

Great Lakes Bay Region Career Resources

Introducing middle school students to careers and real-world applications of learning is essential for helping them see the purpose behind what they study in the classroom. At this age, students begin forming interests, identities, and ideas about their future, making it a critical time to connect academic subjects to meaningful career pathways. When students understand how math, science, reading, technology, and communication skills are used in real professions, they are more likely to stay engaged, motivated, and confident in their abilities. Career exploration also helps students discover talents they may not have recognized and exposes them to a wider range of opportunities, including high-demand careers in skilled trades, healthcare, manufacturing, engineering, business, and emerging technologies. The [Michigan Career Development Model](#) emphasizes that career development should be intentionally embedded across K–12 instruction. By connecting classroom learning to authentic career experiences, schools can better prepare students for future education, workforce success, and lifelong learning.

Powerful Resources for the Classroom

To support these real-world connections, educators have access to a collection of seven engaging classroom videos, six career talks that highlight professionals working in a variety of technical and leadership roles, and 8 MiCareerQuest virtual tours that feature in-demand careers at various organizations across the region.

Seven classroom videos — *Think Like an Engineer*, *Measure Twice, Build Once*, *Safety is a Skill*, *Math You Can See*, *Tech on the Factory Floor*, *Careers that Build the World*, and *Making Things Responsibly* — help reinforce important concepts such as teamwork, innovation, precision, safety, technology, and responsible manufacturing. Together, these resources give teachers meaningful tools to connect academic standards to authentic career pathways and help students better understand the opportunities available to them in the modern workforce.

The career talk videos feature roles like Operations Team Leader, Solar Market and Business Development Analyst, Millwright Apprentice, Quality Assurance Specialist, Process Engineer, and Functional Team Leader. These speakers provide students with relatable examples of how classroom skills translate into real careers and workplace problem-solving.

MiCareerQuest Middle Michigan virtual tours feature employers in all five industry sectors: advanced manufacturing, agribusiness, construction, health care, and information technology. Each video presents 2-3 high demand jobs in that industry, highlighting elements like:

- Average day
- Necessary training
- Work schedule
- Salary and benefits

How to best incorporate the resources in the Classroom

- Incorporate career development model targets into lessons
 - Target 1: Career Clusters
 - Target 2: Academic Connections
 - Bell ringer
 - Conclusion of a lesson
 - Real life connection as an introduction
 - Target 3: Career Exploration

⇒ Review the career exposure [presentation](#) to get more ideas, links, and a sample lesson.

Manufacturing Career Talks:

Target Audience: High School or Middle School Students

Tiggbee Videos - Hemlock Semiconductor Employees

[Click Here](#) to get a copy of the google sheet information below for your use

	Career Connection Resources						
Target Audience	#	Video Title/Link	Skill Focus	Potential Content Relevance	Career Connections	Standard Connections (<i>All videos address the Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, and Target 3: Career Exploration</i>)	Reflection Questions
Middle School or High School	8	Jordan Hancock	Career Talk - Operations Team Leader	Any	Manager, Supervisor, Director of operations, CEO	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	What skills do you think are most important when coordinating people, schedules, and tasks? How do you think a team leaders actions help the team achieve its goals? How do communication and leadership help an Operations Team Leader be successful, and how could you practice these skills in school?
	9	Sabrina Fung	Career Talk - Solar Market & Business Development Analyst	Any	Market Analyst, Project Manager, Financial Analyst, Product Manager, Energy Data Scientist	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How does renewable energy impact communities and the environment? What role does data and market research play in helping companies make business decisions about solar energy projects? After watching the video, what interests you most about careers that combine science, technology, and business?
	10	Tucker Violette	Career Talk - Millwright Apprentice	Any	Industrial Mechanic, Maintenance Technician, Machinist, Welder, Pipefitter	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	Why is precision important when installing, repairing, or maintaining industrial machines? What technical and problem-solving skills did Tucker describe using on the job? How does apprenticeship training differ from a traditional college pathway, and what are some advantages of learning through hands-on experience?
	11	Shayna Kienitz	Career Talk - Quality Assurance Specialist	Any	Automation Engineer, Quality Audotor, Business Analyst, Product Manager	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	Why is quality control important in manufacturing and production? What steps does Shayna take to identify and solve problems before products reach customers? How do attention to detail and critical thinking help someone succeed in a quality assurance career?
	12	Kawleen Kaur	Career Talk - Process Engineer	Any	Quality Engineer, Project Manager, Research and Development Engineer	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	What are some ways engineers can make a process safer, faster, or more efficient? What examples from the video showed how math, science, or technology are used in engineering careers? If you were a Process Engineer, what everyday process would you want to improve and why?
	13	Chenita Tellis	Career Talk - Functional Team Leader	Any	Operations Manager, Supervisor, Project Manager, Functional Analyst, Business Advisor, Director	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	Why is teamwork important in the workplace? What leadership qualities did Chenita demonstrate, and which of those qualities would you like to develop? How does understanding the strengths of different team members help a leader achieve successful outcomes?

Real World Manufacturing Classroom Videos:

Target Audience: Middle School Students

	Career Connection Resources						
Target Audience	#	Video Title/Link	Skill Focus	Potential Content Relevance	Career Connections	Standard Connections <i>(All videos address the Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, and Target 3: Career Exploration)</i>	Reflection Questions
Middle School	1	Think Like an Engineer	Engineering design & problem solving	Science	Engineers - Chemical, Civil, Mechanical, Electrical, Industrial, Automation, Environmental, etc.	MS-ETS1 Engineering Design	What does it mean to think like an engineer? Can you think of a real-world problem you'd like to solve? Which type of engineer interests you most and why?
	2	Measure Twice, Build Once	Measurement, accuracy, precision & data literacy	Math, Science	Machinists,Quality Inspectors, Technicians, Operators	Mathematical Practice: Attend to precision, HSN-Q.A.3 Measurement limitations Science & Engineering Practice: Using Mathematics and Computational Thinking, Obtaining, Evaluating and Communicating Information	Why is accuracy so important in manufacturing? How could a small mistake affect the final product? What tools help ensure measurements are precise?
	3	Safety Is a Skill	Following procedures & safety awareness	Science, Shop, Technology	Production Operators, Maintenance Technicians, Supervisors		Why are safety rules important on the job? What are examples of safety practices? How does safety benefit everyone?
	4	Math You Can See	Applied math & spatial reasoning	Math, Science	CNC Operators, Engineers, 3D Printing Specialists, Packaging Engineers	HSG.MG.A.1 Geometric Modeling, 6.RP.A.3 Ratio reasoning, MS-ETS1-4 Developing and Using Models, Cross Cutting Concepts Structure and Function	Where do you see math used in manufacturing? How does geometry help when designing or building things? What math skills do you want to improve?
	5	Tech on the Factory Floor	Technology, sensors, coding & data	Math, Technology	Automation Technicians, Electrical Technicians, Engineers, Data Analysts, Programmers	MS-PS1-4, MS-PS4, HS-PS-3, Mathematical Practices: Use appropriate tools strategically	What technologies are used in today's factories? How do sensors and data help improve products? Which tech skill would you like to learn more about?
	6	Careers That Build the World	Career exploration & real-world applications	Math, Technology	Production Operators, Quality Inspectors, Welders, Machinists, Technicians	Mathematical Practices - Model with mathematics, HS-PS3	What careers in manufacturing interest you and why? How do these jobs help build our world? What skills do you think are important for success?
	7	Making Things Responsibly	Sustainability & environmental awareness	Math, Social Studies	Sustainability Specialists, Environmental Compliance Roles, Engineers	MS-ESS3-4 Human Impacts on the Environment; G5 Environment and Society; G6 Global Issues, P Public Discourse, Decision Making and Civic Communication ; Identifying and Analyzing Public Issues, Persuasive Communication	How can manufacturing be good for the environment? What are ways factories can reduce waste? What role could you play in a greener future?

Virtual Talent Tours from MiCareerQuest Middle Michigan

Target Audience	#	Video Title/Link	Skill Focus	Potential Content Relevance	Career Connections	Standard Connections (<i>All videos address the Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, and Target 3: Career Exploration</i>)	Reflection Questions
Middle School or High School		Apprenticeships	Information Technology and Manufacturing	Any	Road Maintenance Operator, Air Craft Mechanic, Electrician Apprentice, Carpenter	Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	What skills or interests do you already have that might help you succeed in one of these careers and what is one skill, habit, or piece of knowledge from this career that you could start developing right now in school.
	15	MidMichigan Health and Covenant Healthcare	Health Sciences	Any	Nurses, Nurse Practitioner, Lab Technician, Pathologist, Phlebotomist, Medical Assistant, Respiratory Therapist	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How do these healthcare professionals work together to help patients stay healthy? Which healthcare career interested you the most, and what did you learn that surprised you? Besides medical knowledge, what personal qualities (such as communication, teamwork, or empathy) are important in these careers?
	16	U.S. Fish and Wildlife	Agribusiness	Any	Park Ranger, Visitor Services	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How do Park Rangers and Visitor Services staff help people enjoy and protect natural spaces? What challenges do you think these professionals face while working outdoors or assisting visitors? If you worked in a park, what project or responsibility would you be most excited about and why?
	17	MMR	Health Sciences	Any	EMT/Paramedic, Emergency Medical Dispatcher, EMS Educator	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How does each person in the emergency response system contribute to helping people during a crisis? Why are quick thinking and clear communication important in these careers? What skills would someone need to remain calm and effective during an emergency situation?
	18	IBEW Local 692	Construction	Any	Electrician/Inside Wiremen/Residential Construction Wiremen, HVAC Technician, Welder, Carpenter, Plumber, Rigger, Machinist	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How does the work of these skilled trades professionals help build, maintain, or improve homes, buildings, and equipment? What similarities did you notice among these careers, and what makes each one unique? Which skilled trades career would you most like to learn more about, and what interests you about it?
	19	Vantage Plastics	Manufacturing	Any	Designer, Process/Product Engineer, Quality Manager	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How do these professionals work together to turn an idea into a finished product? Why is testing and improving products an important part of the design and manufacturing process? What role do creativity and problem-solving play in each of these careers?
	20	Roscommon County Road Commission	Construction	Any	Engineer, Truck/Equipment Operator, Mechanic	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How does each career contribute to completing large projects such as roads, buildings, or other infrastructure? What technologies, tools, or machines did these professionals use in their work? Why is teamwork important when people in different roles work on the same project?
	21	Star of the West Milling	Agribusiness	Any	Featured - Fertilizer Applicator, Elevator Operator, Flour Miller Mentioned - Farmer, Buyer, Soil Scientist, Drone Pilot, Beekeeper, Inspector, Botanist, Conservationist	Michigan Career Development Model Target 1: Career Clusters, Target 2: Academic Connections, Target 3: Career Exploration	How do the featured careers help move food from farms to consumers? Which of the mentioned careers would you like to learn more about, and what makes it interesting to you? What science, technology, or problem-solving skills are used in modern agriculture and food production?