation, as some

recipes and tastings may not fully align with the diverse food traditions and preferences of all families in southeast Kansas.

Despite these limitations, the HHSP shows that a multilevel, school-based approach can be delivered effectively by applying social ecological and literacy frameworks to empower educators, students, and families to support nutrition and wellness. Ongoing implementation and evaluation will be needed to assess long-term outcomes. This project reinforces the importance of implementing nutrition education in early elementary classrooms.

In conclusion, the expanded HHSP curriculum helps fill gaps in childhood nutrition education by aligning evidence-based strategies with MyPlate and USDA DGA guidelines. This project work designed a valuable curriculum for school districts facing challenges such as food insecurity and limited nutrition literacy.

Chapter 5 - Competencies

Student Synthesis and Integration of MPH Foundational Competencies

Competency 9: Design a population-based policy, program, project or intervention

I was able to integrate the skill and knowledge of this competency by designing a nutrition-based curriculum for kindergarten through second grade students that will be a part of KSRE HHSP in southeast Kansas. The HHSP was created specifically to promote nutrition and wellness among early elementary. I reviewed research on child nutrition, food insecurity, and effective early intervention strategies to identify core learning objectives. I integrated these findings into engaging lessons that promote MyPlate knowledge, healthy food choices, physical activity and wellness. I was able to combine knowledge gained through coursework and research to construct the HHSP curriculum.

Competency 10: Explain basic principles and tools of budget and resource management.

I generated a budget for the HHSP to include all supplies and food needed for the lessons created. MPH 720 *Administration of Health Care Organizations* furthered my knowledge on project budgeting and resource management through a group project. I was able to modify the budget outline from our group project for HHSP to ensure all food, materials, printing, and cooking appliances were within the allocated budget. This process required evaluating cost -effectiveness while maintaining educational quality and demonstrating resource management skills.

Competency 11: Select methods to evaluate public health programs.

I adapted a structured table framework originally developed by Tory Kay Dickey, MPH (Kansas State University, 2025) to evaluate the HHSP as a public health program. Each lesson was systematically evaluated for evidenced – based material, accessibility, safety, affordability and meeting requirements of the USDA DGA. Modification of this framework simplified the information and pointed out areas for revision to support the program to reach its goals and objectives while remaining adaptable for continuous improvement.

Competency 18: Select communication strategies for different audiences and sectors.

During the development of the HHSP, I applied communication principles to create lesson plans, classroom activities, food tastings, evaluations for students and teachers, as well as take home recipes. I identified barriers to participation such as affordability and access. I designed lessons that would engage students both in the rural and suburban areas of Kansas. Food tastings are kept simple with affordability and accessibility being at the forefront of planning and implementing. This removes barriers from students' tasting, liking and requesting to have the food again at home.

Competency 19: Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation.

I was able to integrate the skill and knowledge of competency 11 through professional communication to both student and professional audiences. I implemented a pilot lesson where students were engaged in handwashing lessons, germ fighting

activity, and coloring sheets. Teachers were invited to provide feedback (see Appendix 4). I created and delivered an overview of the HHSP program as an oral presentation with PowerPoint to a large group of school nurses in the Blue Valley School District (see Appendix 6). This overview met stated objectives providing education to school nurses on how to implement nutrition curriculum into their schools. I worked with the Blue Valley Health Services Coordinator, Tara Asher RN MSN, to generate one hour of continuing education to the nurses that attended my presentation. This experience required adapting communication style and content to meet the needs of healthcare professionals, demonstrating synthesis of FNDH 880 *Professional Communication*, which prepared me to present to audiences of all backgrounds and knowledge levels for competency 18 and 19.

Table 5.1 Summary of MPH Foundational Competencies

Number and Competency		Description
9	Design a population-based policy, program, project or intervention	Design an elementary nutrition curriculum to promote nutrition and wellness knowledge.
10	Explain basic principles and tools of budget and resource management	HHSP grant funding and monies available were kept in mind when designing and planning the program budget.
11	Select methods to evaluate public health programs	Assess program materials for evidence-based material
18	Select communication strategies for different audiences and sectors	Design age appropriate and culturally sensitive education for K-2 nd grade for SE KS schools. Present a PowerPoint for school nurses in suburban with nutrition education for K-2 nd gr.
19	Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation	Training sessions to school nurses to pilot curriculum and offer CEU credit. Handwashing lessons to second grade. User friendly slides, implementation guides, activities and materials.

Table 5.2 MPH Competencies and Courses

22 Public Health Foundational Competencies Course Mapping	MPH 701	MPH 720	MPH 754	MPH 802	MPH 818
Evidence-based Approaches to Public Health					
1. Apply epidemiological methods to the breadth of settings and situations in public health practice	x		x		
2. Select quantitative and qualitative data collection methods appropriate for a given public health context	x	x	x		
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate	x	x	x		
4. Interpret results of data analysis for public health research, policy or practice	x		x		
Public Health and Health Care Systems					
5. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings		x			
6. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels					x
Planning and Management to Promote Health					
7. Assess population needs, assets and capacities that affect communities' health		x		x	
8. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs					x
9. Design a population-based policy, program, project or intervention			x		
10. Explain basic principles and tools of budget and resource management		x	x		
11. Select methods to evaluate public health programs	x	x	x		
Policy in Public Health					
12. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence		x	x	x	
13. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes		x		x	
14. Advocate for political, social or economic policies and programs that will improve health in diverse populations		x			x
15. Evaluate policies for their impact on public health and health equity		x		x	
Leadership					
16. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making		x			x
17. Apply negotiation and mediation skills to address organizational or community challenges		x			
Communication					
18. Select communication strategies for different audiences and sectors	FNDH 880				

22 Public Health Foundational Competencies Course Mapping	MPH 701	MPH 720	MPH 754	MPH 802	MPH 818
19. Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation	FNDH 880				
20. Describe the importance of cultural competence in communicating public health content		x			x
Interprofessional Practice					
21. Integrate perspectives from other sectors and/or professions to promote and advance population health		x			x
Systems Thinking					
22. Apply a systems thinking tool to visually represent a public health issue in a format other than a standard narrative			x	x	

Student Synthesis and Integration of MPH Emphasis Area

Competencies

Competency 1: Information literacy of public health nutrition.

Information literacy of public health nutrition was supported by using evidence-based guidelines such as the USDA DGA when planning tastings and send-home recipes for HHSP. Some seemingly child-friendly recipes were exchanged for healthier options due to added sugar or ingredients that contained added sugars. FNDH 600 *Public Health Nutrition* played a significant role in understanding food deserts and food insecurity, especially in rural areas like southeast Kanas where HHSP will be implemented.

Competency 2: Compare and relate research into practice.

When comparing and contrasting the original HHSP lessons, I was able to select evidence-based strategies such as repeated taste testing exposure in the new lessons. Using research to lay groundwork for lessons ensured the success of each lesson and likelihood of program longevity. KIN 710 *Program Planning and Evaluation* prepared me for assisting in the HHSP by increasing my knowledge of public health planning, implementing and evaluation of health promotion programs.

Competency 3: Population-based health administration.

When designing the HHSP lessons, I was able to base the lessons on the population that was planning to implement this program, rural southeast Kansas. When creating lessons to include food tastings and send-home recipes, I considered factors such as seasonally available foods, like apples for the fall fruit lesson. I also considered cost of food items, accessibility of foods and difficulty level of send-home recipe as well as USDA DGA.

Competency 4: Analysis of human nutrition principles.

Disease prevention and health promotion is essential to public health standards. The HHSP curriculum was developed to exemplify the importance of nutrition education and health knowledge in the school age child. Research proves that healthy habits formed in childhood lead to less chronic disease and poor health. Repeated exposure to fruits and vegetables is also a way to increase acceptance of such food items. Also, ensuring that food tasting items are nutrient dense is key component of human nutrient principles. FNDH 820 *Functional Foods for Chronic Disease Prevention* was vital in understanding how nutrition impacts health.

Competency 5: Analysis and Critique of Functional Foods, Nutraceuticals, and Dietary Supplements.

During my ILE and APE, I evaluated nutritional research on the role of dietary patterns and nutrient-dense foods in chronic disease prevention. The HHSP curriculum includes functional food choices supported by evidence, such as MyPlate and the USDA DGA. I reviewed literature on dietary patterns, nutrient density, and protective

factors that fruits and vegetables offer. Analyzing peer-reviewed studies allowed me to build a curriculum that was evidence-based and age-appropriate.

Table 5.3 MPH Emphasis Area Competencies

MPH Emphasis Area: Nutrition		
Number and Competency		Description
1	Information literacy of public health nutrition	Align lessons and tastings with USDA DGA guidelines
2	Compare and relate research into practice	Design nutritional tastings and exposures that are research based
3	Population-based health administration	Examine and expand population-based nutrition program
4	Analysis of human nutrition principles	Create nutrient-based tastings for lessons
5	Analysis and Critique of Functional Foods, Nutraceuticals, and Dietary Supplements	Update tasting and send home recipes for methodological accuracy within public health nutrition

Bibliography

- Cotwright, C. J., Alvis, C., De Jesus Jimenez, F., Farmer, P., Okoli, C., Delane, J., & Cox, G. O. (2020). Improving Willingness to Try Fruits and Vegetables Among Low-Income Children Through Use of Characters. *Health Equity*, 4(1), 84–90. <https://doi.org/10.1089/heq.2019.0113>
- Dickey, T. K. (2025). *Child Health Initiative for Lifelong Eating and Exercise: A systematic assessment, revision, and development of a USDA funded nutrition program* [Unpublished master's report]. Kansas State University.
- Feeding America. (2023). *Child food insecurity in Kansas* [Infographic]. Map the Meal Gap: Child Food Insecurity. <https://map.feedingamerica.org/>
- Food Allergy Research & Education. (2025). *For educators*. Food Allergy Research & Education. <https://www.foodallergy.org/living-food-allergy/information-you/educators>
- Georgios, P., Kyriaki, A., & Olga, M. (2025). Total Water Intake and Total Fluid Intake Worldwide: A Systematic Literature Review in Children and Adolescents. *Beverages*, 11(2), 46. <https://doi.org/10.3390/beverages11020046>
- Hastert, M., Chrisman, M., Endsley, P., Skarbek, A., & Marchello, N. (2022). Familiarity and Use of MyPlate: An Online Focus Group Exploration Among Midwestern K–12 Teachers. *Journal of Nutrition Education and Behavior*, 54(12), 1125–1131. <https://doi.org/10.1016/j.jneb.2022.08.017>
- Kansas State University Research and Extension. (n.d.). *K-State Research and Extension: Statewide locations* [Map]. Kansas State University. <https://www.ksre.k-state.edu/about/statewide-locations/>
- Korn, A. R., Butel, J., Davis, J., Yamanaka, A. B., Coleman, P., Wilkens, L. R., Economos, C. D., & Novotny, R. (2021). Role of social ecological model level on young Pacific children's sugar-sweetened beverage and water intakes: Children's Healthy Living intervention. *Public Health Nutrition*, 24(8), 2318–2323. <https://doi.org/10.1017/S1368980020004796>
- Marchello, N. J., Chrisman, M., Hastert, M., Skarbek, A., Endsley, P., & Hagen, J. (2024). An Assessment of Rural Midwestern Schoolteachers' Nutrition Literacy and MyPlate Knowledge: Implications for Current Practice and Policy. *Health Promotion Practice*. 2024, 0(0), <https://doi.org/10.1177/15248399241296105>
- Mierczak, K., & Garus-Pakowska, A. (2024). An Overview of Apple Varieties and the Importance of Apple Consumption in the Prevention of Non-Communicable Diseases—A Narrative Review. *Nutrients*, 16(19), 3307. <https://doi.org/10.3390/nu16193307>
- Nessmah, S., Tuck, C. J., Edellyne, C., Kellow, N. J., & Biesiekierski, J. R. (2025). The Impact of Egg Consumption on Gastrointestinal Health: A Systematic Literature Review and Meta-Analysis. *Nutrients*, 17(13), 2059–2094. <https://doi.org/10.3390/nu17132059>

- Panunzio, M. F., Antoniciello, A., Pisano, A., & Dalton, S. (2007). Nutrition education intervention by teachers may promote fruit and vegetable consumption in Italian students. *Nutrition Research* (New York, N.Y.), 27(9), 524–528.
<https://doi.org/10.1016/j.nutres.2007.06.012>
- Prelip, M., Kinsler, J., Thai, C. L., Erausquin, J. T., & Slusser, W. (2012). Evaluation of a School-based Multicomponent Nutrition Education Program to Improve Young Children's Fruit and Vegetable Consumption. *Journal of Nutrition Education and Behavior*, 44(4), 310–318. <https://doi.org/10.1016/j.jneb.2011.10.005>
- Roseman, M. G., Riddell, M. C., & Haynes, J. N. (2011). A Content Analysis of Kindergarten-12th Grade School-based Nutrition Interventions: Taking Advantage of Past Learning. *Journal of Nutrition Education and Behavior*, 43(1), 2–18.
<https://doi.org/10.1016/j.jneb.2010.07.009>
- Schwartz, J. L., & Vernarelli, J. A. (2019). Assessing the Public's Comprehension of Dietary Guidelines: Use of MyPyramid or MyPlate Is Associated with Healthier Diets among US Adults. *Journal of the Academy of Nutrition and Dietetics*, 119(3), 482–489.
<https://doi.org/10.1016/j.jand.2018.09.012>
- Ubbes, V. A., Whitesel, S., & Parkinson, N. S. (2024). MyPlate Food Model and Family Grocery Shopping with Second and Third Graders are Significant Interventions for the Development of Interactive Health Literacy Skills. *International Electronic Journal of Elementary Education*, 5. <https://doi.org/10.26822/iejee.2024.351>
- U.S. Department of Agriculture, & U.S. Department of Health and Human Services. (2020). Dietary Guidelines for Americans, 2020-2025 (9th ed.) Retrieved from <https://dietaryguidelines.gov>
- U.S. Department of Agriculture, Food and Nutrition Service. (2021, October 1). *Thrifty Food Plan, 2021* (FNS-916). <https://www.fns.usda.gov/cnpp/thrifty-food-plan-2021>
- Usturoi, M. G., Rațu, R. N., Crivei, I. C., Veleșcu, I. D., Usturoi, A., Stoica, F., & Rusu, R.-M. R. (2025). Unlocking the Power of Eggs: Nutritional Insights, Bioactive Compounds, and the Advantages of Omega-3 and Omega-6 Enriched Varieties. *Agriculture*, 15(3), 242.
<https://doi.org/10.3390/agriculture15030242>
- Wildcat Extension Education Foundation. (2023). Happy Healthy Snack Project packet: 2023 Elm Acres At-Risk Youth Grant application. Pittsburg, KS.
- Zhang, Y., Zeng, M., Zhang, X., Yu, Q., Zeng, W., Yu, B., Gan, J., Zhang, S., & Jiang, X. (2023). Does an apple a day keep away diseases? Evidence and mechanism of action. *Food Science & Nutrition*, 11(9), 4926–4947. <https://doi.org/10.1002/fsn3.3487>

Appendix

Appendix 1: Original HHSP Lesson 2024

Class #1

Topic- Germs and handwashing.

Reading: Review the handwashing worksheet from

[CORP_SC_5StepsHandwashingPoster_Simple_LT_EN_LSC140.pdf](#)

- (IF TIME) Book reading- https://www.amazon.com/What-Germs-First-lift-flap/dp/0794540937/ref=asc_df_0794540937/?tag=hyprod-20&linkCode=df0&hvadid=691744898874&hvpos=&hvnetw=g&hvrnd=15314153663511162578&hvppone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9024053&hvtargid=pla-2282247902399&psc=1&mcid=718b2899033130fab156e98174a9a46e&gad_source=1

Coloring sheet- [Germ-Activity.pdf](#)

Activity- Glow germ black light activity

Tasting- <https://foodhero.org/recipes/do-it-yourself-trail-mix>

Class #2

Topic- MyPlate

Book reading- The Two-bite Club [The Two-Bite Club | Food and Nutrition Service](#)

Coloring sheet- Choose MyPlate coloring sheet from www.myplate.gov

Activity- MyPlate pledge activity from www.myplate.gov

Tasting- Popeye Power Smoothie [Popeye Power Smoothie | Food Hero | Recipe](#)

Class # 3

Topic- fruits and vegetables

Book reading- I Can Eat a Rainbow [Amazon.com: I Can Eat a Rainbow \(Children's Book Collection\): 9798712819553: Rose, Olena: Books](#) or [Monsters Don't Eat Broccoli Amazon.com: Monsters Don't Eat Broccoli: 9780385755214: Hicks, Barbara Jean, Hendra, Sue: Books](#)

Coloring sheet- color your own rainbow page from book #1 or broccoli sheet from FoodHero [Broccoli Handout](#)

Activity- fruit and vegetable puzzles [Fruit and Veg puzzles](#)

Tasting- fruit salad with Graham crackers.

Class #4

Topic- whole grains

Book reading- if you give a moose a muffin.

Coloring sheet- whole grain coloring sheet from Food Hero.

<https://foodhero.org/coloring-sheets/whole-grains>

Activity- grain kit box

Tasting-whole grain muffin <https://foodhero.org/recipes/banana-oatmeal-muffins>

Class #5

Topic- Dairy + Sweetened drinks

Book reading- [Milk: From Cow to Carton \(Let's-Read-and-Find-Out Book\): Aliki, Aliki: 9780064451116: Amazon.com: Books](#)

Coloring sheet- [Milk | Food Hero](#)

Activity- Sugar kit display

Tasting- Yogurt parfait bar

Class #6

Topic- protein and physical activity

Book reading- https://www.amazon.com/This-How-Stay-Healthy-preschool/dp/074403955X/ref=asc_df_074403955X/?tag=hyprod-20&linkCode=df0&hvadid=548834148691&hvpos=&hvnetw=g&hvrnd=5420699459395502104&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9024053&hvtargid=pl_a-1454430398067&psc=1&mcid=7e20200e3bef338d92dc3ae7ebcb6db6&gclid=CjwKCAjwkuqvBhAQEiwA65XxQEOKp9LdAXI_fX0WzX-HtzE0OUvBONEMYpWGpcwgQ0p46fM4njeZahoCB80QAvD_BwE

Coloring sheet- protein coloring sheet from Food Hero. <https://foodhero.org/coloring-sheets/chicken>

Activity- dragon tails from CHFFF

Tasting- [Easy Pumpkin Protein Balls | USU](#)

Appendix 2: Nurse Feedback from CEU presentation

I think you did the best job ever!! Very informative and great ideas to implement in the elementary level!

Jennifer Barlows BSN, RN

School Nurse- Blue River Elementary

I thought you did a fantastic job! It's clear how much work and dedication you have poured into this project.

If anything - I would maybe suggest showing an example of the canva slide deck that you provide the teachers just so the nurses have an idea of what type of slides they would be showing or sharing with the teachers.

Otherwise, it was amazing!

Nurse Alli

Alli Wiles, BSN, RN

It was great! I loved how your presentation was an overview (as nurses we would never have time to do all of those presentations) so I'm guessing if you are presenting it to teachers then just have more specifics on how they can incorporate the lessons in their classroom based on age/grade and what the goal for each lesson is. I feel like the tasting portion is something that would make all of us cringe with so many cultural and allergy considerations so hoping that part is not mandatory as much as it sounds like it would be fun... it feels like that part would be the hardest to do.

Or is this a suggestion for outside personnel to present to classrooms? It sounds great but it was a bit overwhelming with how many lessons that would all be. Is it meant to be spread over an entire school year? Just more specifics, but again, I'm sure for teachers you have more of that laid out.

ALSO! Can I steal your links and videos or the handwashing portion?

I'm revamping mine and completely changing 3-5th grade into a "Healthy Habits" lesson with no Glo-germ lotion component like I do for K-2. I'm also doing these all literally the

week before and week of hearing and vision and I truly believe not a soul understands how stressful that is!

Anyhoo, you are amazing and I'm so excited for you to finish your masters!!!

Nurse Bri

Sunset Ridge Elementary

I think you did a fabulous job, and it was evident that you spend considerable time preparing for your project.

You covered key messages such as the "Why", reinforced the message with how to engage students with games/activities and provided resources for these activities.

All great!

I know that instructors like "feedback", so I had to stretch my brain a bit:

Here's what you might consider: (Shorten-organized into broader categories as opposed grouping by food group.)

Condensing slides to cover the food groups (fewer slides)-One to two slides for all food groups-why they are important

1. One slide for activities
2. One slide for recipes
3. One slide for contacts/URL links

Honestly, it is well done but thought if you must come up with something this would be possibly something to consider. Great Job!!

Gigi Touslee, BSBA, BSN, RN Harmony Middle School

Blue Valley School District CEU Presentation						
Course: Happy Healthy Snack Project						
Presenter: Janae Bell BSN RN						
Date: 9-2-25						
27 Nurse participants and evaluations						
	Excellent -1	Above Average-2	Average -3	Below Average -4	Poor - 5	Total
My overall rating of the course is:	27					27
Presenter(s) knowledge of the subject:	27					27
Organization of material:	27					27
Use of visuals/handouts:	27					27
Presentation style:	27					27
Held my interest:	27					27
Met objective #1: Understanding how nutrition lessons can be integrated into K-2 classrooms using engaging activities, stories and tastings	27					27
Met objective #2: observe and practice interactive strategies (eg book reading, game playing, food tasting) that make nutrition fun and memorable for young learners	27					27
Met objective #3: identify ways to adapt and implement the Happy Healthy Snack Project in their own classrooms or schools	27					27
Met objective #4: explain the health benefits associated with eating from My Plate food categories	27					27
Met objective #5: recognize the role of school staff in modeling healthy behaviors and reinforcing public health messages around nutrition and wellness	27					27
Comments:						
It's obvious how much work you put into this - way to go!						
Fabulous!						
Great presentation						
Good job						
Great info on Resources. Never heard of Hungry Free Kansas						
Quite impressive, well done, thank you!						
So knowlegable! A ton of great informaion and resources to take back to my school						

Appendix 3 Program Audit Handwashing Lesson

Program Audit	Handwashing Lesson	
Start time: 9:03	End Time: 9:45	Students #: 58
Date: 7/12/25	Site: Morse Elem. 2nd Grade	Educator: Janae Bell RN
Rating Key: ✓ = Complete, X = Not observed, / = Partial		
Rating	Lesson Implementation	Observation Notes
Introduction		
✓	Introduce self and lesson: This week we will learn about handwashing, do an activity	
✓	Ask students what they believe "healthy means": being healthy means doing what helps our bodies stay strong and feel good	
✓	Share a good time to wash hands by raising hands	
✓	Explain handwashing keeps us healthy by keeping germs away	
Book: Pig in Jeans Fights Germs by Brenda Li		
✓	Name healthy actions by Pig in Jeans	
✓	Ask questions about when Pig needed to wash hands	
✓	Connect book to objectives: (reinforce) We learned that germs can spread and make people sick, (practice) we practiced the steps to wash our hands the right way, (recall) name three times we need to wash our hands.	
Science: Glitter Germs		
✓	Watch Video	
✓	Point out key factors mentioned in video	
✓	Explain and model handwashing	
✓	prompt students to practice steps	
✓	discuss steps and importance of each step: scrub loosens germs, water rinses away	
Activities: Glitter Germs/Coloring		
✓	Prepare for activity	
✓	Half of group to glitter germ / sink	
✓	half of group to color pages	
✓	Color time: share amongst class	
Review:		
✓	Remind students everytime we wash hands we keep our bodies healthy.	
Comments:		

Appendix 4 Teacher Feedback Form – Handwashing Lesson



Teacher Feedback Form Handwashing Lesson

Your feedback is important to us! Please take a moment to share your thoughts about your learning experience with the Healthy Happy Snack Project

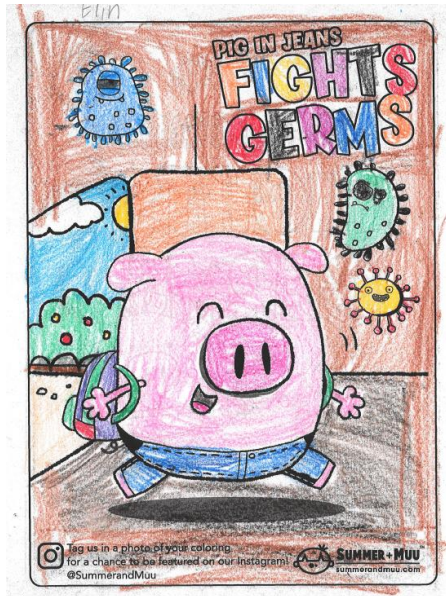
Rate the following aspects of your learning experience:

Please rate your experience on a scale of 1 to 5, with 5 being the highest score.	VERY POOR 1	POOR 2	FAIR 3	GOOD 4	VERY GOOD 5
1. Do you think the students enjoyed the lesson?					X
2. Do you think the lesson was age appropriate?					X
3. Do you think the lesson increased the students understanding of handwashing?					X
4. Was the video about germs age appropriate?					X
5. Did the lesson explain how soap washes away germs?					X
6. Was the hand washing lesson easy to follow along with?					X
7. Did the students enjoy the coloring page to go along with the book?					X
8. Did the student report how well or not well they did washing their "germs away"					X
9.					

Please provide additional feedback:

lesson was planned well & the
students were engaged!

Appendix 5 Handwashing Lesson at Morse Elementary



Appendix 6 Presentation to Blue Valley Nurses



KANSAS STATE
UNIVERSITY

Objectives:

- Understand how nutrition lessons can be integrated into K–2 classrooms using engaging activities, stories, and tastings.
- Observe and practice interactive strategies (e.g., book reading, game playing, food tasting) that make nutrition fun and memorable for young learners.
- Identify ways to adapt and implement the Happy Healthy Snack Project in their own classrooms or schools.
- Explain the health benefits associated with eating from My Plate food categories.
- Recognize the role of school staff in modeling healthy behaviors and reinforcing public health messages around nutrition and wellness.



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Janae Bell BSN, RN

- School Nurse – Year 6 at Morse Elementary
- Master of Public Health – Nutrition
 - Expected graduation Dec. 2025
 - My Why:
 - Brody, Tory 5th grade, Elin 2nd grade



K – State Research and Extension



Preceptor: Katherine Pinto
Nutrition, Food Safety and Health Agent
at K-State Research and Extension
Wildcat District



Needs Assessment

Students Enrolled in George Netela Elementary School

293
2022-2023 Student Approved for
Free or Reduced Lunches

Number of patients assessed	Percent of patients assessed
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Brain Storming and Planning

Key Players, Funding, Direct Education,
Policy System and Environmental Change

Direct Education:
Extension Agents, School Nurses, Classroom Teachers

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Direct Education



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Policy, System & Environmental Change



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MyPlate



USDA MyPlate
U.S. DEPARTMENT OF AGRICULTURE

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My Plate Lesson



Book Reading:
Jack & the Hungry Giant
Eat Right with My Plate
By Loreen Leedy

Learning Objectives:
Identify the five food groups on MyPlate
Give an example of a healthy food in each group

Activity: Cook Off Craze (1st & 2nd grade)

Activity: My Plate Coloring Page (Kindergarten)

Tasting: Cracker and Cheese Sandwich

Take Home Recipe: Food Group Friend



Protein Lesson



Book Reading:
Shelly Hen Lays Eggs
by Deborah Chancello

Coloring Sheet Link

Learning Objectives:
Name 1 reason eggs are good for our bodies
Understand that protein helps build muscles and keeps us strong

Activity: Egg and Spoon Race

Tasting: Perfect Hard-Cooked Eggs Link





Fruit Lesson

Learning Objectives:

Describe 1 health benefit of eating apples
Taste a bite of different apples and describe the flavor
Identify that apples grow on trees and are fruit



Book Reading:
Apple Harvest
by Calvin Harris



[Activity / Tasting: Apple Taste Test](#)
[Take home recipe: Apple Nachos](#)



Vegetable Lesson

Learning Objectives:

Identify 2 vegetables in the book
Discuss how vegetables help our bodies grow strong
Try a vegetable you may not have eaten before



Book Reading:
Monsters Don't Eat Broccoli
by Barbara Jean Hicks

[Tasting: Veggies with Ranch Dip](#)

[Activity: Vegetable Word Search \(2nd grade +\)](#)
[1 spray Vegetables \(K-1st\)](#)



Grain Lesson

Learning Objectives:

Recognize bread as a grain food group
Explain difference between whole grain and single grain
Report a favorite grain you like to eat



Book Reading:
From Wheat to Bread
By Bridget Heo

[Tasting: Whole Grain Cereal Buffet](#)

[Activity: Grains Maze Worksheet](#)

[Take Home Recipe](#)



Dairy Lesson

Learning Objectives:

Recognize milk and cheese as parts of dairy food group
Name 2 other types of dairy food
Tasting: Variety of Cheese cubes



Book Reading:
From Milk to Cheese
by Bridget Heo

[Activity: Mac & Cheese Brain Break Dance](#)

[Coloring page](#)

[Take home recipe: My Personal Pizza](#)



Allergy Lesson

Learning Objectives:

Students will learn what food allergies are
Students will describe how to be safe, kind, and inclusive of friends with food allergies



Book Reading:
The Bugabees
Friends with food allergies
By Amy Recob

[Become a PAL: PowerPoint](#)

[PAL Certificate](#)

[Tasting: Allergy Free Trail Mix](#)

[Take home PAL info](#)



Hand Washing Lesson

Learning Objectives:

Describe how germs spread
Demonstrate proper handwashing
Name three occasions handwashing is needed



Book Reading:
Pig in Jeans Fights Germs
By Brenda Li

[Glitter Germs Activity](#)

[Coloring Sheet Link](#)





Hydration Lesson





Video Lesson:
Healthy Hydration for kids

Learning Objectives:
 Explain 1 reason why water is needed in bodies
 Practice drinking water from fountain/bottle
 Identify when water needs to be drank

[Water Fountain Video](#)

[Tasting: Flavored Water](#)

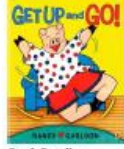
[Take Home Hydration Tracker](#)





Physical Activity Lesson





Book Reading:
Get Up and Go
By Nancy Carlson

Learning Objectives:
 Identify 2 ways you can move their bodies each day
 Demonstrate basic physical activities and
 Take part in a group movement game

[Activity: Move your Body](#)

[Tasting: Fruit Juice Slush Smoothie](#)

[Take Home Workout Sheet](#)





Fruit Lesson





Book Reading:
The Fruits We Eat
by Gail Gibbons

Learning Objectives:
 Taste a bite of new fruit and describe the flavor
 Identify amount of fruit to be eaten each day
 Put fruits in rainbow color order

[Activity/Brain Break: The Fruit Beat Song](#)

[Tasting: Rainbow Fruit Scowler](#)





Vegetable Lesson





Book Reading:
The Vegetables We Eat
by Gail Gibbons

Learning Objectives:
 Identify 2 vegetables and how they grow
 Identify amount of vegetables to be eaten each day
 Describe how vegetables help kids stay healthy

[Activity: Pass the Potato](#)

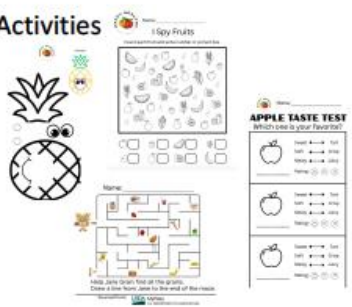
[Tasting: Sweet Peas](#)

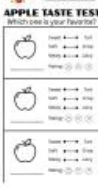
[Send Home Recipe: Mini Pepper Race Cars](#)

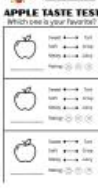


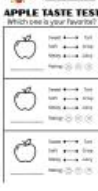


Activities













Activities











A worksheet template for a nutrition lesson reflection. At the top left is a small circular logo with a sun and the word "Nutrition". To its right is a line for the date. The main title is "Nutrition Lesson REFLECTION". Below the title are several sections for student input: a line for "Today's Lesson About:", a row of five smiley face icons with the instruction "How did you feel about the lesson?", a box for "Understanding:" containing thumbs up and down icons, a box for "Response to Learning:" with a speech bubble icon, and a box for "Something new I learned today:". The bottom of the page has a line for the student's name and a line for the teacher's name.



Ministry of National Education of the Republic of Turkey

Name: _____

Disables: E 1st 2nd _____

Did you like today's lesson:

☐ Yes ☐ No ☐ I don't know

Did you learn something new?

☐ Yes ☐ No ☐ I don't know

Did you try a new food:

☐ Yes ☐ No ☐ I don't know

Rate the food: are liked:

☐ 1 ☐ 2 ☐ 3

Put your favorite part of lesson

☐ Book / Story
☐ Food-tasting
☐ Activity / Game

 Perfect Hard-Cooked Egg

Kansas School Wellness Policy Guidelines – Physical Activity			
	Implementing	Transitioning	Modeling
Throughout the Day	Elementary school children have at least 60 minutes of moderate to vigorous physical activity during the school day. This includes time spent getting to and from class, recess, and time spent in physical education. Physical activity is used as a positive classroom management strategy and as a reward for students demonstrating positive classroom behavior. Physical education is available to all students.	Elementary school children have at least 30 minutes of moderate to vigorous physical activity during the school day. This includes time spent getting to and from class, recess, and time spent in physical education. Physical activity is used as a positive classroom management strategy and as a reward for students demonstrating positive classroom behavior. Physical education is available to all students.	Elementary school children have at least 30 minutes of moderate to vigorous physical activity during the school day. This includes time spent getting to and from class, recess, and time spent in physical education. Physical activity is used as a positive classroom management strategy and as a reward for students demonstrating positive classroom behavior. Physical education is available to all students.
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[illegible]



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