**Presenters’ Guide #3 for Subject Matter Experts: OMA, COMP K12: Ohio’s Future Starts Here: Advanced Manufacturing Careers Shaping Our World**

**For use with OMA, COMP K–12 Presentation Slide Deck #3: “*Ohio’s Future Starts Here: Advanced Manufacturing Careers Shaping Our World*”**  
**Designed for Industry Experts Presenting to K–12 Students in the Classroom**

**PURPOSE OF THIS CONTENT SET**

The Presentation Content Sets equip industry subject matter experts (SMEs) to confidently present advanced manufacturing career pathways to K–12 audiences.

The Content Sets are scaffolded to offer varying degrees of support for SMEs. The first layer of scaffolding is the Presentation Slide Decks which include brief notes of scripts, support and suggestions for delivery. See sections under individual slides for those details. The Presentation Outlines provide additional scripts and best practices in classroom delivery on a slide-by-slide basis. The Presentation Guides extend the content by providing alternative scripts, additional questions, pro tips and classroom insights and also are organized on a slide-by-slide basis.

This guide helps industry professionals confidently deliver an engaging, age-appropriate presentation to K12 students. You don’t need to be a teacher, just enthusiastic about your work, open to connecting with students, and ready to share how manufacturing careers shape our world.

Options are considered just that - optional. They are designed to provide variations for Ambassadors to better personalize the presentations. Feel free to eliminate all options and follow the presentation strictly as the slide deck suggests.

**YOUR RESOURCES**

✅ Age-level tips   
✅ Key talking points for each slide (Speaker Notes)  
✅ Engagement strategies (questions, demos, discussions)  
✅ Pacing and timing guidance

✅ Video links and URLs  
✅ Classroom and student interaction best practices

**YOUR GOAL:**1. Inspire curiosity about advanced manufacturing  
2. Make real-world connections between school and careers through fun and lively conversations and demonstrations  
3. Encourage students to imagine themselves in high-tech, meaningful jobs

**SLIDES INCLUDE:**

🎙 Speaker Notes include script suggestions and classroom management and adaptation ideas

for younger and older students. (Younger students defined as grades 2-6; older students

defined as grades 7-12)

Activities or demonstrations

**💬** Icebreaker suggestions

Suggested videos where appropriate

💡 Pro Tips

💡**HOW TO PREPARE (Before You Present)**

1. **Know Your Audience:**
   * Identify in advance what grade(s) and class size you will have. Be prepared to present developmentally appropriate content (see notes in Slide-by-Slides).
   * Get name tags or a seating chart if possible.
   * Learn how much the class already knows about technology or manufacturing.
2. **Set Up Your Tech:**
   * Test your videos and links before class.
   * Bring sample parts or 3D-printed objects if possible.
   * Have QR codes printed or ready on slides.
3. **Mindset:**  
   You’re not teaching — you’re storytelling.
   * Use **energy, curiosity, and conversation.**
   * Encourage students to share what they notice or wonder.
   * Keep things simple — focus on **why it matters** and **how it connects** to their world.
4. **Prepare:**

* Review the Slide Deck presentation, corresponding outline, and presentation guide before the presentation.
* Double check to ensure you have everything necessary to effectively deliver the presentation (technology, presentation files, demonstration materials, activity materials, swag, etc.).
* Confirm with the school or teacher the day prior to the presentation.
* Practice transitions to ensure a smooth delivery.

**SLIDE-BY-SLIDE PRESENTER NOTES**

**Slide 1 – Title Slide: “The Future Is Built Here”**

**Goal:** Build excitement and curiosity.

**🎙 Speaker Notes:**   
Say, “Welcome! If you like to build, create, or solve problems, there’s a place for you in advanced manufacturing.”

**💬 Icebreaker:**  
Ask, “Have you ever made something that solved a problem for yourself or someone else? Think about something you use every day — your phone, your shoes, your backpack. Someone made that! What would *you* like to invent or make better?”

💡 **Pro Tip:**  
Move around the room, call on different students, and validate their ideas with enthusiasm.

**Slide 2 – Advanced Manufacturing in Ohio**

**Goal:** Review concepts from prior presentations.

**🎙 Speaker Notes:**

Say,“Today’s advanced manufacturing combines science, technology, and creativity to make everything from jet engines to clean energy systems. How is that different from how manufacturing used to be?”

**Share video: “**Advanced Manufacturing in Ohio”. 2023. 00:02:03. Jobs Ohio. <https://www.youtube.com/watch?v=_5jW5903oeg&t=13s>

**💬 Engagement Tip:**  
Ask, “If you could automate one task in your life, what would it be?” (Funny answers build rapport! I.e. Wash, dry, AND Fold laundry, self-emptying dishwasher, )

💡 **Pro Tips:** Keep explanations short; let visuals do the heavy lifting. Ensure videos are all cued to the starting point and in separate windows to help ease transitions time. Eliminate any ads.

**Slide 3 - Demonstration Option**

**Demonstration space** slated to allow time for a demonstration option. Demonstrations should stay within 10 minutes and can vary based upon Ambassador’s expertise, what they can share from their industries, materials available, etc. Getting students involved in the demonstration is a plus but not an absolute. Demonstrations are optional. You may eliminate it and add more time to the activity if preferred. Ambassadors are responsible for demonstration materials.

💡**Pro Tips:** Select a demonstration you feel students may not have witnessed before, something with a “Wow! Factor” if at all possible. Note: If more time is needed, eliminate activity in slide 7.

**⚙️ INDUSTRY SPOTLIGHTS** Industrial Production, Chemical and Materials, Advanced Mobility

**Slide 4 – Industrial Production**

**Goal:** Show variety in modern factory careers.

**🎙 Speaker Notes:**

Say,“These are the people who make things run smoothly — robotics, mechanics, engineers, and fabricators.” Mention the salary range and how technology keeps workplaces clean and safe.

**Engagement Tip:**  
Encourage discussion with questions like, “What products do you think are still made by hand? What might robots help improve?”

💡 **Pro Tip:**  
Have students share one idea — keep the pace lively. Reinforce that technology creates *more skilled jobs,* not fewer.

**Video:**“A Day in the Life Industrial Production Manager”, Career OneStop. 00:01:32 <https://www.careeronestop.org/Videos/careeronestop-videos.aspx?videocode=11305100>

**Optional Activity:** “What If” Activity: Ask: “If you helped develop one life saving medicine or device, what disease or condition needing treatment would be first on your list? Write down your idea.” Give them three minutes to consider and write.

Give Directions for Pair and Share: “You will have one minute to share your idea with a shoulder partner (someone sitting nearby so they do not need to get up to complete the task). When you hear me say, “Switch”, the other person has one minute to share their idea. Are there any questions about what you need to do next?” Track one-minute intervals and say “switch” at the one-minute marker. If time allows, ask if anyone wants to share their ideas.

Note: Use this activity as a replacement to several videos, demonstration, or as an option for additional content.

**Slide 5 – Chemicals & Materials**

**Goal:** Show science and chemistry in everyday life.

**🎙 Speaker Notes:**  
Say,“The materials around us — glass, rubber, carbon fiber — come from advanced chemistry and materials science.”

**Activity Option:** Show or describe materials and ask which might be used in planes, space, or medicine — and why.

**Activity Option:** Show samples or images of common materials (aluminum, carbon fiber, glass, rubber) and ask which might be used in space, cars, or medicine — and why.

💡 **Pro Tip:** Encourage observation: “Who’s holding something made of plastic right now? That material probably came from a chemical plant or lab like this one.”

If needing more content consider using:

**Optional** **Video:** *“What is Materials Science?”* Tender Intellects. 00:03:06.

https://www.youtube.com/watch?v=a\_gFK10eVAE. Image in slide is linked to video.

**Slide 6 – Advanced Mobility**

**Goal:** Connect to vehicles, drones, and transportation innovation.

**🎙 Speaker Notes:**

Say**,** “Advanced mobility combines energy, data, and design to move people and goods in smarter ways. How will people travel 50 years from now — cars, drones, or something new?”

**Note:** *If demonstration requires more than 10 minutes, eliminate this activity.*

**Slide 7 –Tennis Ball Activity**

<https://www.ohiomfg.com/wp-content/uploads/2025/11/MakingOhio_GroupActivity_TennisBallTransfer.pdf>

**Purpose:** Students will work as a team to find the quickest way to transfer a tennis ball so each student touches it in each of their hands at least once. Through iteration and supervisor feedback, students will learn the importance of communication, teamwork, and process efficiency in a group setting.

**Time:** 15 minutes

**Materials Needed:** 1 tennis ball; stopwatch or timer (optional, but recommended)

**Directions:**

1. Split students into groups of 5–10 (adjust as needed for class size).

2. Give each group a tennis ball and explain the rules: The ball must be touched by each hand of every group member before the task is complete.

3. Allow groups 2 minutes to discuss strategy, then have them set up and time their first attempt.

4. Announce that you are the “floor supervisor” and more efficiency is needed. Give them 1–2 minutes to revise their process, then time them again.

5. Repeat the cycle for approximately 10 minutes, encouraging them to improve and compete against their own best time or other groups.

6. Continue to act as a “floor supervisor” or “operations manager” throughout—challenging them to be faster, more precise and better coordinated.

**Discuss:** How did communication improve your team’s performance? What changes made the biggest difference in your time? How did you identify inefficiencies and decide on improvements? Did you notice that small adjustments added up to significant time savings? How does this activity relate to real-world manufacturing, where processes are refined to improve output and quality?

Special thank you to Stark County Manufacturing Workforce Development Partnership for providing MakingOhio with this activity.

Additional debriefing options using the following asking open ended questions such as:

* “What kind of jobs might people have when using skills required here like these?”
* “Why do you think this set of skills is important in working environments?

💡 **Pro Tip:** Use hand gestures or quick drawings to visualize ideas.

**Note:** If demonstration requires more than 10 minutes, you may eliminate this activity.

**Slide 8 – Today’s Manufacturing Careers**

**Goal:** Show that manufacturing is clean, safe, and high-tech.

**🎙 Speaker Notes:**  
Say,“Today’s factories use robotics, sensors, and teamwork to solve real problems, and many career pathway options are available. The opportunities are wide and varied.” Review the graphic depicting the Aerospace and Defense, Automotive, Semiconductors occupations and how occupations within these sectors can overlap.

A diagram of various types of industrial equipment

AI-generated content may be incorrect.

**Engagement Tip:**  
Ask, “What advanced manufacturing occupation have you heard about so far that interests you enough to learn more?”

💡 **Pro Tip:**  
There are no wrong answers to, “What interests you most?” The objective is to help students imagine themselves in any of these roles.

**Slide 9 – Careers that Lead to a Better Life**

**Goal:** Reinforce manufacturing as a path to purpose and stability.

**🎙 Speaker Notes:**  
Say, “These careers help the world — from clean water to renewable energy to life-saving devices.” For older students, discuss the impact of sustainable wages. For younger students, talk briefly about how good wages allow us to do things we like doing.

**Optional Engagement Question:**  
“What kind of world do you want to help build?”

💡 **Pro Tip:**  
Invite a few answers, then link back: “That’s what manufacturing careers make possible.” Emphasize that not all careers in advanced manufacturing require a four year degree. It is very possible to enter the field and stack your credentials as you progress in the field. Discuss the varying options and wide variety of paths to grow skills as time allows.

**Slide 10 – Where Will a Career in Today’s Advanced Manufacturing Take You?**

**Goal:** Leave students inspired and informed. Offer opportunity for Q&A if time.

**🎙 Speaker Notes:**

Say, “Ohio needs your talents, and I can’t wait for you to discover all the ways that Advanced Manufacturing needs your smart ideas.”

**Question and Answer (Q&A) Tips:**

* Repeat each question before answering so all can hear.
* Be honest if you don’t know an answer — offer to follow up or share a link.
* Keep responses under one minute each to reach more students.

**Optional:**  
Share links or local program examples.

**Slide 11 - Ohio’s Future is Built Here, with You!**

**Goal:** Leave students inspired and informed.

**🎙 Speaker Notes:**

Allow for additional Q&A if time: “Is there anything else you’d like to learn about regarding what kinds of things advanced manufacturers are doing? How many people here think there could be something fun to do as a career in advanced manufacturing?”

Leave handouts or other resources with teacher and school counselor

**Before You Begin: Know Your Audience**

| **Grade** | **Typical Traits** | **What Works Best** |
| --- | --- | --- |
| **Elementary (K–5)** | Energetic, curious, short attention spans | Bright visuals, short stories, props, movement |
| **Middle (6–8)** | Social, testing independence | Humor, relatable analogies, hands-on demos |
| **High School (9–12)** | Curious about real-world relevance | Career talk, real-life success stories, interactive Q&A |

**ADDITIONAL TRAINING TIPS**

1. **Engage all learners:**  
   Mix visuals, movement, and questions — don’t just “talk at” the class.
2. **Model curiosity:**  
   When a student says something interesting, say, “That’s a great point — let’s think about that.”
3. **Encourage teamwork:**  
   Students learn best by sharing ideas, not just listening.
4. **Keep transitions smooth:**  
   “Now that we’ve seen how materials are made, let’s explore how they move us — with advanced mobility.”
5. **End with encouragement:**  
   “Every one of you could help invent the next big thing in clean energy, medicine, or aerospace.”

**SUMMARY CHECKLIST FOR Ambassadors**

✅ Arrive 15-30 minutes early  
✅ Test slides and videos  
✅ Confirm student materials (paper/pencils)  
✅ Use clear language, smile, and make eye contact  
✅ Pause for engagement every 3–4 slides  
✅ Manage time — activity should not exceed 10–12 minutes  
✅ End with inspiration and hope