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Institute

Who We Are

The Manufacturing Institute is the 501(c)(3) affiliate of the National Association of Manufacturers and the **recognized leader in manufacturing workforce development and education**. MI works with over 1,000 companies annually to support outreach, education, training, and recognition activities and reaches over 25,000 individuals each year through its programming.

Through its programming, insights, and platforms, **MI provides the manufacturing sector with solutions to its workforce challenges**.

Our Core Functions

Strategic Workforce Development: Scaling up the industry's workforce solutions – to enhance recruitment, retention, upskilling and innovation – with our unmatched expertise and network.

Convening Industry Leaders: Facilitating vital industry conversations and forging alliances between manufacturing and national workforce development leaders to shape a stronger future.

Innovative Research: Offering forward-thinking research and actionable insights, ensuring you stay ahead in an industry that never stands still.

Groundbreaking Programs: Pioneering initiatives to advance individual skills and industry-wide competencies while developing new and retaining existing talent

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Background and Important Consideration

The Quest for the Crystal of Innovation (Innovators Quest) was designed for manufacturers to introduce students in their local communities to manufacturing skills, concepts and careers through fun, hands-on activities. Manufacturing employees are the connective tissue between what students experience in the quest to real-world manufacturing. Manufacturers should always be in the room when the kit is being used.

It’s important to note that we have designed the kit to be adaptable for different ages, group sizes and settings. In the instruction manual we provide ideas, recommendations and insights for different uses.

Background and Important Consideration

The kit was created using these specific usage guidelines:

- Age: Students in grades 4–9
- Event format: Completion of the full quest in one session
- Session length: 90–120 minutes
- Group size: 30 students, divided into five teams of six
- Event site: Classroom or media center
- Event staff: Three to five manufacturing volunteers/facilitators

Gamified Learning

Engages students in grades 4-9 with interactive, real-world manufacturing challenges in a fun, age-appropriate way.

Community Engagement

Helps manufacturers inspire local students and spark interest in manufacturing careers through accessible, turnkey programming.

Versatile Use

Adaptable for a variety of ages, groups & event types to increase manufacturing career awareness & talent pipeline development.

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Volunteer-Friendly

Designed for company employees & volunteers to easily & effectively lead activities and bring modern manufacturing to life.

Skill Development

Encourages teamwork, communication & problem-solving while introducing essential manufacturing concepts like robotics, electronics & quality control.

Portable Solution

Easy to transport, set up & facilitate, making it ideal for classrooms, family days, summer camps, community events & MFG Day.

Storyline and Realm Overview

In Innovators Quest, students enter a fictional world, “Creatoria,” where the future of innovation is at risk. They take on the role of “Innovators,” working in teams to complete challenges, recover crystal shards and restore the power of the Crystal of Innovation.

During the quest, students will build critical thinking skills, apply teamwork strategies and explore modern manufacturing concepts. The quest takes them through four immersive realms, reflecting different areas of industry-relevant knowledge and practice.

Facilitators, also known as gatekeepers, use this narrative to frame the experience, build excitement and help students see how each challenge connects to real-world careers.

Getting Started

Students will each take on the role of a specific innovator archetype and must work in teams, visiting four realms and completing each challenge to collect the crystal shards.

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Realm Contents

- **Each realm contains the following:**
  - Box with realm overview and innovator hints on inside lid
  - Realm map with “setup,” “how to retrieve the shards,” and “did it work” instructions
  - Foam insert with labeled cutouts for correct placement and organization of all realm materials
  - Detailed task cards for step-by-step instructions where necessary
  - Bag of crystal shards
  - All materials needed to successfully complete realm

The City of Imagination

Teams use 3D pens to create new structural parts and repair the Cloud Bridge.

MFG Connections: Additive Manufacturing, Prototyping, Welding/Soldering

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The Labyrinth of Machines

Teams assemble a snake robot and wire the controller, then maneuver the robot to collect crystal shards.

MFG Connections: Robotic controls, Reading manuals, Wiring, Connections, Electricity

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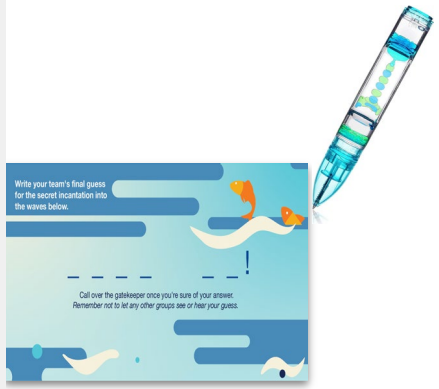
The Channel of Unity

Teams use a cipher to crack a code.

MFG Connections: Problem Solving, Communication, Attention to Detail, Teamwork



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The Forest of Precision

Teams create an electrical circuit to power an airplane launcher and follow blueprints to build and fly paper airplanes.

MFG Connections: Aerospace engineering, Schematics, Testing, Precision, Assembly Lines, Electromechanical components, Measuring, Quality Control

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Completing the Quest

Once all crystal shards have been collected by each of the teams and combined into the colorful crystal, the Crystal of Innovation is repaired and innovation is restored – unlocking the Box of Mysteries.

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The Innovators Quest Kit

Primary Components

Replacement components & refills

Storage & transport cases

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Innovators Quest in Action

Key Considerations

- Designed for use **by manufacturers with 4th-9th grade students** in their local communities, as a fun introduction to manufacturing concepts, skills and careers
- **Manufacturing employees facilitate the activity** and **serve as the connector** between Innovators Quest and real-world manufacturing
- A great tool for partner organizations to share locally in support of inspiring the future manufacturing workforce.

NOTE: Not intended as a tool for schools to use without manufacturer support

Sponsorship Information

- Ordering window: Oct. 27, 2025 – Jan. 31, 2026
- Sponsorship funds due no later than Feb. 7, 2026
- Kit delivery by May 1, 2026
- Sponsorship - $15,000 per standard kit

Scan to learn more and order your kit

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