

Completing Your PLTW Pathway



Autum Barry



Andy Sarbacker



**SPARKING
CURIOSITY**

A PLTW Launch Conference

PLTW

Agenda / Objectives

- Identify current PreK-12 PLTW offerings in your school(s)
- Identify gaps that exist in PreK-12 PLTW offerings
- Develop a 3-Year plan to complete one or more PLTW Pathways



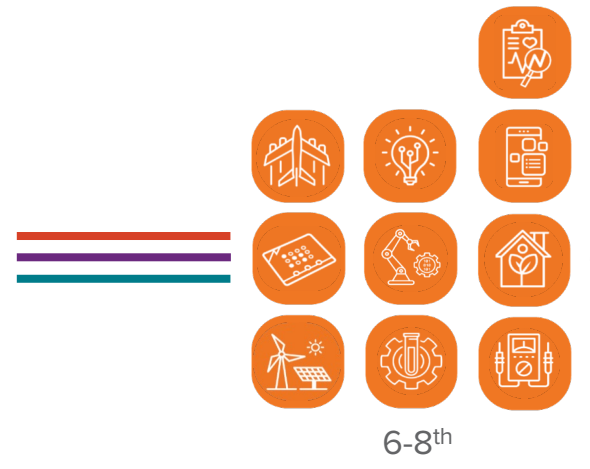
**Identify the goals of your PreK- 12
PLTW programs and specifically
your PLTW Launch program**

PLTW CURRICULUM



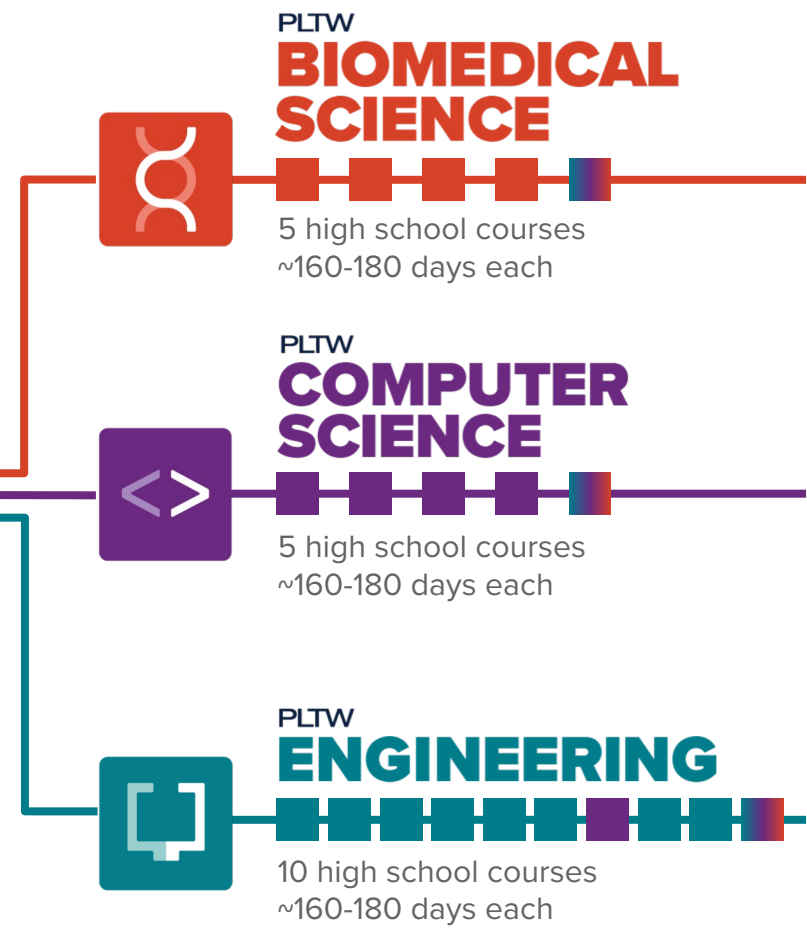
PLTW LAUNCH

42 modules ~12-14 hours each
Life Sci / Physical Sci / Earth & Space / BMS / CS / ENG

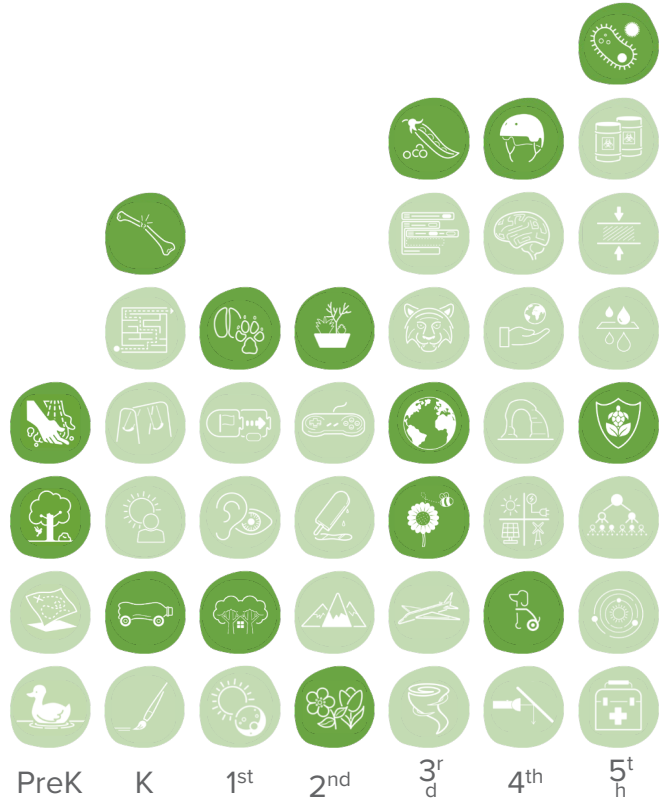


PLTW GATEWAY

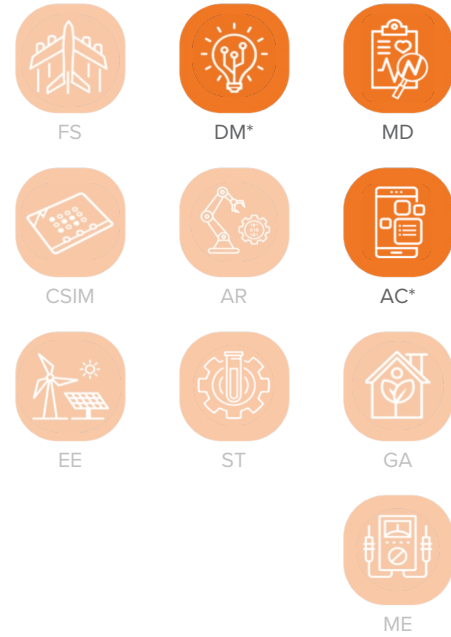
10 units ~36-45 hours each
BMS / CS / ENG focus



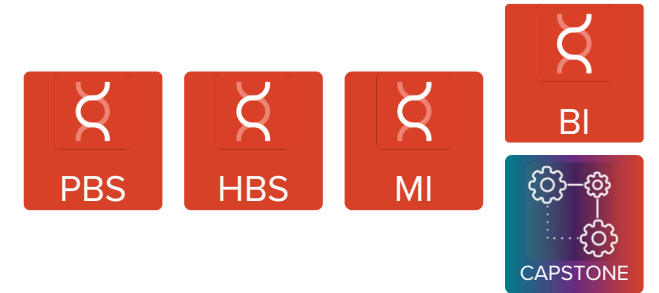
Biomedical / Life Science Pathway Example



PreK-5th



6-8th



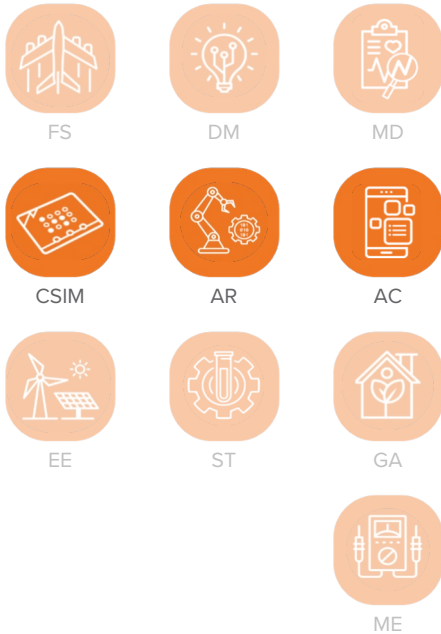
9-12th



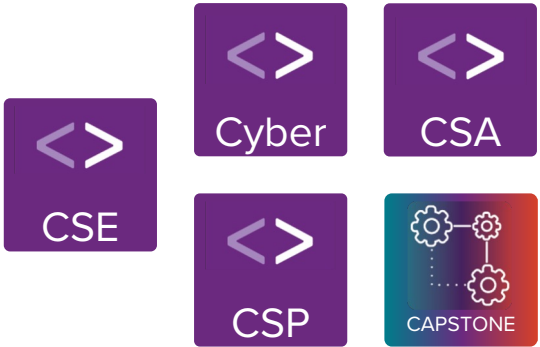
Computer Science Pathway Example



PreK-5th



6-8th



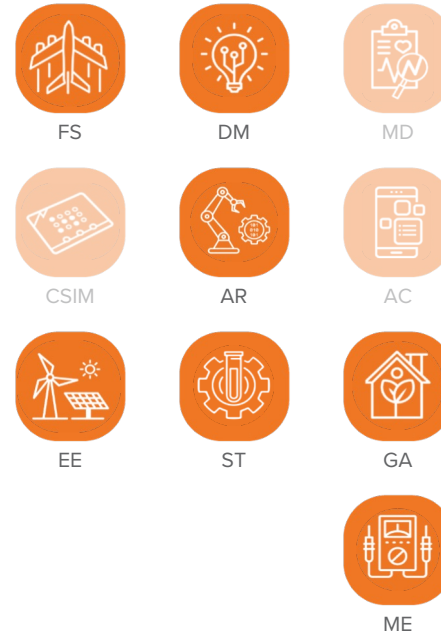
9-12th



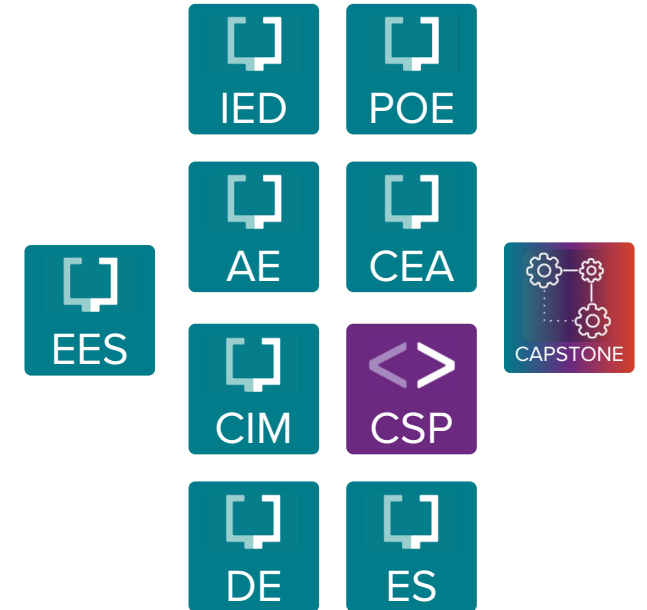
Engineering Pathway Example



PreK-5th



6-8th



9-12th

**Identify the PLTW program(s)
currently offered in your school(s)**



~12/14 hours/module



Healthy Habits



Life Science: Living and Nonliving Things



Spatial Sense and Coding



Floating and Sinking



Structure and Function: Human Body



Animals and Algorithms



Pushes and Pulls



Sunlight and Weather



Living Things: Needs and Impacts



Structure and Function: Exploring Design



Animal Adaptations



Animated Storytelling



Light and Sound



Designs Inspired by Nature



Light: Observing Sun, Moon, Stars



Living Things: Diversity of Life



Grids and Games



Materials Science: Properties of Matter



Changing Earth



Materials Science: Form and Function



Variation of Traits



Programming Patterns



Stability and Motion: Forces and Interactions



Environmental Changes



Life Cycles and Survival



Stability and Motion: Science of Flight



Weather Factors and Hazards



Input/Output: Human Brain



Input/Output: Computer Systems



Earth: Human Impact and Natural Disasters



Earth: Past, Present, and Future



Energy Exploration



Organisms: Structure and Function



Waves and the Properties of Light



Infection: Detection



Robotics and Automation



Matter: Properties and Reactions



Earth's Water and Interconnected Systems



Ecosystems: Flow of Matter and Energy



Infection: Modeling and Simulation



Patterns in the Universe



Robotics and Automation: Challenge

PreK

K

1st

2nd

3rd

4th

5th

All PLTW Launch modules support engineering design standards



ENGINEERING SCENARIO



PreK.1 Life Science:
Living and Nonliving
Things



2.1 Materials Science:
Properties of Matter



PreK.2 Floating
and Sinking



2.2 Materials Science:
Form and Function



K.1 Structure and
Function: Exploring
Design



3.1 Stability and Motion:
Science of Flight



K.2 Pushes
and Pulls



3.2 Stability and Motion:
Forces and Interactions



5.2 Robotics and
Automation:
Challenge



1.1 Light and
Sound



4.9 Energy Exploration



1.2 Light: Observing
Sun, Moon, Stars







5.1 Robotics and Automation



~12-14 hours / module

BIOMEDICAL SCIENCE SCENARIO

	W	w
W	 WW	 Ww
w	 Ww	 ww



PreK.3 Healthy Habits



K.3 Structure and Function:
Human Body



1.3 Animal Adaptations



3.3 Variation of Traits



4.4 Input/Output:
Human Brain



5.3 Infection:
Detection



~12-14 hours / module

COMPUTER SCIENCE SCENARIO



**PreK.4 Spatial Sense
and Coding**



**3.4 Programming
Patterns**



**K.4 Animals and
Algorithms**



**4.3 Input/Output:
Computer Systems**



**1.4 Animated
Storytelling**



**5.2 Robotics and
Automation: Challenge**



**2.4 Grids and
Games**



**5.3 Infection: Modeling
and Simulation**



~12-14 hours / module



LIFE SCIENCES SCENARIO



PreK.1 Life Science: Living and Nonliving Things



K.6 Living Things: Needs and Impacts



1.3 Animal Adaptations



1.5 Designs Inspired by Nature



2.2 Materials Science: Form and Function



2.5 Living Things: Diversity of Life



3.3 Variation of Traits



3.6 Life Cycles and Survival



3.7 Environmental Changes



4.4 Input/Output: Human Brain



4.6 Organisms: Structure and Function

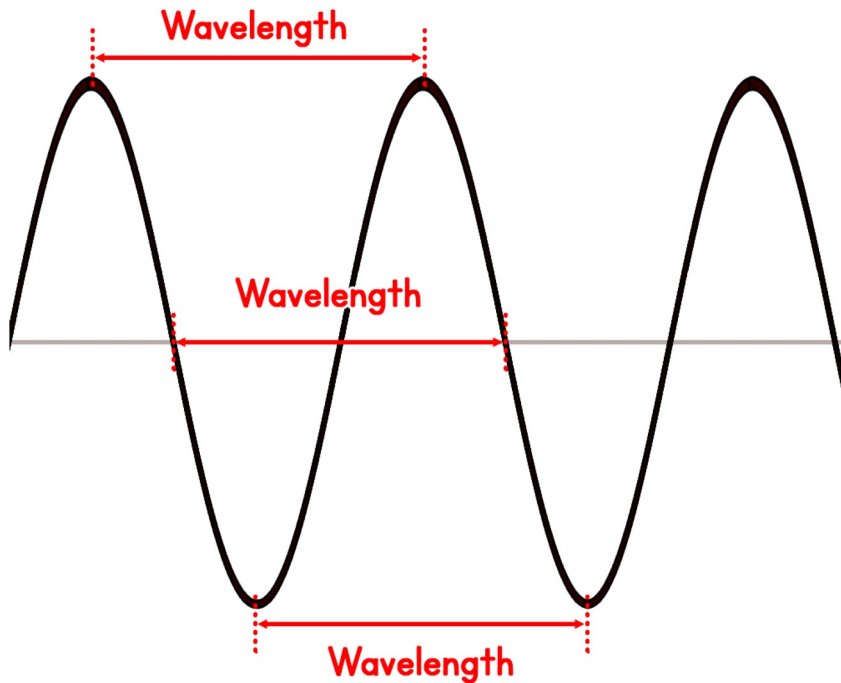


5.6 Ecosystems: Flow of Matter and Energy



~12-14 hours / module

PHYSICAL SCIENCES SCENARIO



PreK.2 Floating and Sinking



3.1 Stability and Motion: Science of Flight



K.2 Pushes and Pulls



3.2 Stability and Motion: Forces and Interactions



K.5 Sunlight and Weather



4.3 Input/Output: Computer Systems



5.6 Ecosystems: Flow of Matter and Energy



1.1 Light and Sound



4.5 Waves and Properties of Light



5.8 Earth's Water and Interconnected Systems



2.1 Materials Science: Properties of Matter



4.9 Energy Exploration



2.2 Materials Science: Form and Function



5.5 Matter: Properties and Reactions



~12-14 hours / module



EARTH AND SPACE SCIENCES SCENARIO



PreK.1 Life Science: Living and Nonliving Things



K.4 Animals and Algorithms



K.5 Sunlight and Weather



K.6 Living Things: Needs and Impacts



1.2 Light: Observing Sun, Moon, Stars



2.3 Changing Earth



3.5 Weather Factors and Hazards



4.7 Earth: Past, Present, and Future



4.8 Earth: Human Impact and Natural Disasters



5.1 Robotics and Automation



5.7 Patterns in the Universe



5.8 Earth's Water and Interconnected Systems



~12-14 hours / module

Identify the PLTW Launch modules currently offered by grade in your school(s).

What gaps do you have in your current pathways and in PLTW Launch?

How can you address those gaps?

Specifically for PLTW Launch, flexible implementation options to consider for building out your Launch pathway

Flexible Implementation to Meet Your Needs

Focus Modules

PreK									
K									
1									
2									
3									
4									
5									

1 Module / Grade

PreK									
K									
1									
2									
3									
4									
5									

Pathway

PreK									
K									
1									
2									
3									
4									
5									

Full Grade


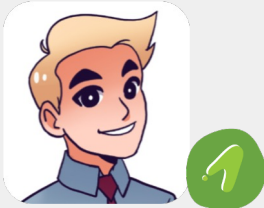




PreK									
K									
1									
2									
3									
4									
5									

All Modules





PreK									
K									
1									
2									
3									
4									
5									



Implementing PLTW Launch **within** the school day


















Pilot <i>One Teacher per Grade Level</i>					
K Teacher 	1 st Grade Teacher 	2 nd Grade Teacher 	3 rd Grade Teacher 	4 th Grade Teacher 	5 th Grade Teacher 

Implementing PLTW Launch **within** the school day


		Rotation <i>One PLTW Launch Teacher Per Grade Level (5th Grade Example)</i>		
		Trimester 1	Trimester 2	Trimester 3
 		5 th Grade <i>Group A</i>	5 th Grade <i>Group C</i>	5 th Grade <i>Group B</i>
	Art	5 th Grade <i>Group B</i>	5 th Grade <i>Group A</i>	5 th Grade <i>Group C</i>
	Social Studies	5 th Grade <i>Group C</i>	5 th Grade <i>Group B</i>	5 th Grade <i>Group A</i>

100%
STUDENT
PARTICIPATION

Implementing PLTW Launch **within** the school day

STEM Special 					
	Monday	Tuesday	Wednesday	Thursday	Friday
STEM Teacher 	 K Group A	 1 st Grade Group A	 2 nd Grade Group A	 3 rd Grade Group A	 4 th Grade Group A
	 K Group B	 1 st Grade Group B	 2 nd Grade Group B	 3 rd Grade Group B	 4 th Grade Group B
	 K Group C	 1 st Grade Group C	 2 nd Grade Group C	 3 rd Grade Group C	 4 th Grade Group C

Implementing PLTW Launch **within** the school day

All Teachers					
K	1 st Grade	2 nd Grade	3 rd Grade	4 th Grade	5 th Grade
<p>All teachers complete training and implement PLTW Launch in their own classroom</p> 					

100% STUDENT PARTICIPATION

**Let's address the gaps by
mapping out
your 3-year plan**

Prioritize Next Steps

What 3 actions are you going to take first?

1.

2.

3.

Share Out & Wrap Up

