



STEM Training

What is JA Trades?

- Junior Achievement of Greater St. Louis offers a program called JA Trades, designed to introduce middle and high school students to careers in the trades. This hands-on program emphasizes the value of STEM skills and provides real-world experiences across a variety of trade professions.
- Students rotate through different stations to gain practical insight into careers such as welders, electricians, carpenters, and more.
- Volunteers play a vital role in the success of this program. We appreciate your support and hope your experience is both rewarding and memorable.

Why teach Trades?

- High Demand: Skilled workers are needed more than ever as many retire.
- Career Path: Trades offer a solid, well-paying alternative to college.
- Hands-On Learning: Ideal for students who prefer practical, real-world skills.
- Strong Earnings: Many trade jobs offer great pay and benefits.
- Essential Roles: Trades are critical to keeping our communities running.



Volunteer Role

- Students will rotate through several trade stations to gain first-hand experience with different skilled careers. Your role is to lead a simulation that teaches students how important STEM is in trades. You will use the pizza industry as an example. **Farm to Front Door.** You'll introduce the activity, guide them through the steps, and help them understand how STEM is used in Trades.



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What is STEM?



Science is about asking questions and learning how things work — like why the sky is blue or how plants grow.

Technology is using tools, computers, and inventions — like apps, robots, or phones.

Engineering is building and designing things — like bridges, buildings, or machines.

Math is all about numbers, patterns, and problem-solving — it helps us measure, build, and calculate.



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Trade Industries that use STEM



- Plumbing
- HVAC
- Electrical
- Automotive
- Agriculture
- Construction
- Food production



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Student Activity

- Split into 2 teams.
- Watch the orientation video.
- Review the 6 supply chain categories and their connection to trades.
- Identify trade jobs in each category.
- Teams will answer job-related questions from a supply chain category.
- Earn points for correct answers.
- The team with the most points wins.



Supply Chain Categories

FARMING & INGREDIENTS

There are about 1.9 million farms in the U.S.

Favorite pizza toppings:
Pepperoni 24%
Sausage 13%
Cheese 11%
Veggie 9%



LOGISTICS

Trucks move 70% of food consumed by Americans, followed by railway at 17%.

Refrigerated, freezer, tanker, and semi are all types of trucks used to transport food.



MARKETING & SALES

Around 253 million Americans use social media.

\$455 billion is estimated to be spent for the year on advertising in the U.S.



RESTAURANT

Pizza was first sold by the slice in 1933.

Over 3 billion pizzas are sold in the U.S. annually, that's about 350 pieces every second.



KITCHEN

Pizza ovens can reach temperatures of 700 degrees.

Traditional pizza ovens are wood-fired with a dome shape to reflect heat.



ORDER & DELIVERY

Around 93% of Americans eat pizza at least once a month.



In 2001, a pizza was delivered to the International Space Station, making it the first pizza to be eaten in space.



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Sample Questions

ANSWER QUESTIONS
AS A GROUP TO
UNLOCK THE SUPPLY
CHAIN WITHIN YOUR
PIZZA CATEGORY

If the delivery driver's car
breaks down, who repairs it?

The detailed coordination of a complex farming operation involving many people, facilities, or supplies is called ____.

- ☐ A. Assembly line
- ☐ B. Farming logistics
- ☐ C. Good work
- ☐ D. Being a cowboy

What kind of plan do business professionals develop to help persuade customers to buy their product?

Which of the following is NOT a way to obtain property for a restaurant?

- ☐ A. Rent
- ☐ B. Buy
- ☐ C. Steal
- ☐ D. Build

The _____ decided the layout for where to put the sink and oven in the kitchen.



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Simulation Activity Instructions

"Now that you know what the supply chain categories are, it's time to find out which piece of the pie you'll be working with for your challenges."

"I will push the button and we will see where the wheel stops. Great! So the team on my left will be working with the _____ part of the supply chain. Now I will push the button so we can see what the team on the right will answer questions about. So, the team on my right will be working with the _____ part of the supply chain".

"Now I need all the members of the team to head to the touch screens on your side of the room. I want to add that these are **touch screens**, so you only need to lightly touch them to give your input. You will need to split up, so half of your team is on the left, and half of your team is on the right."

(Wait for the teams to get to their spots.)

Setting Up Challenge 1

"This first challenge is a team challenge, and it will involve multiple choice questions. You'll get points every time you answer a question correctly, but you'll lose points for every wrong guess. Be sure to call out the answer and help your team. Everyone ready? Let's begin."

(Start challenge 1)

(Encourage all the students to participate even if they aren't selecting the answers at the screen.)

End of first Challenge

(Recap team scores and congratulate the team with the most points. Encourage the other team by adding that they can catch up with the next challenge.)

Continue by saying,

"In the next challenge, you will earn individual points and at the end all the scores will combine into a team score. You will have your own screen, and you will choose which of the STEM skills best completes the statement at the top of your screen. Your team will continue to explore trade jobs and skills related to the part of the supply chain that was previously chosen." Finally, I will ask you which jobs you noticed are trade related.

- You will receive a handout with detailed instructions upon your arrival to JA Trades. JA staff will check in to ensure you are comfortable with the task at hand and answer any questions you may have.



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THANK YOU!

**We look forward
to seeing you at
JA Trades!**

Enjoy the Day!



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