

The Wheat2School® Grant Project aims to provide free curriculum resources to any teacher in order to educate children about agriculture and healthy eating habits that include whole grains. The project supports hands-on agriculture and nutrition education, along with the consumption of local whole grains among students and their communities through an edible grain garden.

Wheat2School® was developed by the California Wheat Commission. Texas Wheat Producers Board obtained permission from the California Wheat Commission to align Wheat2School® to Texas Essential Knowledge & Skills (TEKS) standards. Wheat2School® was designed for elementary students grades 3-6, and the TEKS alignment reflect those grades; however, the content can be scaled up or down for other grade levels.

Lesson 1: The Wheat Plant

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Plant Structures (roots, stems, leaves, seeds)	3, 4, 5	Science 3.9A, 4.9A, 5.10A	Identify and describe common plant structures and their functions	Wheat plant parts studied in lesson directly address these standards
Plant Needs (water, light, air, nutrients)	3, 4, 6	Science 3.9B, 4.9B, 6.10A	Describe what plants need to live and grow; explain photosynthesis basics	The lesson covers basic wheat plant needs and photosynthesis process
Plant Life Cycle & Growth (germination, seed dispersal)	5	Science 5.10B, 5.11A	Understand stages of plant life cycle including reproduction and environmental interactions	Wheat growth process, planting, and development stages explored in lesson
Plant Adaptations to Environment	4, 6	Science 4.10A, 6.10B, 6.11A	Explain how plants adapt to environments and how biotic/abiotic factors affect growth	Wheat growing in various conditions highlights adaptations and environmental impact
Scientific Investigation and Observation	3-6	Science 6.11A	Conduct observations and investigations related to plants	Hands-on activities growing and observing wheat support scientific inquiry skills

Lesson 2: Soil Testing

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Soil Composition and Properties	3, 4, 5	Science 3.7A, 4.6B, 5.6C	Understand formation of soil, its components, and physical/chemical properties	Lesson covers soil testing and understanding soil nutrients with hands-on activities
Soil and Environmental Factors	4, 5, 6	Science 4.10A, 5.11A, 6.ESS.4A	Describe how environmental conditions affect soil formation and plant growth	Soil testing relates to nutrients impacting wheat growth and environmental influences
Scientific Investigation Skills	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Plan and conduct safe investigations using tools and proper scientific practices	Lesson includes field and lab testing of soil samples, data collection, and analysis
Use of Tools and Measurements	3, 4, 6	Science 3.4.A, 4.4.A, 6.4.B, 6.1.D	Use tools like pH indicators and measurement devices to collect and analyze scientific data	Soil testing activity uses pH testing kits and measurement tools aligned with TEKS
Conservation and Environmental Stewardship	5, 6	Science 5.11A, 6.11A	Explain importance of soil conservation and sustainable practices	Lesson reinforces responsible analysis and care for soil to support healthy crop production

Lesson 3: Norman Bourlog

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Impact of Norman Borlaug on Agriculture	3-6	Science 3.9C, 4.9C, 5.9C, 6.9C	Describe contributions of scientists in understanding resources and agricultural innovations	Highlights Borlaug's role in wheat production improvements and hunger reduction
Scientific Inquiry and Innovation	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Develop inquiry skills through asking questions, investigations, and evidence use	Borlaug's research and problem-solving exemplify scientific process and innovation
Agricultural Science Applications	3-6	Science 3.10A, 4.10A, 5.11A, 6.11A	Understand how science and technology impact farming and food production	Borlaug's development of high-yield wheat varieties promotes understanding of scientific applications
Global and Environmental Context	4, 5, 6	Science 4.9E, 5.9E, 6.9E	Recognize connections between agriculture, environment, and global food security	Contextualizes Borlaug's work within global sustainability and environmental stewardship
Historical and Cultural Understanding	3-6	Science 3.1B, 4.1B, 5.1B, 6.1B	Understand historical figures and events influencing science and society	Connects Borlaug's history to broader social and scientific history

Lesson 4: Parts of the Wheat Plant

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Identification of Wheat Plant Parts	3, 4, 5	Science 3.9A, 4.9A, 5.10A	Identify common plant structures—roots, stems, leaves, flowers, seeds—and describe their functions	Lesson focuses on identifying and describing wheat plant parts and their roles in plant's survival
Plant Structure and Function	3-6	Science 3.9B, 4.9B, 5.10B, 6.10A	Explore how plant structures enable life processes such as water transport, photosynthesis, and growth	Lesson details how wheat plant parts function to support growth and development
Comparison and Classification	3,4	Science 3.10A, 4.9C	Compare characteristics of different plants and classify them based on observable traits	Wheat plant serves as an example for comparing plant structures in classroom discussions
Scientific Observation and Inquiry	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Develop skills to observe, record, and describe plant parts and use scientific methods	Lesson includes activities to observe wheat plant parts, promoting inquiry and hands-on learning

Lesson 5: Simple Carbohydrates

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Role of Carbohydrates in Nutrition	3-6	Science 3.8A, 4.8A, 5.9A, 6.8A	Understand that carbohydrates provide energy to the body	Lesson covers carbohydrates as an energy source, aligning with nutrition TEKS standards
Chemical Breakdown of Carbohydrates	5, 6	Science 5.8C, 6.8C	Explain how carbohydrates can be broken down into sugars and used by organisms	Lesson addresses digestion and energy conversion from carbohydrates
Matter and Energy in Living Systems	3-6	Science 3.7B, 4.7B, 5.7B, 6.7B	Recognize that matter is made of particles and energy is involved in biological processes	TEKS focus on matter and energy supports lesson's explanation of carbohydrate function
Scientific Inquiry and Observation	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Develop investigation and observational skills related to food and energy	Lesson involves experiments or activities to observe carbohydrates and energy release
Health and Energy Usage	3, 4	Science 3.8B, 4.8B	Demonstrate how energy from food affects body functions and activity	Lesson links carbohydrate energy to physical activity and health

Lesson 6: Wheat Varieties

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Identification of Wheat Varieties	3-6	Science 3.9C, 4.9C, 5.9C, 6.9C	Describe differences among plant types and varieties, including agriculturally important crops	Lesson highlights diversity among wheat varieties, their characteristics, and agricultural uses
Plant Genetics and Breeding	4, 5, 6	Science 4.10A, 5.10A, 6.10A	Understand how genetics and selective breeding affect plant traits and crop improvement	Emphasizes breeding and selection for desirable wheat traits
Agricultural Science and Crop Management	3-6	Science 3.10A, 4.10A, 5.11A, 6.11A	Explore scientific methods in farming, including crop selection and management	Focuses on choosing and managing wheat varieties for different environments
Environmental Adaptations of Crops	4, 5, 6	Science 4.9E, 5.9E, 6.9E	Explain how plants adapt to their environment and how that affects growth and production	Discusses how wheat varieties are suited to specific climates and soils
Scientific Observation and Classification	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Develop skills in observing, classifying, and comparing plant varieties using scientific methods	Lesson activities involve observing wheat characteristics and comparing varieties

Lesson 7: Anthropology of Wheat

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Introduction to Anthropology	3-6	Social Studies 3.1B, 4.1B, 5.1B, 6.1B	Understand the study of humans, cultures, and communities across time	Lesson introduces anthropology as the study of human cultures and traditions
Cultural Diversity and Traditions	3-6	Social Studies 3.13A, 4.13A, 5.13A, 6.13A	Explain cultural practices, celebrations, and community beliefs	Focuses on how diverse human cultures develop unique traditions and practices
Impact of Human Decisions on Communities	3-6	Social Studies 3.12, 4.12, 5.12, 6.12	Analyze how individuals and groups influence and shape communities	Lesson explores how human activities change and shape communities culturally and economically
Historical and Contemporary Cultures	3-6	Social Studies 3.14, 4.14, 5.14, 6.14	Compare historical and present-day cultures and their influence on society	Connects anthropology to understanding past and current human societies and cultural evolution
Skills in Research and Inquiry	3-6	Social Studies 3.25, 4.25, 5.25, 6.25	Develop inquiry skills by gathering, analyzing, and presenting information about cultures	Lesson activities include research, observation, and presentation focused on anthropology

Lesson 8: Whole Wheat Foods

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Nutritional Value of Whole Wheat Foods	3-6	Health Ed 3.6A-D, 4.6A-D, 5.6A-D, 6.6A-D	Understand essential nutrients, food groups, portion sizes, and healthy vs unhealthy foods	Lesson explains nutritional benefits of whole wheat foods within the framework of balanced eating
Food Ingredients and Labels	3-6	Health Ed 3.6C, 4.6C, 5.6C, 6.6C	Examine ingredient lists and nutrition labels to identify added sugars and unhealthy ingredients	Lesson includes activities analyzing wheat food products for healthy and unhealthy ingredients
Healthy Eating Habits and Choices	3-6	Health Ed 3.7A-B, 4.7A-B, 5.7A-B, 6.7A-B	Identify factors influencing healthy eating habits and strategies for making good food choices	Lesson promotes understanding of benefits of whole grains for lifelong health and disease prevention
Relating Nutrition to Physical Health	3-6	Health Ed 3.6A, 4.6A, 5.6A, 6.6A	Connect food intake with energy, growth, and overall wellness	Reinforces role of whole wheat foods in providing energy and supporting body functions
Food Allergies and Safety	3-6	Health Ed 3.8A, 4.8A, 5.8A, 6.8A	Recognize common food allergens and importance of respecting food allergies	Lesson touches on wheat allergies and safe food practices in classroom settings

Lesson 9: Wheat Kernel Webquest

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Scientific Inquiry and Investigation	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Develop skills to ask questions, plan and conduct investigations, collect and analyze data	Webquest involves researching and analyzing wheat kernel structure using scientific methods
Plant Structure and Function	3-6	Science 3.9A, 4.9A, 5.10A, 6.10A	Identify parts of plants, describe their functions, and relate structure to function	Focus on wheat kernel parts and how they contribute to seed function and plant growth
Matter and Material Properties	3-6	Science 3.7A, 4.7A, 5.7A, 6.7A	Recognize physical properties of matter related to plant parts	Exploration of kernel components involves understanding matter properties and composition
Energy and Nutrition in Plants	3-6	Science 3.8A, 4.8A, 5.9A, 6.8A	Understand energy role and nutrient storage in seeds and plants	Covers carbohydrate storage in wheat kernels and energy transfer for seed germination
Use of Technology and Research Resources	3-6	Science 3.4B, 4.4B, 5.4B, 6.4B	Use digital tools and research methods to gather information	Webquest format encourages use of online and library resources to collect scientific information

Lesson 10: MyPlate

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
USDA MyPlate Food Groups	3-6	Health Ed 3.6A-D, 4.6A-D, 5.6A-D, 6.6A-D	Identify and classify foods into MyPlate food groups (fruits, vegetables, grains, proteins, dairy)	Lesson teaches students to recognize food groups and their nutritional roles using MyPlate guidelines
Healthy Portion Sizes	3-6	Health Ed 3.6B, 4.6B, 5.6B, 6.6B	Identify recommended portion sizes and visualize them using common objects	Lesson includes activities to understand portion control based on MyPlate recommendations
Nutrient Functions and Benefits	3-6	Health Ed 3.6A, 4.6A, 5.6A, 6.6A	Explain how different food groups provide essential nutrients and health benefits	Lesson highlights nutrient benefits of whole wheat and balanced diet components
Healthy Eating Habits	3-6	Health Ed 3.7A, 4.7A, 5.7A, 6.7A	Describe habits that support healthy eating and physical activity	Lesson addresses importance of balanced eating patterns and making healthy food choices
Nutrition Labels and Food Choices	3-6	Health Ed 3.6C, 4.6C, 5.6C, 6.6C	Read and interpret nutrition labels to make informed food choices	Lesson encourages reading labels to identify added sugars, fats, and nutritional value

Lesson 11: Gluten

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Understanding Gluten in Wheat and Flour	3-6	Health Ed 3.8A, 4.8A, 5.9A, 6.8A	Explain the role of proteins like gluten in food and their effect on health	Lesson explains gluten structure, function in baking, and its nutritional impact
Food Allergies and Sensitivities	3-6	Health Ed 3.8A, 4.8A, 5.8A, 6.8A	Identify common food allergens, including gluten, and explain importance of allergy safety	Addresses gluten intolerance, celiac disease, and the need for safe dietary accommodations
Scientific Investigation and Inquiry Skills	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Conduct investigations and communicate findings related to food components	Lesson includes exploration of gluten properties and effects through experiments or demonstrations
Nutritional Literacy and Health Choices	3-6	Health Ed 3.6C, 4.6C, 5.6C, 6.6C	Analyze nutritional labels and ingredients lists to make informed dietary decisions	Encourages critical thinking about gluten-containing products and safe food choices
Safety and Accommodation in Food Environments	3-6	Health Ed 3.8B, 4.8B, 5.8B, 6.8B	Understand food safety practices and accommodations for individuals with gluten allergies	Supports knowledge about cross-contact prevention and respectful accommodations for gluten-sensitive individuals

Lesson 12: Wheat Breeding

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Principles of Plant Genetics and Breeding	4, 5, 6	Science 4.10A, 5.10A, 6.10A	Understand inherited traits and how selective breeding affects plant characteristics and crop improvement	Lesson covers genetic traits, hybridization, and breeding techniques used in wheat improvement
Plant Reproduction and Propagation	3-6	Science 3.9A, 4.9A, 5.10B, 6.10B	Identify plant structures involved in reproduction and describe methods of propagation	Includes sexual and asexual reproduction concepts relevant to wheat breeding
Agricultural Science and Crop Production	3-6	Science 3.10A, 4.10A, 5.11A, 6.11A	Explore scientific knowledge and technology applied to farming practices and crop management	Demonstrates application of breeding science to real-world wheat production
Scientific Inquiry and Investigation Skills	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Plan and conduct investigations; analyze data; communicate results	Lesson activities involve experiments or analyses related to wheat breeding and trait selection
Role of Biotechnology in Agriculture	5, 6	Science 5.11B, 6.11B	Explore modern biotechnology techniques used in plant breeding and crop improvement	Introduces concepts like genetic modification and molecular breeding relevant to advanced agriculture

Lesson 13: Flour Milling

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Process of Flour Making from Wheat	3-6	Science 3.9A, 4.9A, 5.10A, 6.10A	Describe plant parts and processes related to agriculture and product creation	Lesson explains milling process connecting wheat plant parts to flour production
Using Measurement and Fractions in Cooking	3, 4, 5	Math 3.3, 4.3, 5.3	Represent and explain fractional units and use them in problem solving	Activities include measuring and combining flour fractions
Scientific Inquiry and Investigation Skills	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Plan and conduct investigations; collect data and communicate results	Lesson supports scientific observation and experimentation regarding flour quality and characteristics
Agricultural Science and Food Production	3-6	Science 3.10A, 4.10A, 5.11A, 6.11A	Explore scientific methods in agricultural production and food processing	Demonstrates real-world application of science in food production through flour milling
Understanding States of Matter	3, 4, 5	Science 3.7B, 4.7B, 5.7B	Recognize physical properties and changes in matter	Milling process illustrates physical changes in wheat as it becomes flour

Lesson 14: Review Lesson

Lesson Content Area	Grade(s)	TEKS Standard Code	TEKS Description	Alignment Notes
Review of Plant Science and Agriculture	3-6	Science 3.9A-B, 4.9A-B, 5.10A-B, 6.10A-B	Reinforce knowledge of plant structures, growth, and agricultural practices	Reviews plant biology, wheat growth, and agricultural science concepts
Nutrition and Food Science	3-6	Health Ed 3.6A, 4.6A, 5.6A, 6.6A	Revisit roles of nutrients, food groups, whole grains, and healthy eating	Recaps carbohydrate role, whole wheat nutrition, and MyPlate food groups
Scientific Inquiry and Data Analysis	3-6	Science 3.1A-C, 4.1A-C, 5.1A-C, 6.1A-D	Review investigative processes, data collection, and scientific communication	Reinforces inquiry skills through review activities and formative assessment
Cultural and Historical Perspectives	3-6	Social Studies 3.1B, 4.1B, 5.1B, 6.1B	Review contributions of Norman Borlaug and anthropological concepts	Summarizes connections between science, history, and society in wheat production
Interactive Technology Use	3-6	Science 3.4B, 4.4B, 5.4B, 6.4B	Use digital tools and games to consolidate learning	Includes use of Kahoot or other educational technology platforms for engaging lesson review