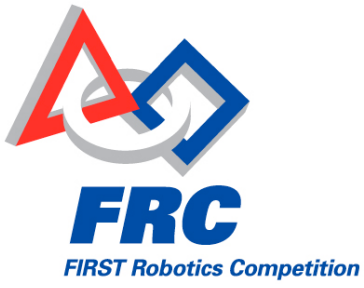
Junior *FIRST* LEGO League, *FIRST* LEGO League, *FIRST* Tech Challenge, and *FIRST* Robotics Aligned with Delaware Content and Framework Standards

in Science, Mathematics, Technology Education, Business Technology, Management & Behavioral Science, Marketing & Entrepreneurship, and English



Prepared by: Rich Kressly, M.Ed.
Public Educator & former *FIRST* Senior Mentor, kresslr@lmsd.org

v1.4d – 10.20.2007

Introduction:
FIRST (For Inspiration and Recognition of Science and Technology) is a multinational non-profit organization, that aspires to transform culture, making science, math, engineering, and technology as cool for kids as sports are today. *FIRST* was founded in 1989 by Dean Kamen, inventor of the Segway Human Transporter. FIRST operates the ***FIRST* Robotics Competition (FRC)** in which teams of high school students, sponsored and assisted by local companies and volunteers, design, assemble, and test a robot capable of performing a specified task in competition with other teams. FIRST also runs **Junior *FIRST* LEGO League (JFLL)** for ages 6-9, ***FIRST* LEGO League (FLL)** for ages 9-14, and the ***FIRST* Vex Challenge (FTC)**, a mid-level program also for high school students. The key to *FIRST*'s success is the work of over 14,000 volunteer mentors, professional engineers, teachers, and other adults working with youth across the country. In addition to the thousands of volunteer team mentors, *FIRST* competitions and other events were organized and staffed by over 5000 event and committee volunteers. Through these volunteers, *FIRST* programs engaged over 50,000 youth during the last year. *FIRST* programs are growing rapidly in the United States and Canada, and demand is accelerating in other countries. Please visit http://www.usfirst.org for more detailed information

FIRST in DE:
Currently, Delaware is home to more than 30 FLL teams and 2 FRC teams that include students from nine DE High Schools. Additional Delaware students participate in JFLL and the *FIRST* Vex Challenge and these numbers are growing rapidly. Delaware-based FLL, FRC, and FTC programs also extend into PA so neighboring students can experience *FIRST*. All FIRST experiences support and enrich the DOE's efforts toward achievement of standards in Science, Mathematics, Technology Education, Business Technology, Management & Behavioral Science, Marketing & Entrepreneurship, and English. This standards alignment shows what specific academic skills are supported and enriched through FIRST participation from age nine through high school. In addition to the standards FIRST helps students achieve, more the eight million dollars in college and university scholarships are available to participants as well as countless internships and job opportunities.

The Document:
This document is aimed at raising awareness in all Delaware school districts and at the state level about the impact *FIRST* has in the development of our students so existing *FIRST* programs can strengthen and more can begin across Delaware. The document is in the form of a chart showing only those standards that FIRST directly supports through its many activities. All Delaware Standards references contained herein were obtained from the DOE Website at http://www.doe.k12.de.us/programs/pcs/default.shtml , except for the Technology Education Standards which were obtained directly from the DOE. Please visit the DOE website or contact the DOE directly at PO Box 1402 Townsend Building, Dover, DE 19903-1402 for Standards and Performance Indicator details. All FIRST activities and information was obtained from the most recent **JFLL**, **FLL**, **FTC** and **FRC** competition manuals located at http://www.firstlegoleague.org/default.aspx?pid=70, http://www.usfirst.org/vex/resources/, and http://www.usfirst.org/robotics/doc_updt.htm respectively.

Terminology:
All DE Standards terminology comes directly from the DOE and refers to specific standards and performance indicators (DOE PIs).
All FIRST activities have been abbreviated as follows:

JFLL / FLL Term	**JFLL / FLL Definition**	**FTC / FRC Term**	**FTC / FRC Definition**
Build	Design, prototype, test, & manufacturing of model/robot	Build	Design, prototype, test, & robot manufacturing
Prog	Robot programming activities	Prog	Robot programming activities
Res	Research assignment associated with the challenge	CAD	Computer Aided Design & related competition
Pres	Both formal and informal presentations made to judges	PR	All PR activities and competitions including website, fundraising, presentations for judges and in community, and all associated documentation/correspondence
		Pres	
		Nb	Engineering Notebook
		Ani	Animation and associated competition
		Mentor	Events that occur through mentor/student interaction
		Sch Apps	Scholarship Applications
		Shadow	Professional visitations and job shadowing
		Intern	Career internships

Supported DOE Standards	Jr. *FIRST* LEGO League (6-9 yrs.)		*FIRST* LEGO League (9-14 yrs.)		*FIRST* Vex Challenge (15-18 yrs. / Gr. 9-12)		*FIRST* Robotics Competition (15-18 yrs. / Gr. 9-12)	
Mathematics Content Standards	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
MATHEMATICS STANDARD #1 Students will develop their ability to SOLVE PROBLEMS by engaging in developmentally appropriate problem-solving opportunities in which there is a need to use various approaches to investigate and understand mathematical concepts; to formulate their own problems; to find solutions to problems from everyday situations; to develop and apply strategies to solve a wide variety of problems; and to integrate mathematical reasoning, communication and connections.	1.01	Build, Pres	1.01	Build, Prog	1.01	Build, Prog, Nb	1.01	Build, Prog, CAD
	1.02	Build, Pres	1.02	Build, Prog	1.02	Build, Prog	1.02	Build, Prog
	1.03	Build, Pres	1.03	Build, Prog	1.03	Build, Prog, Nb	1.03	Build, Prog, CAD
	1.04	Build, Pres	1.04	Build, Prog	1.04	Build, Prog, Nb	1.04	Build, Prog, CAD, Ani
	1.05	Build, Pres	1.05	Build, Prog	1.05	Build, Prog, Nb	1.05	Build, Prog, CAD
	1.06	Build, Pres	1.06	Build, Prog, Pres	1.06	Build, Prog, Pres, Nb	1.06	Build, Prog, Pres, CAD
MATHEMATICS STANDARD #2 Students will develop their ability to COMMUNICATE MATHEMATICALLY by solving problems in which there is a need to obtain information from the real world through reading, listening and observing; to translate this information into mathematical language and symbols; to process this information mathematically; and to present results in written, oral and visual formats.	2.01	Build, Pres	2.01	Build, Prog, Pres	2.01	Build, Prog, Pres, Nb	2.01	Build, Prog, Pres, CAD, Ani
	2.02	Build, Pres	2.02	Build, Prog, Pres	2.02	Build, Prog, Nb	2.02	Build, Prog, CAD, Ani
	2.04	Build, Pres	2.04	Build, Prog	2.03	Build, Prog, Pres, Nb	2.03	Build, Prog, Pres, CAD
	2.05	Build, Pres	2.05	Build, Prog	2.04	Build, Prog, Nb	2.04	Build, Prog, CAD, Ani
	2.06	Build, Res, Pres	2.06	Build, Prog, Res	2.05	Build, Prog, Nb	2.05	Build, Prog, CAD, Ani
					2.06	Build, Prog, Nb	2.06	Build, Prog, CAD, Ani
MATHEMATICS STANDARD #3 Students will develop their ability to REASON MATHEMATICALLY by solving problems in which there is a need to investigate significant mathematical ideas in all content areas; to justify their thinking; to reinforce and extend their logical reasoning abilities; to reflect on and clarify their own thinking; to ask questions to extend their thinking; and to construct their own learning.	3.01	Build, Res, Pres	3.01	Build, Prog, Res	3.01	Build, Prog, Nb	3.01	Build, Prog, CAD, Ani
	3.02	Build, Res, Pres	3.02	Build, Prog, Res, Pres	3.02	Build, Prog, Pres, Nb	3.02	Build, Prog, Pres, CAD, Ani
	3.03	Build, Res, Pres	3.03	Build, Prog, Res	3.03	Build, Prog, Nb	3.03	Build, Prog, CAD, Ani
	3.04	Build, Res, Pres	3.04	Build, Prog, Res, Pres	3.04	Build, Prog, Pres, Nb	3.04	Build, Prog, Pres, CAD, Ani

Supported DOE Standards	Jr. *FIRST* LEGO League (6-9 yrs.)		*FIRST* LEGO League (9-14 yrs.)		*FIRST* Vex Challenge (15-18 yrs. / Gr. 9-12)		*FIRST* Robotics Competition (15-18 yrs. / Gr. 9-12)	
Mathematics Content Standards (cont)	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
MATHEMATICS STANDARD #4 Students will develop their ability to make MATHEMATICAL CONNECTIONS by solving problems in which there is a need to view mathematics as an integrated whole and to integrate mathematics with other disciplines, while allowing the flexibility to approach problems, from within and outside mathematics, in a variety of ways.	4.01	Build, Pres	4.01	Build, Prog, Res, Pres	4.01	Build, Prog, Pres, Nb	4.01	Build, Prog, Pres, CAD, Ani
	4.02	Build, Res, Pres	4.02	Build, Prog, Res	4.02	Build, Prog, Nb	4.02	Build, Prog, CAD, Ani
	4.03	Build, Pres	4.03	Build, Prog	4.03	Build, Prog, Nb	4.03	Build, Prog, CAD
	4.04	Build, Res, Pres	4.04	Build, Prog, Res	4.04	Build, Prog, Nb	4.04	Build, Prog, CAD, Ani
	4.05	Build, Res, Pres	4.05	Build, Prog, Res, Pres	4.05	Build, Prog, Pres, Nb	4.05	Build, Prog, Pres, CAD, Ani
	4.06	Build, Res, Pres	4.06	Build, Prog, Res	4.06	Build, Prog, Nb	4.06	Build, Prog, CAD, Ani
MATHEMATICS STANDARD #5 Students will develop an understanding of ESTIMATION, MEASUREMENT, and COMPUTATION by solving problems in which there is a need to measure to a required degree of accuracy by selecting appropriate tools and units; to develop computing strategies and select appropriate methods of calculation from among mental math, paper and pencil, calculators or computers; to use estimating skills to approximate an answer and to determine the reasonableness of results.	5.10	Build, Pres	5.60	Build, Prog	5.91	Nb	5.91	CAD, Ani
	5.13	Build, Pres	5.61	Build, Prog	5.92	Build, Prog, Nb	5.92	Build, Prog, CAD, Ani
	5.14	Build, Pres	5.62	Build, Prog	5.93	Build, Prog, Nb	5.93	Build, Prog, CAD
	5.15	Build, Pres	5.64	Prog	5.94	Prog, Nb	5.94	Prog, CAD, Ani
	5.16	Build, Res, Pres	5.65	Build, Prog, Res	5.95	Build, Prog, Nb	5.95	Build, Prog, CAD, Ani
	5.17	Build, Pres	5.66	Build, Prog	5.96	Prog	5.96	Prog
	5.20	Build, Pres	5.67	Build, Prog	5.97	Build, Prog, Nb	5.97	Build, Prog, CAD, Ani
					5.98	Build, Prog	5.98	Build, Prog
MATHEMATICS STANDARD #6 Students will develop NUMBER SENSE by solving problems in which there is a need to represent and model real numbers verbally, physically and symbolically; to use operations with understanding; to explain the relationships between numbers; to apply the concept of a unit; and to determine the relative magnitude of real numbers.	6.11	Build, Pres	6.60	Build, Prog	6.90	Build, Prog, Nb	6.90	Build, Prog, CAD, Ani
	6.20	Build, Pres	6.61	Build, Prog	6.91	Build, Prog, Nb	6.91	Build, Prog, CAD, Ani
			6.62	Build, Prog	6.92	Build, Prog, Nb	6.92	Build, Prog, CAD, Ani
			6.63	Build, Prog	6.93	Prog, Nb	6.93	Prog, CAD, Ani
			6.64	Build, Prog				
			6.65	Build, Prog				

Supported DOE Standards	Jr. *FIRST* LEGO League (6-9 yrs.)		*FIRST* LEGO League (9-14 yrs.)		*FIRST* Vex Challenge (15-18 yrs. / Gr. 9-12)		*FIRST* Robotics Competition (15-18 yrs. / Gr. 9-12)	
Mathematics Content Standards (cont)	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
MATHEMATICS STANDARD #7 Students will develop an understanding of ALGEBRA by solving problems in which there is a need to progress from the concrete to the abstract using physical models, equations and graphs; to generalize number patterns; and to describe, represent and analyze relationships among variable quantities.			7.60	Build, Prog, Res, Pres	7.90	Build, Prog, Nb	7.90	Build, Prog, CAD, Ani
			7.61	Build, Prog	7.91	Build, Prog, Nb	7.91	Build, Prog, CAD, Ani
			7.62	Build, Prog	7.92	Build, Prog, Nb	7.92	Build, Prog, CAD
			7.64	Build, Prog	7.93	Build, Prog, Nb	7.93	Build, Prog, CAD, Ani
					7.94	Build, Prog, Nb	7.94	Build, Prog, CAD, Ani
					7.95	Build, Prog, Nb	7.95	Build, Prog, CAD
					7.97	Build, Prog, Nb	7.97	Build, Prog, CAD, Ani
					7.98	Prog, Nb	7.98	Prog, CAD, Ani
MATHEMATICS STANDARD #8 Students will develop SPATIAL SENSE and an understanding of GEOMETRY by solving problems in which there is a need to recognize, construct, transform, analyze properties of, and discover relationships between, geometric figures	8.11	Build, Pres	8.60	Build	8.90	Build, Nb	8.90	Build, CAD, Ani
	8.12	Build, Pres	8.62	Build, Prog	8.91	Nb	8.91	CAD, Ani
	8.15	Build, Pres	8.65	Build, Prog	8.92	Nb	8.92	CAD, Ani
			8.66	Build, Prog	8.93	Nb	8.93	CAD, Ani
					8.94	Prog, Nb	8.94	Prog, CAD, Ani
					8.95	Build, Prog, Nb	8.95	Build, Prog, CAD, Ani
					8.96	Build, Nb	8.96	Build, CAD
					8.97	Build, Prog, Nb	8.97	Build, Prog, CAD, Ani
MATHEMATICS STANDARD #9 Students will develop an understanding of STATISTICS AND PROBABILITY by solving problems in which there is a need to collect, appropriately represent, and interpret data; to make inferences or predictions; to present convincing arguments; and to model mathematical situations to determine the probability.	9.10	Build, Pres	9.60	Build, Prog	9.90	Build, Prog	9.90	Build, Prog
	9.11	Build, Pres	9.62	Build, Prog	9.91	Build, Prog	9.91	Build, Prog
	9.12	Build, Pres	9.63	Build, Prog	9.92	Build, Prog	9.92	Build, Prog
	9.13	Build, Pres	9.64	Build, Prog	9.93	Build, Prog	9.93	Build, Prog
			9.65	Build, Prog, Res	9.96	Build, Prog, Nb	9.96	Build, Prog, CAD
			9.66	Build	9.97	Build, Prog, Nb	9.97	Build, Prog, CAD

Supported DOE Standards	Jr. *FIRST* LEGO League (6-9 yrs.)		*FIRST* LEGO League (9-14 yrs.)		*FIRST* Vex Challenge (15-18 yrs. / Gr. 9-12)		*FIRST* Robotics Competition (15-18 yrs. / Gr. 9-12)	
Mathematics Content Standards (cont)	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
MATHEMATICS STANDARD #10 Students will develop an understanding of PATTERNS, RELATIONSHIPS AND FUNCTIONS by solving problems in which there is a need to recognize and extend a variety of patterns; and to analyze, represent, model and describe real-world functional relationships.	10.10	Build, Pres	10.60	Build, Prog	10.90	Build, Prog, Nb	10.90	Build, Prog, CAD, Ani
	10.11	Build, Pres	10.61	Build, Prog	10.91	Build, Prog, Nb	10.91	Build, Prog, CAD, Ani
			10.62	Build, Prog	10.92	Build, Prog, Nb	10.92	Build, Prog, CAD, Ani
			10.63	Build, Prog	10.93	Nb	10.93	CAD, Ani
			10.65	Build, Prog	10.94	Nb	10.94	CAD, Ani
Science Content Standards								
SCIENCE STANDARD #1: Nature and Application of Science and Technology The practice of science and the development of technology are critical pursuits of our society. These pursuits have involved diverse people throughout history and have led to continuous improvement in the quality of life and in our understanding of nature. Students will study the processes of scientific inquiry and technology development and the history and context within which these have been carried out.	Gr. K-3 S&I 1	Build, Res, Pres	Gr 6-8 S&I 1	Build, Prog, Res	Gr 9-12 S&I 1	Build, Prog, Nb	Gr 9-12 S&I 1	Build, Prog, CAD
	Gr. K-3 S&I 2	Build, Res, Pres	Gr 6-8 S&I 2	Build, Prog, Res, Pres	Gr 9-12 S&I 3	Build, Prog, Nb	Gr 9-12 S&I 3	Build, Prog, CAD
	Gr. K-3 S,T&S 1	Build, Res, Pres	Gr 6-8 S&I 3	Build, Prog, Res, Pres	Gr 9-12 S&I 4	Build, Prog, Nb	Gr 9-12 S&I 4	Build, Prog, CAD, Ani
			Gr 6-8 S,T&S 2	Res				
SCIENCE STANDARD #2: Materials and Their Properties Materials exist throughout our physical world. Students will develop a basic understanding of the structure and properties of materials. They will also experience and learn the processes by which materials are changed and how the uses of materials are related to their properties.	Gr. K-3 P&S M 1	Build, Res	Gr 6-8 MT 1	Build, Res	Gr 9-12 MT 1	Build, Nb	Gr 9-12 MT 1	Build, CAD
	Gr. K-3 MT 1	Build, Res						

Supported DOE Standards	Jr. *FIRST* LEGO League (6-9 yrs.)		*FIRST* LEGO League (9-14 yrs.)		*FIRST* Vex Challenge (15-18 yrs. / Gr. 9-12)		*FIRST* Robotics Competition (15-18 yrs. / Gr. 9-12)	
Science Content Standards (cont)	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
SCIENCE STANDARD #3: **Energy and Its Effects** The flow of energy drives processes of change in all biological, chemical, and geological systems. A variety of sources can be transformed into energy forms which influence many facets of our daily lives. Students will study, discuss, and learn the factors that govern the flow of energy throughout the universe, the transformation of natural resources into useful energy forms, and the conservation of energy during interaction with materials.	Gr. K-3 FSE 3	Build, Res	Gr 6-8 FSE 2	Build	Gr 9-12 FSE 2	Build	Gr 9-12 FSE 2	Build
	Gr. K-3 FSE 4	Build, Res	Gr 6-8 FM 1	Build	Gr 9-12 FM 1	Build	Gr 9-12 FM 1	Build
			Gr 6-8 FM 2	Build	Gr 9-12 FM 2	Build, Nb	Gr 9-12 FM 2	Build, CAD
			Gr 6-8 FM 3	Build, Prog	Gr 9-12 FM 3	Build	Gr 9-12 FM 3	Build
			Gr 6-8 FM 4	Build	Gr 9-12 PCAE 2	Build	Gr 9-12 PCAE 2	Build
			Gr 6-8 PCAE 2	Res, Pres				
			Gr 6-8 PCAE 3	Res, Pres				
Technology Education Content Standards								
TECH ED STANDARD #1 Students will recognize that technology can and does extend human capabilities. Students must learn that technology may also have negative impacts. By using historical contexts, students will evaluate present technologies to make decisions regarding future impacts, ethical dilemmas, and environmental concerns. Students will recognize technological contributions from multi-cultural and gender diverse sources.	Gr. K-2 I.1	Build, Res	Gr. 6-8 I.1	Build, Res	Gr. 9-12 I.2	Build, Nb	Gr. 9-12 I.2	Build, CAD
	Gr. K-2 I.2	Build, Res	Gr. 6-8 I.3	Build, Res, Pres	Gr. 9-12 I.4	Build, Prog, Nb, Pres	Gr. 9-12 I.4	Build, Prog, CAD, Pres
			Gr. 6-8 I.5	Res, Pres	Gr. 9-12 I.5	Build, Nb	Gr. 9-12 I.5	Build, CAD
TECH ED STANDARD #2 A technology education program will facilitate the integration of curricula within a school. Students will make connections and demonstrate techniques that use knowledge from all content areas. Technology education content will form the core of each student's solutions, but will be enhanced by the application of multiple curricular areas. Students will effectively communicate technological solutions that reflect cross-curricular integration.	Gr. K-2 II.1	Build, Res, Pres	Gr. 6-8 II.1	Build, Prog, Res	Gr. 9-12 II.1	Build, Prog, Nb	Gr. 9-12 II.1	Build, Prog, CAD, Ani
	Gr. K-2 II.2	Build, Res, Pres	Gr. 6-8 II.2	Build, Prog, Res, Pres	Gr. 9-12 II.2	Build, Nb, Pres	Gr. 9-12 II.2	Build, CAD, PR, Pres
			Gr. 6-8 II.3	Build, Prog, Res, Pres	Gr. 9-12 II.3	Build, Nb	Gr. 9-12 II.3	Build, CAD
					Gr. 9-12 II.4	Build, Nb, Pres	Gr. 9-12 II.4	Build, CAD, PR, Pres

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Technology Education Content Standards (continued)	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
TECH ED STANDARD #3 Students will develop a practical understanding of a wide variety of technological resources. Students will learn to identify, explore, manage, responsibly evaluate, and use technological resources. These resources may include, but not be limited to people, information, materials, tools and machines, energy, capital and time.	Gr. K-2 III.1	Build, Res, Pres	Gr. 6-8 III.1	Build, Prog, Res	Gr. 9-12 III.1	Build, Prog, Nb	Gr. 9-12 III.1	Build, Prog, CAD, Ani
	Gr. K-2 III.2	Build, Res, Pres	Gr. 6-8 III.3	Build, Prog, Res, Pres	Gr. 9-12 III.2	Build, Prog, Nb	Gr. 9-12 III.2	Build, Prog, CAD, Ani
	Gr. K-2 III.3	Build, Res, Pres	Gr. 6-8 III.5	Build, Prog, Res	Gr. 9-12 III.4	Build, Prog, Nb	Gr. 9-12 III.4	Build, Prog, CAD, Ani, PR
			Gr. 6-8 III.6	Build, Prog, Res, Pres	Gr. 9-12 III.5	Build, Prog, Nb	Gr. 9-12 III.5	Build, Prog, CAD, Ani, PR
					Gr. 9-12 III.6	Build, Prog, Nb	Gr. 9-12 III.6	Build, Prog, CAD, Ani, PR
TECH ED STANDARD #4 Students will learn that technological problem solving involves identifying, investigating and analyzing, designing, developing, creating and evaluating solutions. Students will refine increasingly complex solutions by employing the Design Process and the Systems Model.	Gr. K-2 IV.1	Build, Res, Pres	Gr. 6-8 IV.1	Build, Prog, Res, Pres	Gr. 9-12 IV.1	Build, Prog, Nb	Gr. 9-12 IV.1	Build, Prog, CAD, Ani
	Gr. K-2 IV.2	Build, Res, Pres	Gr. 6-8 IV.2	Build, Prog, Res	Gr. 9-12 IV.2	Build, Prog, Nb	Gr. 9-12 IV.2	Build, Prog, CAD, Ani
	Gr. K-2 IV.3	Build, Res, Pres	Gr. 6-8 IV.3	Build, Prog, Res, Pres	Gr. 9-12 IV.3	Build, Prog, Nb	Gr. 9-12 IV.3	Build, Prog, CAD, Ani
	Gr. K-2 IV.5	Build, Res, Pres			Gr. 9-12 IV.4	Build, Prog, Nb	Gr. 9-12 IV.4	Build, Prog, CAD,
	Gr. K-2 IV.6	Build, Res, Pres			Gr. 9-12 IV.5	Build, Prog, Nb	Gr. 9-12 IV.5	Build, Prog, CAD, Ani, PR
TECH ED STANDARD #5 Students will develop an operational awareness of the technological concepts in our world through Focused Practical Tasks (FPT's). Students will acquire the ability to identify, analyze, and apply technological concepts. Students will integrate specific learned concepts into the design of new solutions across different technological systems.	Gr. K-2 V.1	Build, Res, Pres	Gr. 6-8 V.2	Build, Prog, Res, Pres	Gr. 9-12 V.1	Build, Prog, Nb	Gr. 9-12 V.1	Build, Prog, CAD, Ani
	Gr. K-2 V.3	Build, Res, Pres	Gr. 6-8 V.3	Build, Prog, Res, Pres	Gr. 9-12 V.2	Build, Prog, Nb	Gr. 9-12 V.2	Build, Prog, CAD
					Gr. 9-12 V.3	Build, Prog, Nb, Pres	Gr. 9-12 V.3	Build, Prog, CAD, PR, Pres
					Gr. 9-12 V.4	Build, Prog, Nb	Gr. 9-12 V.4	Build, Prog, CAD, PR
					Gr. 9-12 V.5	Build, Prog, Nb	Gr. 9-12 V.5	Build, Prog, CAD, Ani, PR

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Business Technology Content Standards	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
BUSINESS TECH STANDARD #1 Students will meet established objectives and locate resources in order to solve problems utilizing appropriate computer software.			A	Build, Res	A	Build, Pres	A	Build, PR, Pres
			C	Res, Pres	B	Build, Prog, Nb, Pres	B	Build, Prog, PR, Pres
			D	Res, Pres	C	Nb, Pres	C	PR, Pres
			E	Res, Pres	D	Prog, Nb, Pres	D	Prog, PR, Pres
			F	Build, Prog, Res, Pres	E	Nb, Pres	E	PR, Pres
					F	Build, Prog, CAD, Nb	F	Build, Prog, CAD, Ani, PR
BUSINESS TECH STANDARD #2 Students will demonstrate skill-based knowledge using business technology applications by selecting the most appropriate process to develop an end product using efficient keyboarding methods, correct formatting and proofreading techniques for mailability.			A	Build, Prog, Res	A	Build, Prog, Nb	A	Build, Prog, CAD, Ani, PR
			B	Build, Res, Pres	B	Nb, Pres	B	CAD, Ani, PR, Pres, Sch Apps
BUSINESS TECH STANDARD #3 Content Standard 3: Students will interpret materials and resources pertinent to business technology applications by following verbal and/or written instructions.			A	Build, Prog, Res				
			B	Build, Prog, Res	A	Build, Prog, Nb	A	Build, Prog, CAD, Ani, PR
					B	Build, Prog, Nb	B	Build, Prog, CAD, Ani, PR
BUSINESS TECH STANDARD #4 Students will use a constructive thought process and effective interpersonal communication skills when collaborating as a team member to solve business problems.	A	Build, Res	A	Build, Prog, Res	A	Build, Prog, Nb	A	Build, Prog, CAD, Ani, PR
	B	Build, Res	B	Build, Prog, Res	B	Build, Prog, Nb	B	Build, Prog, CAD, Ani, PR

Supported DOE Standards	Jr. *FIRST* LEGO League (6-9 yrs.)		*FIRST* LEGO League (9-14 yrs.)		*FIRST* Vex Challenge (15-18 yrs. / Gr. 9-12)		*FIRST* Robotics Competition (15-18 yrs. / Gr. 9-12)	
Management & Behavioral Science Content Standards	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
MGT. & BEHAVIORAL SCIENCE STANDARD #2 Students will formulate and articulate reasonable and attainable personal and business goals by assessing career paths and competencies required to reach various goals.			C	Res	B	Nb, Pres	A	Mentor, Shadow, Intern
					D	Nb, Pres	B	PR, Pres, Intern
							C	Sch Apps, Mentor, Intern
							D	Sch Apps, Mentor, Intern
MGT. & BEHAVIORAL SCIENCE STANDARD #3 Students will locate relevant data, distinguish and evaluate the levels of accuracy and significance of the data, and demonstrate a proficiency for the application of the data to business and management situations.			A	Res, Pres	A	Build, Nb, Pres	A	Build, PR, Pres
					B	Nb, Pres	B	PR, Pres
MGT. & BEHAVIORAL SCIENCE STANDARD #4 Students will identify and manage human, physical and financial resources effectively and efficiently.	B	Build, Res	A	Build, Prog, Res	A	Build, Nb, Pres	A	Build, PR, Pres
			B	Res, Pres	B	Nb, Pres	B	PR, Pres
MGT. & BEHAVIORAL SCIENCE STANDARD #5 Students will construct organizational and decision-making paradigms, articulating their significance, effect and application to specific business situations.			A	Build, Prog, Res	A	Build, Nb. Pres	A	Build, PR. Pres, Mentor
			C	Res, Pres	B	Nb, Pres	B	PR, Pres, Mentor
					C	Nb, Pres	C	PR, Pres
Marketing & Entrepreneurship Content Standards								
M&E STANDARD #1 Students will analyze, interpret and make decisions based on financial, product, market and customer data.			A	Res	A	Nb, Pres	A	PR, Pres
			B	Build, Res	B	Build	B	Build
			C	Res, Pres	C	Nb, Pres	C	PR, Pres

Supported DOE Standards	Jr. *FIRST* LEGO League (6-9 yrs.)		*FIRST* LEGO League (9-14 yrs.)		*FIRST* Vex Challenge (15-18 yrs. / Gr. 9-12)		*FIRST* Robotics Competition (15-18 yrs. / Gr. 9-12)	
Marketing & Entrepreneurship Content Standards (Cont.)	**DOE PIs**	**Corresponding JFLL Activities**	**DOE PIs**	**Corresponding FLL Activities**	**DOE PIs**	**Corresponding FTC Activities**	**DOE PIs**	**Corresponding FRC Activities**
M&E STANDARD #2 Students will develop a comprehensive business plan to include all nine of the marketing functions, i.e., selling, distribution, financing, marketing/information management, pricing, product/service planning, promotion, purchasing and risk management.							A	PR, Pres
							B	PR, Pres
							C	PR, Pres
							D	PR, Pres
M&E STANDARD #3 Students will utilize computer technology to research, store, analyze and present information.	C	Build, Res	A	Build, Prog, Res, Pres	A	Build, Nb	A	Build, PR
			B	Build, Prog,	B	Build, Prog, Nb	B	Build, Prog, CAD, PR
			C	Build, Prog, Res, Pres	C	Build, Prog, Nb	C	Build, Prog, CAD, Ani, PR
M&E STANDARD #5 Students will demonstrate appropriate job acquisition skills beginning with self-assessment and continuing through successful employment.							A	Mentor, Shadow, Intern
							B	Mentor, Shadow, Intern
							C	PR, Intern
English Content Standards								
ENGLISH STANDARD #1 Students will use written and oral English appropriate for various purposes and audiences.	Gr. K-3 ALL	Build, Res, Pres	Gr. 6-8 ALL	Build, Prog, Res, Pres	Gr. 9-10 ALL	Build, Prog, Nb, Pres	Gr. 9-10 ALL	Build, Prog, CAD, Ani, PR, Pres
ENGLISH STANDARD #2 Students will construct, examine, and extend the meaning of literary, informative, and technical texts through listening, reading and viewing.	Gr. K-3 ALL	Build, Res, Pres	Gr. 6-8 ALL	Build, Prog, Res, Pres	Gr. 9-10 ALL	Build, Prog, Nb, Pres	Gr. 9-10 ALL	Build, Prog, CAD, Ani, PR, Pres
ENGLISH STANDARD #3 Students will access, organize, and evaluate information gained by listening, reading, and viewing.	Gr. K-3 ALL	Build, Res, Pres	Gr. 6-8 ALL	Build, Prog, Res, Pres	Gr. 9-10 ALL	Build, Prog, Nb, Pres	Gr. 9-10 ALL	Build, Prog, CAD, Ani, PR, Pres