FORK FARMS™
FOOD ACCESS TECHNOLOGY

K-12 Curriculum NGSS Alignment (K-5)

The Fork Farms curriculum uses food systems, hydroponics, sustainability, and engineering design as real-world contexts for science learning. Through hands-on investigations and authentic problem-solving experiences, students develop scientific knowledge while exploring environmental stewardship, resource conservation, and agricultural innovation.

FORK FARMS			NGSS	
Lesson Title	**Lesson Focus**	**Pillar**	**Performance Expectations Supported**	**Alignment Rationale**
Lesson 1: The Food We Eat	Explore where food comes from and what plants need to grow.	Food Systems	K-LS1-1 4-LS1-1 5-LS1-1	Students investigate plant needs, structures, and the resources required for growth while examining the role of agriculture in food systems.
Lesson 2: What is Hydroponics?	Compare hydroponic and traditional growing systems and investigate how plants obtain resources.	Controlled Environment Agriculture (CEA)	K-2-ETS1-1 4-ESS3-2 5-ESS3-1	Students evaluate an engineered agricultural system and explore how technology can conserve resources while supporting plant growth.
Lesson 3: From Seed to Plant	Investigate seed structure, germination, and plant development.	Plant Science	1-LS1-1 3-LS1-1 4-LS1-1	Students model plant life cycles and explain how structures support growth, survival, and reproduction.
Lesson 4: The pH of Water	Investigate water quality and its effect on plant growth.	Systems Thinking	2-LS2-1 5-PS1-3	Students conduct investigations and analyze how water properties influence living systems and agricultural outcomes.
Lesson 5: Growing in the Flex Farm	Explore how plants obtain nutrients and grow without soil.	Controlled Environment Agriculture (CEA)	4-LS1-1 5-LS1-1	Students explain how plants acquire the resources needed for survival and growth within a hydroponic system.
Lesson 6: How to Feed 7.8 Billion People	Explore food insecurity and agricultural innovation.	Food Security	K-ESS3-3 5-ESS3-1 3-5-ETS1-1	Students investigate environmental challenges and evaluate solutions related to sustainable food production and resource management.
Lesson 7: The Plant and Plant Life Cycle	Investigate plant anatomy, life cycles, and environmental influences on growth.	Plant Science	3-LS1-1 3-LS3-2 4-LS1-1	Students develop models and use evidence to explain plant growth, reproduction, and adaptation.
Lesson 8: What is Harvesting?	Understand harvesting procedures and food production systems.	Food Systems	5-ESS3-1 3-5-ETS1-1	Students examine how agricultural systems meet human needs while managing resources responsibly.
Lesson 9: Completing the Life Cycle with Composting	Investigate decomposition and nutrient cycling.	Composting & Nutrient Cycling	5-LS2-1 5-ESS3-1	Students model the movement of matter through ecosystems and evaluate sustainable waste-management practices.
Lesson 10: Sustainability	Explore sustainable agriculture and resource conservation.	Sustainability	K-ESS3-3 5-ESS3-1	Students analyze human impacts on the environment and identify solutions that promote sustainability.
Lesson 11: How Is Our Food Packaged?	Investigate packaging materials, food labels, and environmental impacts.	Packaging & Distribution	2-PS1-2 3-5-ETS1-2	Students evaluate materials and design solutions that balance functionality, safety, and sustainability.

FORK FARMS™
FOOD ACCESS TECHNOLOGY

K-12 Curriculum NGSS Alignment (6-12)

The Fork Farms secondary curriculum engages students in systems thinking, environmental science, biology, chemistry, engineering design, and sustainability through authentic investigations of food production and agricultural technology.

FORK FARMS			NGSS	
Lesson Title	**Lesson Focus**	**Pillar**	**Performance Expectations Supported**	**Alignment Rationale**
Lesson 1: The Food We Eat	Investigate food systems, agriculture, and resource use.	Food Systems	MS-LS2-1 MS-LS2-3 HS-ESS3-1	Students analyze ecosystem interactions, resource availability, and the relationship between natural resources and human activity.
Lesson 2: What is Hydroponics?	Explore hydroponic agriculture as an engineered food-production system.	Controlled Environment Agriculture (CEA)	MS-LS2-3 HS-ESS3-4 HS-ETS1-2	Students evaluate technological solutions that improve food production while reducing environmental impacts.
Lesson 3: From Seed to Plant	Investigate plant structures, growth, and biological systems.	Plant Science	MS-LS1-3 HS-LS1-2 HS-LS2-3	Students model biological systems and explain how matter and energy support plant growth and development.
Lesson 4: The pH of Water	Examine water chemistry and nutrient availability.	Systems Thinking	MS-LS2-1 HS-PS1-6 HS-ESS2-5	Students investigate how chemical properties of water influence biological and environmental systems.
Lesson 5: Growing in the Flex Farm	Investigate photosynthesis, nutrient uptake, and matter cycling.	Controlled Environment Agriculture (CEA)	MS-LS1-6 HS-LS1-5 HS-LS2-5	Students explain how energy and matter move through organisms and ecosystems.
Lesson 6: How to Feed 7.8 Billion People	Analyze global food insecurity and agricultural solutions.	Food Security	MS-LS2-1 HS-ETS1-1 HS-ETS1-3	Students evaluate complex global challenges and develop evidence-based solutions related to food production.
Lesson 7: The Plant and Plant Life Cycle	Investigate reproduction, growth, and ecosystem relationships.	Plant Science	MS-LS1-4 HS-LS2-4 HS-ESS2-6	Students use evidence and models to explain life processes, reproduction, and cycling of matter in ecosystems.
Lesson 8: What is Harvesting?	Evaluate harvesting systems and food production practices.	Food Systems	MS-LS2-1 HS-LS2-7	Students analyze how agricultural practices affect environmental sustainability and biodiversity.
Lesson 9: Completing the Life Cycle with Composting	Investigate decomposition and nutrient recycling.	Composting & Nutrient Cycling	MS-LS2-3 HS-LS2-7 HS-ETS1-3	Students model ecosystem processes and evaluate sustainable waste-management solutions.
Lesson 10: Sustainability	Explore environmental stewardship and sustainable agriculture.	Sustainability	MS-ESS3-3 HS-LS2-7 HS-ESS3-1	Students evaluate human impacts on natural systems and design strategies to improve sustainability.
Lesson 11: How Is Our Food Packaged?	Investigate packaging materials, design, and environmental impacts.	Packaging & Distribution	MS-PS1-3 MS-ETS1-3 HS-ETS1-3	Students evaluate design tradeoffs and environmental consequences associated with packaging choices.