



Manufacturing Career Resources (K-8 Career Literacy)



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PATHWAYS TO COLLEGE & CAREER READINESS

The following resources are related to careers in the Manufacturing career cluster. [Click here](#) for a complete list of careers by cluster.



MANUFACTURING MONTH

AZ Manufacturing Extension Partnership ([MEP](#)) is providing opportunities for Grades 7-12 to meet local manufacturers!

2024 Tours to be announced in Summer 2024

AZ Manufacturing Month themanufacturinginstitute.org/students/

(Grades 7-12) October is when local manufacturers open their doors for tours! This is a great opportunity for early career exposure in the manufacturing field.

AZ PBS Learning-Manufacturing Process: pbslearningmedia.org/resource/factories2_process/

(Grades 5-8) The manufacturing process involves taking raw materials through a variety of steps to produce a finished product.

Classroom Assembly Activities: middle-school-assemblyline-activities-8008353

(Grades 5-8) Students experience how to form an assembly line by setting up mini-factories in the classroom.

Henry Ford Museum-Invention Convention: inhub.thehenryford.org/invention-convention

(Grades K-12) Free hands-on curriculum to activate students' critical thinking and the impact of inventions in their lives. Students apply STEM, invention, and entrepreneurial skills to build real-world solutions.

Science Buddies–Build a Prosthetic Hand: sciencebuddies.org/science-fair-projects/project-

(Grades 5-8) Practice material resourcing and the manufacturing assembly process.

Supply Chain Interactions: top-10-supply-chains-lessons-from-amazon-wal-mart-mcdonalds-

(Grades 5-8) Understand how supply can interrupt the assembly process in manufacturing.

Semiconductor? what-is-a-semiconductor/

(Grades 5-8) Semiconductors are in everything from your cell phone to rockets. But what exactly are they, and what makes them so special? Find out from MIT Electrical Engineering and Computer Science.

Semi Hi-Tech U: workforce-development/semi-foundation/school

(Grades 2-12) Free lessons developed by teachers on a variety of topics impacted by the microelectronics industry.

Why You Should Consider a Career in Manufacturing

Manufacturing has changed considerably due to advancements in technology, like automation and digital systems, and workplaces have become safer and more comfortable. These changes have enabled employees to learn new skills and enrich their job opportunities.

Manufacturing careers offer:



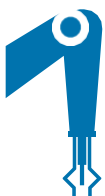
Diverse Opportunities

Manufacturing encompasses a wide range of industries, from aerospace and automotive to electronics and consumer goods. This diversity offers you the chance to choose an area that aligns with your interests and skills.



Problem Solving

Manufacturing professionals are frequently faced with challenges related to production efficiency, quality control, and process optimization. This environment nurtures problem-solving skills and critical thinking.



Innovation and Technology

Modern manufacturing is driven by innovation and technology. People in this field have the opportunity to work with cutting-edge tools, automated systems, and advanced materials, and to contribute to the development of new products and processes.



Competitive Compensation

Skilled manufacturing professionals are often in high demand, leading to competitive salaries and benefit packages, especially as expertise and experience grow.



Job Stability and Career Growth

Manufacturing is crucial to economies worldwide. Manufacturers often offer a clear path for career advancement. Starting from entry-level positions, you can progress to supervisory, managerial, and even executive roles, with corresponding increases in responsibility and compensation.



Pride in Creation

There's a sense of accomplishment that comes from seeing a product you helped create out in the world. Manufacturing allows you to take pride in tangible accomplishments.



Hands-on Experience

If you enjoy working with your hands and seeing tangible results, manufacturing provides plenty of opportunity. From prototyping to production, you'll be involved in creating real-world products.



Continuous Learning

Manufacturing is constantly evolving due to technological advancements and changing consumer preferences. This can lead to new career opportunities as you grow your skillset.



Manufacturing Jobs

Let's take a look at some popular manufacturing jobs - how much they pay and what type of education or training you need to succeed on the job.

Industrial Engineers

Optimizes production processes for efficiency and quality by analyzing workflows, streamlining operations, and implementing lean manufacturing principles and automation. They help to improve resource allocation, layout, schedules, and safety, using data analysis and project management.

\$ AVERAGE PAY: \$101,900



EDUCATION: Bachelor's degree in industrial engineering or a related field, such as manufacturing engineering or systems engineering.

Electrical Engineers

Designs, develops, and oversees electrical systems in industrial settings, ensuring efficient operations. They design circuits, program controllers, and optimize processes for safe and effective manufacturing.

\$ AVERAGE PAY: \$114,050



EDUCATION: Bachelor's degree in electrical engineering or a related field. The curriculum covers topics such as circuit theory, electronics, digital systems, control systems, power systems, and instrumentation.

Production, Planning, and Expediting Clerks

Coordinates production processes, creates schedules, monitors inventory, and addresses any issues that pop up to ensure quality products are delivered on time.

\$ AVERAGE PAY: \$55,080



EDUCATION: High school, vocational training or certification, on-the-job training.

Welders and Cutters

Joins and shapes metal components using various welding and cutting techniques, follows Computer-Aided Design (CAD) files or drawings, maintains safety standards, and contributes to different product fabrication.

\$ AVERAGE PAY: \$52,600



EDUCATION: High school, vocational or technical training, apprenticeships, certification programs, on-the-job training.

Machine Tool Setters and Operators

Operates, maintains and monitors machines that shape, cut, grind, or otherwise process materials such as metal, plastic, wood, or composite materials into specific parts or products.

\$ AVERAGE PAY: \$43,900



EDUCATION: High school, vocational or technical training, apprenticeships, certification programs, on-the-job training, associate degree.

Fabricators and Fitters

Plays a pivotal role in production, precisely assembling components from CAD files or drawings using tools and machinery. They ensure quality standards and specifications are met. Fabricators work with various materials, shaping them according to designs.

\$ AVERAGE PAY: \$50,600



EDUCATION: High school, vocational or technical training, certifications, on-the-job training.

Source: JobsEQ®, <http://www.chmuraecon.com/jobseq>

