

Webinar:

Entrepreneurship and STEM: Using Business To Build Authentic Project-Based Learning

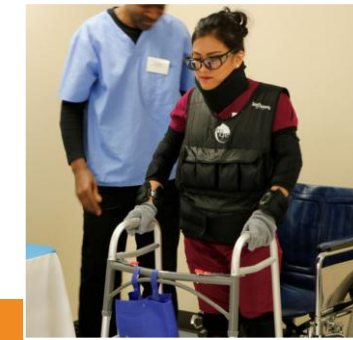
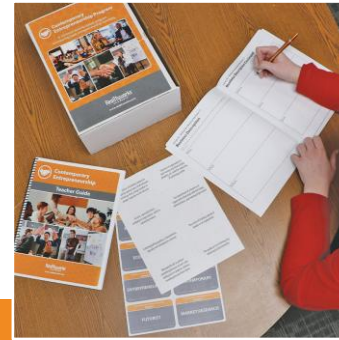
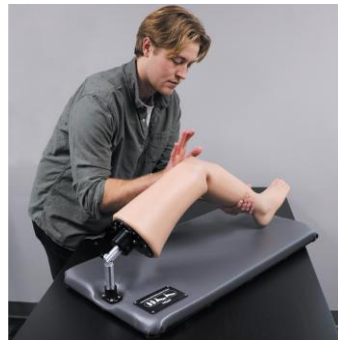
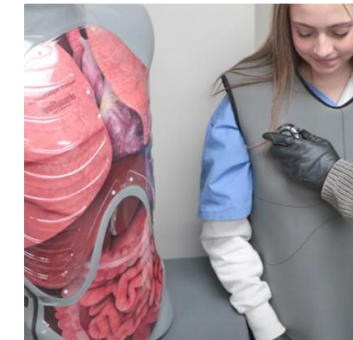


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Who is Realityworks?



We partner with educators, administrators and industry leaders to ensure our offerings meet their needs and make lessons truly meaningful.

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Entrepreneurship and STEM:

Using Business To Build Authentic Project-Based Learning

Attendees will:

- Understand how entrepreneurship enhances the impact of STEM-based project learning.
- Learn strategies to design student projects around real-world business and product development.
- Explore hands-on tools and examples to inspire authentic, skills-based learning in the classroom

Benefits of integrating business & entrepreneurship:

1. Real-World Relevance and Application

- Students see how academic concepts apply in actual business settings. Whether it's budgeting, marketing, or product development, these scenarios make learning **authentic** and **career-connected**, helping students understand the "why" behind what they're learning.

2. Development of Transferable Skills

- Entrepreneurship activities build soft skills like leadership, collaboration, adaptability, and problem-solving—skills that are essential across all career paths, not just business.

3. Encourages Innovation and Creativity

- Entrepreneurial thinking fosters a mindset of **innovation**, encouraging students to explore new ideas, take calculated risks, and learn from failure—key traits for success in STEM and other fields.

4. Enhances Career Exploration and Ownership

- Students gain insight into various roles within a business—marketing, finance, operations, etc.—which helps them **identify interests and career pathways**. It also gives them a sense of ownership over their learning and future.

5. Supports Project-Based and Cross-Curricular Learning

- Business scenarios naturally integrate math, science, technology, and communication, making them ideal for **interdisciplinary, project-based learning**. This aligns well with CTE goals and standards.

Why Entrepreneurship?

“Why do we have to learn this?”



Strategies for Adding Business:

- 1. Role-Playing Customer & Technician Service Call**
- 2. Electronics Repair Service Scenario**
- 3. Materials Costing Exercise**
- 4. Labor Costing Calculator**
- 5. Small Business Project: Job Bidding**

Adding Business & Entrepreneurship To These Learning Experiences:

- 1. Electrical Wall Panel**
- 2. Trailer Circuits STEM Kit**
- 3. Measurement Math**
- 4. guideWELD VR**

Electrical Wiring Kit

Features

Use the Electrical Wiring Kit to:

- Teach electrical wiring basics
- Demonstrate correct wiring techniques
- Conduct student-led electrical wiring exercises
- Safely identify and correct issues at a glance
- Improve classroom management and safety



RealCareer™ Electrical Wiring Kit

Electrical Wiring Assessment Kit:

- 2 Breakout Boxes
- 2 Light Socket Testers
- 3 cables: Breakout Box Cable, Outlet Cable and Socket Tester Cable
- 4 AA batteries

Wall Panel Demonstrator

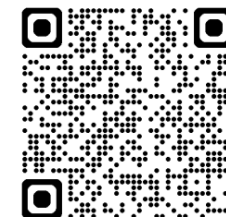
Electrical wiring components:

- 2 single Pole Switches
- (2) 3-way switches
- (3) 15A duplex receptacles
- 2 ceramic lamp holders
- 1 ceramic lamp holder, with pull chain
- 20 feet of 14-2 NM-B with ground wire
- 13 feet of 14-3 NM-B with ground wire
- 25 standard wire connectors
- 1 roll of black electrical tape

Student Exercise Workbook
(16 student-led exercises)

Additional features and functions:

- Portable, battery-operated kit
- Uses low-voltage DC power to assess AC wiring
- Instant assessment and corrective feedback



Electrical Wiring Kit Technician Service Call

Service Call Role-Play Scenario Script

Scenario Title: "Help! My Outlet Isn't Working"

You are a homeowner who recently noticed that one of the electrical outlets in your living room has stopped working. You've contacted a student electrician to diagnose and fix the issue. You're not an expert in electrical systems, so you're relying on the electrician to explain things clearly and professionally.

Your Role as the Homeowner:

1. Start the Interaction:

- Greet the electrician.
- Briefly explain the issue: (example scenario)
"Thanks for coming. I noticed this outlet stopped working yesterday. I haven't changed anything, so I'm not sure what's wrong."

2. Ask Questions During the Service:

- What do you think might be causing the problem?
- Is this something that happens often?
- Can you show me what you're doing to fix it?
- Is this safe to use once it's fixed?

3. Evaluate the Electrician's Professionalism:

- Did they arrive prepared and on time?
- Were they respectful and easy to understand?
- Did they explain the issue and solution clearly?

4. Evaluate Technical Skill:

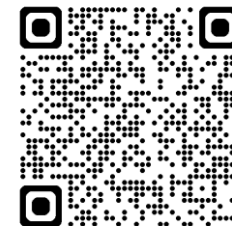
- Did they use tools correctly and safely?
- Did they complete the task confidently and correctly?

5. Evaluate Business Practices:

- Did they explain what the service would cost?
- Did they offer a summary or "invoice" of what was done?
- Did they answer your questions about future maintenance or safety?

6. Wrap Up the Interaction:

- Thank the electrician.
- Complete the rubric based on your experience.



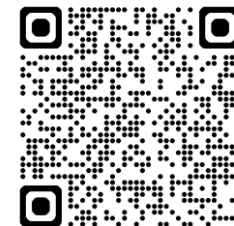
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Electrical Wiring Kit Technician Service Call

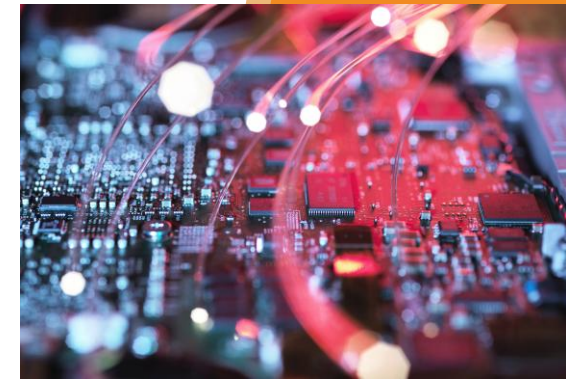
Role-Playing Technician Service Call

Category	Criteria	Score (1–5)	Comments
Professionalism	Arrived prepared and on time		
	Communicated clearly and respectfully		
	Maintained a professional demeanor throughout the interaction		
Technical Skill	Accurately diagnosed the electrical issue or explained the installation		
	Demonstrated safe and correct use of tools and equipment		
	Completed the task effectively and explained the outcome		
Business Practices	Provided a clear explanation of service costs or pricing		
	Offered a basic invoice or service summary		
	Responded to questions about warranty, safety, or future service needs		
Customer Satisfaction	Overall satisfaction with service		
	Would you “hire” this electrician again?		



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Trailer Circuits STEM Kit



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Trailer Circuits STEM Kit Electronics Repair Service

📄 Electronics Repair Role-Play Scenario: Customer Script

Scenario Background:

You are a customer visiting a local electronics repair shop. You've brought in a device (e.g., smartphone, tablet, speaker, or gaming controller) that isn't working properly. You're hoping the technician can diagnose the issue, explain the repair process, provide a cost estimate, and complete the repair. You're not an expert in electronics, so you'll rely on the technician to communicate clearly and professionally.

Your Role as the Customer:

1. Greet the technician and describe the issue with your device.
2. Ask questions to understand the problem and the repair process.
3. Evaluate the technician's professionalism, technical skill, and business practices.
4. Complete the rubric after the interaction.

Suggested Questions to Ask:

- Can you tell what's wrong with my device?
- Is this a common issue?
- What steps will you take to fix it?
- How long will the repair take?
- How much will it cost?
- Is there a warranty or guarantee on the repair?
- Can you show me what you're doing?

Evaluation Guidance:

After the role-play, use the rubric to evaluate the technician's performance. Consider the following:

- Were they respectful and professional?
- Did they explain the issue and repair process clearly?
- Did they demonstrate safe and effective technical skills?
- Did they provide a clear cost estimate or invoice?
- Would you trust them to repair another device in the future?

NEW **Trailer Circuits STEM Kit**
\$1,999 – 47010100

3 trailer wiring trucks

Safely teach learners the basics of electricity, skills to build circuits, and how to apply their understanding to properly wire and trouble-shoot trailer circuits.



Features:

- Working brake, turn, running, marker, and reverse lights
- Built-in assessment mode

Specifications:



Electrical Wiring Kit

Electronics Repair Service

Electronics Repair Service Rubric			
Category	Criteria	Score (1–5)	Comments
Professionalism	Greeted customer respectfully and listened actively		
	Explained the repair process clearly and professionally		
Technical Skill	Diagnosed the issue accurately and used tools safely		
	Demonstrated confidence and care during the repair		
Business Practices	Provided a clear explanation of service cost or estimate		
	Offered a summary of the work completed or next steps		
Customer Satisfaction	Overall satisfaction with the service		
	Would you return to this technician or recommend them?		



Measurement Math Training Kit



Includes 5 sets!

Includes online lessons and activities
(tablet not included)

Free online trials available at
www.realityworks.com/product/measurement-math



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Measurement Math Training Kit

Materials Costing Exercise

Garage/Shed Materials Cost Estimation Worksheet

Use this worksheet to estimate the cost of building a garage or shed based on an existing structure. Measure and count the materials used, then research current prices from online retailers to calculate the total cost.

Material Description	Quantity Used	Measurements (L x W x H or area)	Unit Cost (\$)	Total Cost (\$)	Retailer/Source
Total Pieces =		Total Materials Cost =			

Process:

1. In the "Material Description" column, identify and list the different base materials used in the building (example: 2x6 framing lumber, 5/8" sheathing, 14 gauge 3-strand wire).
2. Count/estimate the number of individual items used (if a 6' 2x4 is used, what is the standard length that it was cut out of?).
3. Use an online retailer to find [a the](#) Unit Cost of 1 item. List this retailer's name in the "Retailer/Source" column.
4. Multiply the Unit Cost by the Quantity to calculate the Total Cost.
5. When done with all materials, add the Quantity column to [find to](#) the Total Pieces and add the Total Cost column to calculate the Materials Cost.



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Before the Booth: guideWELD VR

- Great for in-class training, demonstrations, remote learning, and recruiting students to your classes
- Mimics an “in-booth” experience
- Easy to facilitate whole-class viewing
- Immediate feedback on work and travel angles, speed, nozzle-to-plate distance, and straightness
- MIG and/or stick welding processes available
- 3 difficulty levels: novice, intermediate, and advanced



guideWELD VR

Materials Costing Exercise

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Measurement Math Training Kit

Labor Costing Exercise

Labor Cost Estimation Worksheet

Use this worksheet to track labor costs for your project. Record daily work logs including the number of workers, hours worked, type of work performed, and the local hourly wage for each type of work. At the end, calculate the total labor cost and reflect on budgeting and business planning.

Daily Work Log

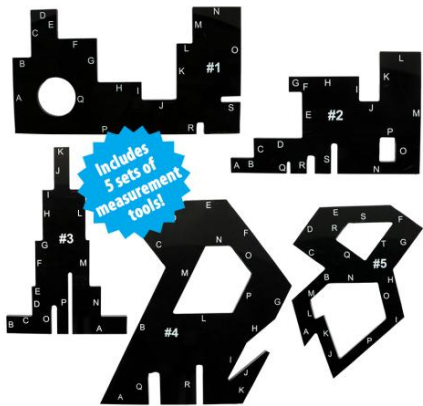
Date	Number of Workers	Hours Worked (per worker)	Type of Work (e.g., Framing, Roofing)	Local Hourly Wage	Daily Labor Cost

Total Labor Cost Calculation

Total Labor Cost: _____

Reflection Questions

1. How did labor costs impact your overall project budget?
2. What strategies could you use to reduce labor costs without sacrificing quality?
3. How does understanding labor costs help you plan a successful construction business?
4. What challenges did you encounter when estimating wages and hours?



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Capstone: Small Business Entrepreneur Project

Job Bidding

Your Business Name
[Insert Logo Here]

Job Bid Proposal

Business Contact Information

Business Name:	
Address:	
Phone Number:	
Email:	

Job Description

Provide a brief description of the job or project being bid on.

Labor Cost Estimate

Hourly Rate:	
Estimated Hours:	
Total Labor Cost:	
Justification:	

Materials List & Estimate

List all materials required for the job including quantity, unit price, and total cost.

Material	Quantity	Unit Price	Total Cost
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Total Project Cost

Summarize the total cost of the project including labor and materials.

Project Timeline

Provide a realistic timeline for completing the job.

Authorization

Signature: _____

Date: _____

Capstone: Small Business Entrepreneur Project Job Bidding

Small Business Entrepreneurship Project – Job Bid Rubric

This rubric is designed to evaluate a student-created Job Bid as part of a Small Business Entrepreneurship Project. It includes detailed criteria under key categories such as Labor Cost Estimate, Materials List & Estimate, Professional Formatting & Presentation, Clarity & Communication, and Realism & Feasibility.

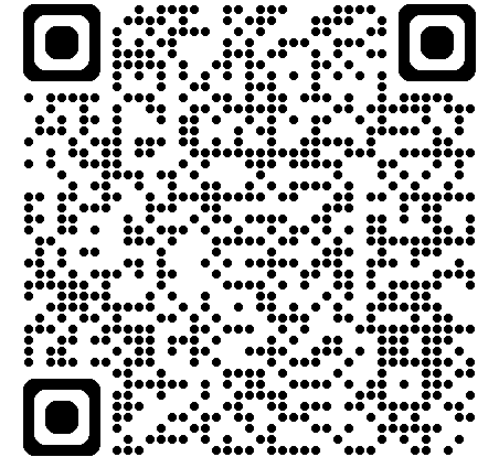
Category	Criteria	Exemplary (4 pts)	Proficient (3 pts)	Developing (2 pts)	Beginning (1 pt)
Labor Cost Estimate	Hourly Rate Justification	Clearly explains and justifies chosen hourly rate using industry standards or research.	Reasonable rate with some justification.	Rate provided but lacks clear justification.	No rate or unjustified rate.
	Time Estimate Accuracy	Time estimate is realistic and supported by task breakdown.	Time estimate is mostly realistic with minor gaps.	Time estimate is vague or lacks support.	Time estimate is missing or unrealistic.
	Total Labor Cost Calculation	Accurate calculation of total labor cost based on rate and time.	Minor errors in calculation.	Noticeable errors or unclear math.	Missing or incorrect calculation.
Materials List & Estimate	Itemized Materials List	Complete and detailed list of all required materials.	Mostly complete list with minor omissions.	Incomplete or unclear list.	Missing or irrelevant list.
	Quantity & Unit Pricing	Includes quantity and unit price for each item.	Includes most quantities and prices.	Some quantities or prices missing.	No quantities or pricing provided.
	Total Materials Cost	Accurate total cost with clear math.	Minor errors in total cost.	Errors in calculation or unclear total.	Missing or incorrect total cost.
Professional Formatting & Presentation	Document Structure	Clear sections (e.g., Introduction, Labor, Materials, Total Cost). Easy to navigate.	Mostly organized with some formatting issues.	Some <u>structure</u> present but disorganized.	No clear structure or formatting.
	Visual Appeal	Professionally formatted with consistent fonts, spacing, and layout.	Mostly professional with minor inconsistencies.	Basic formatting with limited attention to detail.	Poor formatting or hard to read.
	Branding & Contact Info	Includes business name, logo, and contact information.	Includes most branding elements.	Minimal branding or contact info.	No branding or contact info.
Clarity & Communication	Tone & Language	Clear, professional, and persuasive language tailored to client.	Mostly clear and appropriate tone.	Basic or inconsistent language.	Unclear or inappropriate language.
	Grammar & Mechanics	Free of grammar, spelling, and punctuation errors.	Few minor errors.	Several noticeable errors.	Frequent errors that hinder understanding.
Realism & Feasibility	Budget Feasibility	Bid reflects realistic costs and aligns with project scope.	Mostly feasible with minor issues.	Some unrealistic elements.	Costs or scope are not feasible.
	Timeline Feasibility	Timeline is realistic and achievable.	Mostly realistic timeline.	Timeline is vague or optimistic.	Timeline is missing or unrealistic.

Entrepreneurship Downloads

<http://bit.ly/3KzYxk1>

Special Offer: Buy 3, Get 1 FREE

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Why choose guideWELD VR?

guideWELD VR is a virtual welding simulator that helps students build real-world skills in a safe, spark-free environment.

With four or more simulators, you can:

- Maximize student engagement and arc time
- Facilitate peer learning and friendly competition
- Reduce material costs
- Reinforce fundamentals with confidence



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- Ask questions and more

STEM & Career Exploration Product Manager

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