GUIDANCE FOR PLTW GATEWAY

This document has been prepared by a Project Lead The Way Master Teacher to support Gateway teachers in implementing the STEM Week Challenge with their students.

Why this Challenge?

The PLTW Gateway curriculum exposes students to careers that are connected to students' work. The STEM Week Challenge allows students to go deeper into a career that interests them while having the opportunity to actually interact with a professional in that field, deepening their interest and understanding while helping them build relationship-building skills.

Curriculum Connections

In order to connect the career exploration students will do in the STEM Week Challenge more closely with their Gateway units, consider the following strategies:

- ✓ Direct students to supplement their research with **PLTW's Career Profiles**, in-depth profiles of individuals in related fields that are linked in the Career Connections sections of PLTW's student materials.
- ✓ In Day 2, provide students with a **targeted list of STEM careers** to explore aligned to your unit (see table below). You may choose to have students select a career from the list or use if they are stuck.

Unit	Aligned STEM Careers
Design & Modeling	• Orthotist (1.1 Foot Orthosis Design) • Packaging Engineer (1.2 A Picture is Worth 1000 Words) • Data Scientist (1.4 Skimmer Statistics) • Meteorologist (1.5 Dialed In) • Project Manager (2.4 Puzzle Cube) • Occupational therapist (3.1 Therapeutic Toy) • UX Designer (3.1 Therapeutic Toy)
Automation & Robotics	• Energy Trader (2.3 Wind Turbine Construction) • NASA Systems Engineer (2.5 Survival Challenge) • Web Developer (3.2 Robot Behavior and Writing Pseudocode)
App Creators	• Project Engineer (1.8 Build an App) • Mechanical Engineer (2.5 Fitness Tracker) • Graphic Designer (3.1)
Computer Science for Innovators & Makers	• Computer Scientist (1.1 The Brain)

PLTW Pacing Guidance

The following are PLTW activities and projects that could be shortened or cut if you need to build in time for the STEM Week Challenge.

Unit	Potential Activities to Skip
Design & Modeling	• 1.3: Measuring Matters • 1.6: Investigate the Inside • 2.2: For Good Measure (do 1-2 examples and then move on) • 2.3: It's for the Birds (shorten <1 day)

Unit	Potential Activities to Skip
Automation & Robotics	• 1.1 A & B: Sandwich Algorithm and VEX Build (choose 1) • 1.2: What Do We Use Robots For? (do the first half; do STEM Week Challenge for the research) • 2.3,2.4, & 2.5: Choose one of these • 3.4: Pick selection from the following tasks: Robot Drag Race, Toll Booth or Tekrocks Bridge, Terry Traffic Tamer • 3.5: Simulated Factory Assembly Line
App Creators	• 1.4 & 1.5: Combine Coding with Conditions and Decision Time • 2.4 Extension: Persistent Data
Computer Science for Innovators & Makers	• 1.3: LED Grid • 2.3 Get Connected (shorten by cutting variable tracing) • 3.1: Clean Up Your Code • 3.2: Interactions

Modified STEM Week Schedule

If you have limited time in your Gateway class(s), you may want to find opportunities to reduce the instructional time spent on the STEM Week Challenge. The following calendar provides one potential approach for streamlining the project, reducing the estimated instructional time needed to 7 instructional hours.

Key: ~~Red~~ = cut activity blue = add activity yellow = do as homework

Project Day	Day 1 Project Launch	Day 2 Career Exploration and Research	Day 3 Focus on Networking	Day 4 Making Industry Contacts	Day 5 Product Review
Modified Day	Day 1	Day 2	Day 3		Day 4
Modified Activities	Gallery Walk ~~And need-to-Know List~~ Project Information Sheet	Career Coach Survey Career Sprint Teachers pre-set groups in advance of day 3	Networking video ~~Network Mapping~~ ~~Team Formation and agreement~~ Draft, Revise, and Send Industry Contact Emails Work time		Industry Interview Prep ~~Product Review~~ Pre-select product options for students Team Work Time

Project Day	Day 6 Revisit Project Launch	Day 7 Work Time	Day 8 Peer Feedback	Day 9 Work Time	Day 10 Showcase and Reflection
Modified Day			Day 5	Day 6	Day 7
Modified Activities	~~Revisit Video Clips and Project Launch Activities~~ ~~Team Work Time~~	~~Team Work Time – Product Focused~~	Tuning Protocol – Product Focused Work Time	Team Work Time - Presentation Focused	Showcase Reflection