Completing Your PLTW Pathway

Autum Barry  Andy Sarbacker
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 BIOMEDICAL SCIENCE**
- 5 high school courses
- ~160-180 days each

**PLTW COMPUTER SCIENCE**
- 5 high school courses
- ~160-180 days each

**PLTW ENGINEERING**
- 10 high school courses
- ~160-180 days each

**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

SPARKING CURIOSITY
A PLTW Launch Conference
Identify the PLTW program(s) currently offered in your school(s)
<table>
<thead>
<tr>
<th>PreK</th>
<th>K</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy Habits</td>
<td>Life Science: Living and Nonliving Things</td>
<td>Structure and Function: Human Body</td>
<td>Animals and Algorithms</td>
<td>Living Things: Diversity of Life</td>
<td>Grids and Games</td>
<td>Stability and Motion: Forces and Interactions</td>
</tr>
<tr>
<td>Floating and Sinking</td>
<td>Light and Sound</td>
<td>Light: Observing Sun, Moon, Stars</td>
<td>Designs Inspired by Nature</td>
<td>Changing Earth</td>
<td>Life Cycles and Survival</td>
<td>Patterns in the Universe</td>
</tr>
<tr>
<td>PreK</td>
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<td>4th</td>
<td>5th</td>
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</tbody>
</table>

~12/14 hours/module
All PLTW Launch modules support engineering design standards

ENGINEERING SCENARIO

- PreK.1 Life Science: Living and Nonliving Things
- PreK.2 Floating and Sinking
- K.1 Structure and Function: Exploring Design
- K.2 Pushes and Pulls
- 1.1 Light and Sound
- 1.2 Light: Observing Sun, Moon, Stars
- 2.1 Materials Science: Properties of Matter
- 2.2 Materials Science: Form and Function
- 3.1 Stability and Motion: Science of Flight
- 3.2 Stability and Motion: Forces and Interactions
- 4.9 Energy Exploration
- 5.1 Robotics and Automation
- 5.2 Robotics and Automation: Challenge

~12-14 hours / module
BIOMEDICAL SCIENCE SCENARIO

1.3 Animal Adaptations

K.3 Structure and Function: Human Body

PreK.3 Healthy Habits

3.3 Variation of Traits

4.4 Input/Output: Human Brain

5.3 Infection: Detection

~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

1.1 Light and Sound
1.2 Materials Science: Properties of Matter
1.3 Materials Science: Form and Function
2.2 Materials Science: Properties of Matter
2.2 Materials Science: Form and Function
2.3 Stability and Motion: Science of Flight
2.4 Stability and Motion: Forces and Interactions
2.5 Sunlight and Weather
2.6 Ecosystems: Flow of Matter and Energy
2.7 Energy Exploration
2.8 Earth’s Water and Interconnected Systems

~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

<table>
<thead>
<tr>
<th>Grade</th>
<th>PreK</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

Pathway

<table>
<thead>
<tr>
<th>Grade</th>
<th>PreK</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

1 Module / Grade

<table>
<thead>
<tr>
<th>Grade</th>
<th>PreK</th>
<th>K</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
</table>

All Modules

<table>
<thead>
<tr>
<th>Grade</th>
<th>PreK</th>
<th>K</th>
<th>1</th>
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Full Grade

<table>
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<tr>
<th>Grade</th>
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<th>K</th>
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<th>4</th>
<th>5</th>
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</table>
Implementing PLTW Launch *within* the school day

<table>
<thead>
<tr>
<th>Pilot</th>
<th>One Teacher per Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>K Teacher</td>
<td>1st Grade Teacher</td>
</tr>
<tr>
<td>2nd Grade Teacher</td>
<td>3rd Grade Teacher</td>
</tr>
<tr>
<td>4th Grade Teacher</td>
<td>5th Grade Teacher</td>
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</table>

[Image of teachers representing each grade level]
Implementing PLTW Launch within the school day

<table>
<thead>
<tr>
<th>Trimester 1</th>
<th>Trimester 2</th>
<th>Trimester 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th Grade Group A</td>
<td>5th Grade Group C</td>
<td>5th Grade Group B</td>
</tr>
<tr>
<td><strong>Art</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th Grade Group B</td>
<td>5th Grade Group A</td>
<td>5th Grade Group C</td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
<td>5th Grade Group C</td>
<td>5th Grade Group A</td>
</tr>
</tbody>
</table>
Implementing PLTW Launch *within* the school day

<table>
<thead>
<tr>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM Teacher</td>
<td>K Group A</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Grade Group A</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Grade Group A</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Grade Group A</td>
</tr>
<tr>
<td></td>
<td>K Group B</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Grade Group B</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Grade Group B</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Grade Group B</td>
</tr>
<tr>
<td></td>
<td>K Group C</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; Grade Group C</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Grade Group C</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Grade Group C</td>
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Implementing PLTW Launch within the school day

<table>
<thead>
<tr>
<th>All Teachers</th>
<th>100% STUDENT PARTICIPATION</th>
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All teachers complete training and implement PLTW Launch in their own classroom.
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