



Junior
Achievement

JA TRADES™

JA Trades STEM 360 Volunteer Guide

JA Trades STEM 360 introduces students to trades jobs required in the pizza-making supply chain and the STEM skills required to get the job done.

Before the session begins, **please review:**

- **STEM 360 Volunteer Guide.**
- **STEM 360 Device Preparation (below).**
- **STEM 360 Supply Chain banners.**


Device Preparation

Before students arrive:

TABLET

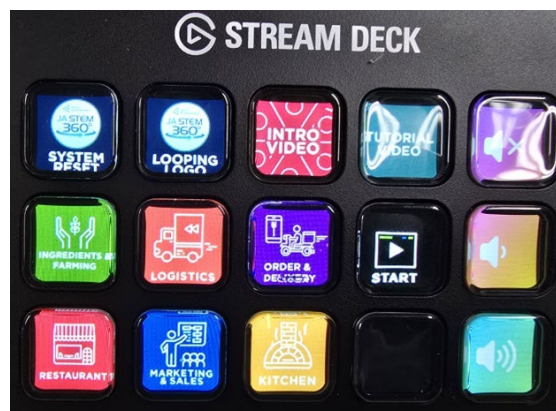
- Press power button and enter 1943 as passcode. Click on Chrome: Wheelofnames.com on tablet.
- Go to Hamburger menu > [Open]
- [Open local file] > On my iPad > Chrome > Stem360.json
- Practice spinning the wheel. This is the random category generator.

VERTICAL MONITOR

- Point small remote toward the small device on the back right of the monitor.
- Click  to bring up Files.
- Use up, down, left, right arrows and pause button to navigate.
- Click **Media**, then click **Orientation**. This is the Orientation video that you will play for the students.

LARGE MONITORS (2) and STREAM DECKS

- Turn on monitors if they are off. However, monitors do not need to be powered off at the end of the visit day. These monitors will be used for the competition.
- If the monitors are off, power-on Geekom computer.
- Stream Deck will power on with computer.
- Stream Deck takes a few minutes to be ready. If you push a Stream Deck button and get a “ping” noise, it’s not ready. These devices will be used by students to choose the Supply Chain category for competition.



If STEM 360 On the Road computer restarted and Stream Deck buttons aren't working, please follow the following instructions.

1. Plug in keyboard and mouse to USB ports on front of machine. I left one of each in crate behind the window/door monitor.
2. Press [Windows] button on keyboard
3. Move mouse outside of Start box and click once

Instructions: Bolded sections are to be read aloud.

Greet students as they arrive and invite them to gather near the vertical monitor.

Introduction

Welcome to JA STEM 360! We're excited to have you here today. Can anyone tell me what STEM stands for?

(Allow students to respond: *Science, Technology, Engineering, Math*)

Today, we're going to explore how some trades jobs require STEM skills to get the job done, sometimes in ways you might not expect! We'll even have a competition later! But first, let's watch a short video.

Direct students' attention to the **vertical monitor** and play the orientation video.

You may read the Orientation Video to the students while they are watching the video.

Use small remote to pause the video when finished so it's ready for the next group.

After the Video

Pretty amazing, right? How many jobs do you think are involved in making just one pizza?

(Allow students to answer.)

There are 15,000 jobs involved, many of them trades jobs!

Many trades jobs in the pizza supply chain rely on STEM skills!

Exploring the Supply Chain

But what exactly is a supply chain? If you're not sure, refer to the six supply chain banners.

- **Farming and Ingredients**
- **Logistics**
- **Marketing & Sales**
- **Restaurant**
- **Kitchen**
- **Delivery**

(Allow students to answer.)

A supply chain is the step-by-step process of creating, producing, and delivering a pizza.

What do you think the first step in the pizza supply chain is? Remember: FARM to Front Door!

(Answer: Farming and Ingredients.)

Review the supply chain banners in order, beginning with **Farming and Ingredients**.

Trade Jobs in the Supply Chain

Now that you know the supply chain stages, can you think of any trade jobs that fit into these categories? Many of these careers use STEM skills every day!

If students need help, offer examples:

Ingredients: farmers, harvesters, agricultural technicians, equipment operators, cheese makers, food processors

Logistics: truck drivers, logistics coordinators, inventory managers

Marketing & Sales: billboard and radio tower construction, graphics technicians, advertising and social media managers

Restaurant: pizza makers, line cooks, maintenance workers

Kitchen: chefs, bakers, production workers, managers

Order & Delivery: takeout staff, delivery drivers, dispatchers

Game Setup

Divide students into **two teams**. Have each team move to its touchscreen monitor.

Now I need all team members to stand near your touch screen.

Next, we're going to discover which supply chain category your team will compete in.

Use the tablet's random category generator. (You may choose their supply chain categories if time is limited.)

Have one student from Team 1 tap to spin the wheel.

Your team will be playing in the _____ category. Please remember your category.

Have a Team 2 student spin.

If the same category appears, re-spin.

Your team will be playing in the _____ category. Please remember your category.

Challenge 1 Instructions

This Challenge is a team activity. You'll answer multiple-choice questions. You'll earn points for correct answers but lose points for incorrect guesses. Work together, call out answers, and remember that these are touch screens, so a light touch is all you need.

Is everyone ready? Let's begin.

1. Have a student from each team tap **Tutorial** on the Stream Deck.
(Ignore the "3-2-1-Go" language in the tutorial.)
2. A student from each team then selects their category. Colors on Stream Deck do not coincide with Wheel of Names colors.
3. Ask one student on each team to locate but not press the **Start** button.

Each team will have four minutes to complete the challenge. After I count down from three and say "Start," you may press the Start button.

Are you ready?

3-2-1—Start!

During gameplay, you may call out scores and time to create excitement.

After time is up, recap both team scores. Congratulate the high-scoring team and encourage the other team to catch up in Challenge 2 (if time permits)!

Record scores for later.

Press **[System Reset]** on the Stream Deck.

Second Round

Would you like to play again?

Repeat gameplay steps:

- Re-spin for new categories (re-spin duplicates)
- Start Challenge
- Recap scores and announce the round winner

Wrap-Up

What trade jobs did you see today that relate to STEM?

(Allow brief discussion.)

Thank you for visiting! We hope you enjoyed STEM 360!

Reset the system for the next group using **[System Reset]**.

Click OK to start orientation video for next group on vertical monitor.

