

Course Title: 6th Grade Agricultural Science/Industrial Technology

Board Approval Date: 4/11/16

Credits: NA

Course Description:

This course focuses on mastery of the PA Academic Standards for Science and Technology, Engineering Education, as well as Environment and Ecology. As students progress through this course, they will participate in a systematic study of the construction system, robotic technologies, and environmental science. Students will create a wooden project (to be determined by teacher) following the steps of the construction system, proper use of power tools, build and program a robot to perform various tasks, participate in the Trout in the Classroom program, and develop an understanding of the importance of environmental history and the role the environment plays in the lives of various organisms.

Learning Activities / Modes of Assessment:

Large group instruction
Student-driven learning activities
Checklists / Teacher Observation
Small group work
Building/Programming of Lego Robot
iPads for class assignments and group projects
Projects with Rubrics
Construction of project in the wood shop
Shop safety quizzes
Digital Lessons

Instructional Resources:

Discovery Education
Various informational resources from www.agednet.com
Technology. Thode, Bradley R. and Terry. Delmar Publishers Inc. 1994.
Technology: Today and Tomorrow. Brusica, Sharon A., Fales, James F., Kuetemeyer, Vincent F. McGraw Hill – Glencoe. 2004.
Technology Interactions. Harms, Henry R., Swernofsky, Neal R. McGraw Hill – Glencoe. 2003.
Trout in the Classroom resources from PA Fish and Boat Commission
Lego Robot Kits

Course Pacing Guide

Course: **6th Grade Agricultural Science/Industrial Technology**

Course Unit (Topic)	Length of Instruction (Days/Periods)
1. Robotics	8 days
2. Tool Caddy	5 days
3. Ag Science	<u>8 days</u>
DAYS TOTAL	21 Days

6th Grade - Robotics - KUD

KNOW	UNDERSTAND	DO
3.4.6.B4 - Demonstrate how new technologies are developed based on people's needs, wants, values, and/or interests	Robotics is a type of technology that has been used to streamline the manufacturing industry and simplify life for many people.	3.4.6.C1 - Recognize that requirements for a design include such factors as the desired elements and features of a product or system or the limits that are placed on the design.
Vocabulary: robotics, body/chassis, computer/brain, sensor, input, output		Fishing Robot Challenge
		Lego NXT Robot Programs

6th - Tool Caddy - KUD

KNOW	UNDERSTAND	DO
3.4.6.E7 - Explain how the type of structure determines the way the parts are put together.	Following the steps of the construction system while building a project results in a project that is well-planned, properly designed, and constructed well.	Measure out pieces for tool caddy project.
The four steps of the construction system		Cut and sand pieces for tool caddy project.
Vocabulary: residential, commercial, industrial, public works, input, output, processes, feedback, safety, drill press, scroll saw, disc/belt sander, palm sander, cordless drill		Properly assemble tool caddy (3.4.6.E7)

6th - Ag. Science - KUD

KNOW	UNDERSTAND	DO
4.2.6.A - Identify the five [six] major watersheds of Pennsylvania.	Understanding and caring for our environment is important because it sustains all living things by providing food, water, shelter, and air.	4.5.6.C - Identify key people and events that shaped the environmental history in the United States.
4.2.6.B - Describe the characteristics of soils found in a wetland.		Research a person or event from the environmental history movement in the United States and create a digital project using a rubric.
4.2.6.C - Identify natural and human-made factors that affect water quality.		
Vocabulary: watershed, buffer strip/zone, hydric soils, environmental movement		