

Webinar:

Engaging Career Path Experiences
Your Students Will Love



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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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Presented by

Todd Hunter

STEM & Career Exploration Product Manager

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Today

- Childcare & Early Childhood Education
- Geriatric Care
- Healthcare
- STEM & Electricity



Childcare & Early Childhood Education

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Child Care Experience

Persistent Staffing Shortages

A survey by the National Association for the Education of Young Children (NAEYC) found that **80% of child care centers reported staffing shortages.**

CHILDCARE CAREERS

Childcare careers give insight into children's emotional, mental, and physical development. The field of child development is expanding, with opportunities in education, clinical care, research, and training. ⁵

Projected Growth¹

Overall employment of childcare careers is projected to grow **6%** from 2021 to 2031.

Job Outlook¹

Careers in childcare are expected to grow as fast as all other occupations on average.



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- **In-class, center-based childcare**
- **Real career simulation**

Child Care Experience

3-Month Child Care Experience Baby

Additional features and functions:

- Accountability by using wireless programming to track and report caregiver behaviors
- Tracked care: Burping, Changing, Rocking, Feeding, Fussy
- Mishandling actions are tracked
- Functions as a standalone infant CPR trainer
- Cheeks light up when the infant needs care



3-Month Baby

9-Month Child Care Experience Baby

Additional features and functions:

- Accountability by using wireless programming to track and report caregiver behaviors
- Tracked care: Burping, Changing, Rocking, Feeding, Fussy
- Mishandling actions are tracked
- Standalone infant airway obstruction trainer
- Cheeks light up when the infant needs care



9-Month Baby

Child Care Experience

During a Child Care Experience™ Program simulation, users:

- Determine whether the Babies need feeding, burping, rocking, changing, soothing, or to be saved from choking
- Log all care events in the Baby Care Journal
- Handle the infants correctly and respond to their needs
- Manage multiple infants simultaneously
- Respond to random infant health and parent communication scenarios

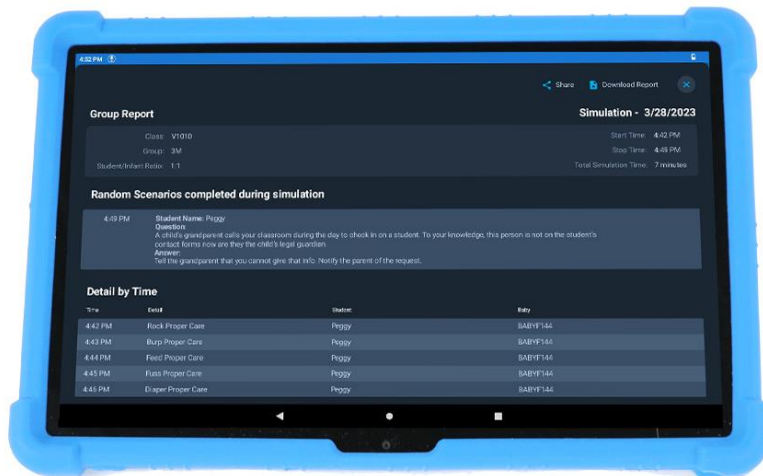


Child Care Experience

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Child Care Experience software can:

- Track child abuse; successful, attempted, or missed care; notes logged in the Baby Care Journal; responses to random scenarios; and which student addressed each Care Event
- Customize simulations to the difficulty level and experience desired for each individual or group completing the simulation
- Receive detailed assessment reports



Group Report

Simulation - 3/28/2023

Class: V1010
Group: 3M
Student:Infant Ratio: 1:1
Start Time: 4:02 PM
Stop Time: 4:08 PM
Total Simulation Time: 7 minutes

Random Scenarios completed during simulation

4:03 PM Student Name: Peggy
Question: A child's grandparent calls your classroom during the day to check in on a student. To your knowledge, this person is not on the student's contact forms. How are they the child's legal guardian?
Answer: Tell the grandparent that you cannot give that info. Notify the parent of the request.

Detail by Time

Time	Event	Student	Entry
4:03 PM	Rock Proper Care	Peggy	848VF144
4:03 PM	Bury Proper Care	Peggy	848VF144
4:04 PM	Feed Proper Care	Peggy	848VF144
4:05 PM	Wash Proper Care	Peggy	848VF144
4:06 PM	Diaper Proper Care	Peggy	848VF144



Child Care Experience

"I don't think students really realize how much of a responsibility this field is until they have a little taste of that experience, and I think the Child Care Experience program really gave it to them. I even had one student, who used the program this past semester, tell me she thinks this is something she wants to do – she wants to be a preschool teacher. That's huge because these careers are in dire need of people who want to invest in the lives of children and so if they get a little taste of that, that's my goal as a teacher."

- Letha Hougland, FCS Teacher
Ponderosa High School, CO

"I was very excited about the [Child Care Experience] as I felt that it was a realistic depiction of what a childcare class would look like in a one-staff ratio. This also shows that every kid has different needs at a different time, but they may overlap, which can become overwhelming."

- Kelly Yeakey, FCS Student Teacher,
UW-Stevens Point, WI

Child Care Experience: Careers



Average Salary:
\$79,060⁴

Pediatric Speech Pathologist⁹

Pediatric speech pathologists treat kids who experience communication issues that affect cognitive communication abilities, swallowing, and speech. It is not uncommon for children to experience speech impediments, like stuttering, lisping, muteness, or delay. Pediatric speech-language pathologists, or SLPs, are trained and experienced in treating precisely these kinds of speech and communication problems in children.

Average Salary:
\$50,390¹⁰

Social Worker⁵

Social workers provide access to resources like counseling services, financial aid, and education for the provider. They assess a child's needs, set goals for improvement, and help protect children through a variety of intervention techniques.





Average Salary:
\$38,970¹¹

Youth Sports Coach⁵

Youth sports coaches teach kids the principles of different sports as well as the importance of collaboration. The majority of their time is spent by planning practices and games, taking care of equipment, and ensuring safety.

Average Salary:
\$88,040¹

Child Psychologist²

A child psychologist is a mental health specialist who uses psychological tests and different types of therapy to teach children and teenagers how to deal with everyday stress and mental health issues. They can help treat illnesses related to the mind, society, and behavior.





Average Salary:
\$66,008⁴

Early Childhood Education Consultant⁵

Early childhood education consultants make sure educational institutions satisfy the developmental needs of young children. They spend their time assessing a program's performance by observing present needs and advising on resources and tools.

Average Salary:
\$40,262⁶

Nanny⁷

Nannies provide for a child's fundamental necessities and foster their emotional, social, and intellectual growth through stimulating activities, educational opportunities, and positive role modeling. By forming solid bonds and being dependable caregivers, nannies help children develop a sense of continuity and regularity in their lives.





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Geriatric Care

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Geriatric Simulator

- The number of people aged 60 years and older is projected to double from 1 billion in 2020 to 2.1 billion by 2050. *WHO.INT*
- By 2030, 1 in 6 people worldwide will be aged 60 years or over, up from 1 in 11 in 2019. *WHO.INT*
- The number of individuals aged 80 years or older is expected to triple between 2020 and 2050, reaching 426 million. *WHO.INT*



Geriatric Simulator

The aging global population is expected to significantly impact job creation across various sectors, particularly in healthcare and social services. Here are some key projections:

1. **Healthcare Sector Growth:** The U.S. Bureau of Labor Statistics (BLS) projects that employment in healthcare support occupations will **grow by 15.2%**, and healthcare practitioners and technical occupations by 8.6% from 2023 to 2033. This growth is largely driven by an aging population and an increase in chronic conditions. aacc.nche.edu
2. **Home Health Care Services:** Employment in home health care services is projected to **increase by 20.0%** over the next decade, reflecting the growing demand for in-home care among older adults. bls.gov
3. **Services for the Elderly and Disabled:** Jobs in services catering to the elderly and people with disabilities are expected to **grow by 26.5%**, significantly outpacing the projected national employment growth rate of 4.0%. bls.gov
4. **Health Service Managers:** Positions for health service managers are anticipated to **grow by 32%** through 2029, as the healthcare industry expands to meet the needs of an aging population. online.aging.ufl.edu
5. **Social Workers:** Employment opportunities for social workers, particularly those specializing in geriatric care, are projected to **increase by 13% through 2029**, addressing the complex social and health needs of older adults. online.aging.ufl.edu

Geriatric Simulator

Career Paths in Gerontology and Salaries^{3,4}

Geriatrician

Role: Internal or family medicine physicians with expertise in geriatrics.
Settings: Private practices, long-term care facilities, hospitals, research settings.
Collaboration: Works with interdisciplinary teams to coordinate complex care

\$222,720

Geriatric Physician Assistant

Role: Healthcare professionals working with physicians to diagnose and treat illnesses.
Settings: Private practices, hospitals, clinics

\$215,733

Geriatric Pharmacist

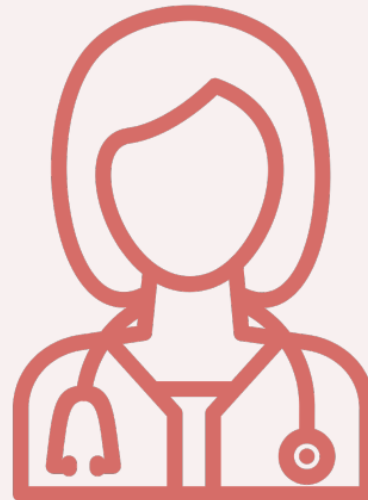
Role: Experts in medication management for older adults.
Settings: Consultative roles in healthcare teams, skilled nursing facilities, assisted living sites

\$146,299

Geriatric Social Worker

Role: Professionals enhancing well-being for older adults through counseling and care coordination.
Settings: Hospitals, aging services organizations, social service agencies

\$83,408



Geriatric Nurse Practitioner

Role: Advanced practice nurses providing direct care, prescribing medications, and managing treatment plans.
Settings: Clinics, hospitals, private practices, research facilities

\$79,577

Geriatric Simulator

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Classroom Ideas to Help Learners Develop Empathy Toward Older Adults

A guide to engaging today's students in developing geriatric sensitivity



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PRODUCTS SALE RESOURCES SUPPORT ABOUT NEWS BLOG

Search for “*Geriatric Training*”
At Realityworks.com

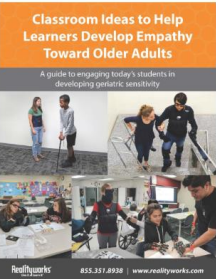
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PRODUCTS SALE RESOURCES SUPPORT ABOUT NEWS BLOG

Geriatric Training

Prepare Students to Care for Aging Adults with Hands-On Geriatric Training Tools

Discover learning aids, lessons and free resources to help students develop the skills they need to care for aging individuals.



Classroom Ideas to Help Learners Develop Empathy Toward Older Adults

A guide to engaging today's students in developing geriatric sensitivity

Free guide: Classroom Ideas to Help Students Develop Empathy Toward Older Adults

Use these ideas to get your students thinking about the challenges older individuals face on a daily basis.

[GET THE GUIDE](#)

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Geriatric Simulator

Use of Simulation to Improve Empathy Among Undergraduate Students

Author: Steven S. Bowen, OTD, OTR/L, CAPS



Allen College
UnityPoint Health



Purpose

The purpose of this research is to identify how use of age-simulation gear during daily activities affects empathy in undergraduate-aged students; in this case, specifically relating to aging adults.

Background

- College-aged students' propensity for empathy has dropped significantly in the last few decades. There is a correlation between this drop and dismissive attitudes toward others (Konrath, et al., 2014).
- College-aged students are less likely to show empathy to people outside their peer-group (Konrath, et al., 2014). Several studies have identified ways to improve understanding and empathy.
- Use of simulation has shown improved empathy for nursing students (Maruca, Diaz, Kuhnly, and Jeffries, 2015) and Emergency Medicine Interns (Nelson et al., 2017).

*References available upon request

Description of Study

- Participants wore age-simulation gear
- Gear included simulation of low-vision; low-hearing; decrease joint mobility of neck, elbows, and knees; arthritis; and weighted gear to increase demand of activities
- Participants were given a specific set of daily activities to complete such as making a bed, loading a dishwasher, hanging clothes in a closet, and vacuuming

Methods

- Mixed-method design utilized to answer research questions
- Quantitative Pre/Post test using The Toronto Empathy Questionnaire
- Qualitative: Focus Group open discussion after completion of the activities

Results

Qualitative data; results from focus group:

1. How did you feel during the experience?
"It was difficult to do all the activities and it puts a perspective on how older adults must feel"
2. How did the use of aging simulation influence your views on the aging population?
"I definitely feel more empathetic, because you really don't understand that until you know... they have all these problems that make things more difficult"
"Helped me relate more to think pain and what their daily life is like"

Results Continued

3. What were aspects of the experience that were surprising?
"Thinking about my family with hearing loss, not feeling part of the conversation, not knowing exactly what is being said"
4. Thinking about the aging population, what are you more concerned about after this experience?
"Just kind of the way they are viewed and treated. You don't realize how difficult it is for them to do simple tasks so more patience and understanding"
5. Please talk about how this experience relates to understanding function from a different perspective
"Everyday household tasks you don't think about it but someone of that age, they put a lot of time and effort [into it]"
6. What are the positive or negative responses to this experience
Negative: ***"Not being able to do everything that you could once do"***
Positive: ***"I gained a more empathetic understanding"***

Discussion

- Use of aging simulation seems to improve empathy toward the aging population
- Simulations can promote understanding of targeted populations
- To avoid negative stigmatization, it is important to emphasize the benefits of aging rather than focus only on the potential struggles



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Geriatric Simulator

Classroom Ideas to Help Learners Develop Empathy Toward Older Adults

Engaging today's students in empathy development and sensitivity toward older adults is essential. Empathy is a vital skill for those pursuing careers in healthcare or human services as these individuals might care for aging patients. This training also helps young people understand what it's like to be an older adult, which is important no matter what career path they choose. Use this guide to incorporate new, innovative ways to teach students geriatric sensitivity and empathy toward older adults.



Empathy:

The ability to understand and share the feelings of another. This soft skill is commonly valued in the "helping professions," like counseling and social work, but can bring great value to teams in all professions by helping develop camaraderie and trust.



GERIATRIC TRAINING TOOLS

To learn more visit www.realityworks.com/geriatric-training-tools



Geriatric Simulator

This award-winning wearable simulator enables users to personally experience a variety of age-related physical challenges, such as stooped posture and restricted range of motion.



Geriatric Medication Management Simulation Kit

This unique learning aid helps students build empathy and understanding of the challenges experienced by older adults who have multiple medications to manage.



Geriatric Sensory Impairment Kit

This kit includes Hearing Impairment, Geriatric Arthritis, and Geriatric Tremor Simulators that enable users to experience common sensory challenges older adults face every day.



Dementia Simulation Experience

Use this simulation experience to help learners understand the effects of dementia, how a person with dementia can feel, and how to care for and communicate with individuals suffering from a dementia-related condition.



COPD and Mobility Challenges Simulation

Create interactive, immersive scenarios for your students that help them walk in the shoes of older adults facing mobility and respiratory challenges.

Geriatric Simulator

RealCare™ Geriatric Simulator

Additional features and functions:

- Decreased sense of balance
- Change in body image
- Confusion
- Loss of strength
- Fatigue



Engage Students with the RealCare™ Geriatric Simulator

This wearable simulator enables users to personally experience the physical effects of aging and helps them develop sensitivity and understanding toward geriatric patients.

Visual Impairment Glasses

Set of six glasses that simulate common visual impairment conditions in the elderly: Glaucoma, Macular Degeneration, Cataracts, Diabetic Retinopathy, Retinal Detachment, Retinitis Pigmentosa.

Neck Restraint

Adjustable neck restraint creates a restricted range of motion, decreasing field of view and sense of balance.

Weight Vest

One-size-fits-most vest replicates stooped posture, restricted range of motion, decreased sense of balance, fatigue and decreased mobility.

Elbow Restraints

Adjustable elbow restraints cause joint stiffness, decreasing ability to move and complete everyday tasks.

Wrist Weights

Adjustable wrist weights simulate loss of strength and arm fatigue.

Gloves

Gloves cause loss of sensation in hands and lack of tactile function.

Knee Restraints

Adjustable knee restraints replicate joint stiffness, decreasing sense of balance and ease of movement.

Ankle Weights

Adjustable ankle weights simulate loss of strength, causing leg fatigue and decreased agility.

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Geriatric Manikin Graphic - IS 100-0017

Join us On:



Geriatric Simulator

Curriculum

The Geriatric Experience

Lesson topics:

1. Exploring Geriatrics and Gerontology
2. Visual Impairment
3. Declining Mobility Due to Aging
4. Impact of Aging on Bones and Joints
5. Hearing Loss
6. Cognitive Changes with Aging
7. The Geriatric Experience
8. Amazing Aging

Teaching hours: 10-15

Includes: Presentation slides, student activities, and assessments

Aligns to: National Health Education Standards, National Standards for Family and Consumer Sciences Education, Common Career Technical Core Standards, Common Core State Standards



Geriatric Simulator

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Geriatric Simulator

Foster empathy by allowing students to experience a wide range of age-related physical challenges firsthand.

[VIEW DETAILS](#)



Geriatric Sensory Impairment Kit

Deepen students' engagement with hands-on simulations that replicate the sensory impairments aging individuals encounter daily.

[VIEW DETAILS](#)



Geriatric Nursing Manikin

Develop essential nursing skills with hands-on practice in over 15 areas, from personal care routines to advanced functions.

[VIEW DETAILS](#)



Dementia Simulation Experience

Help students better understand how to care for and communicate with those experiencing dementia-related challenges.

[VIEW DETAILS](#)



COPD and Mobility Challenges Simulation

Build compassion as students experience the physical limitations caused by respiratory and mobility issues.

[VIEW DETAILS](#)



End of Life Scenario Kit

Address the sensitive topics surrounding the end of life through meaningful classroom discussions, activities, and lessons.

[VIEW DETAILS](#)



Health Science Career Scenario Cards

Bring real-world nursing, geriatric, and other challenges to life with cards that promote critical thinking and hands-on problem solving.

[VIEW DETAILS](#)



Healthcare

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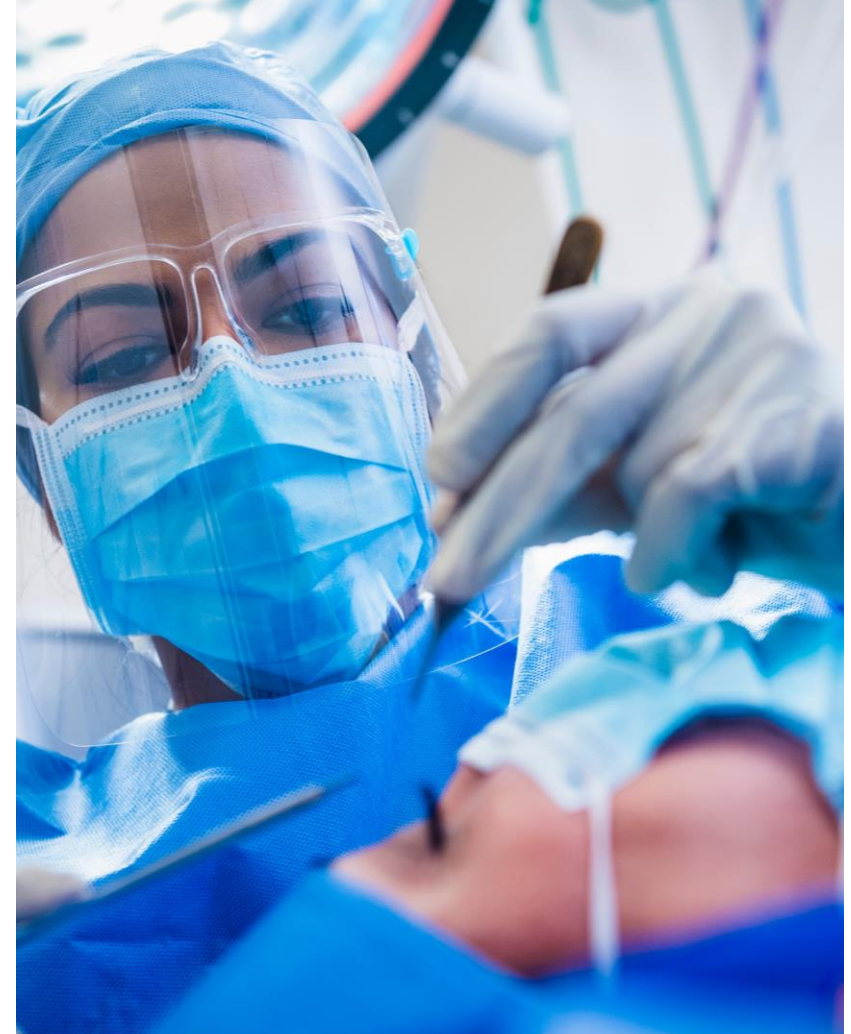
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Why developing Sterile Skills is so important...

For every 100 hospitalized patients, 7 in high-income countries and 10 in low- and middle-income countries acquire at least one Healthcare associated infection.

[pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)

An estimated 63.5% of cases of infections with antibiotic-resistant bacteria are associated with healthcare settings. [who.int](https://www.who.int)



Teaching Sterility helps create career development

Career	Certified Nursing Assistants (CNA)	Public Health Nurse	Registered Nurse (RN)	Licensed Practical Nurse (LPN)
Wages	\$18-\$20/hour	\$32-34/hour	35-\$45/hour	\$40-45/hour
Training	High School Diploma & Competency Exam/Certification	2–4-year college degree	2-4-year college degree	4-year college degree

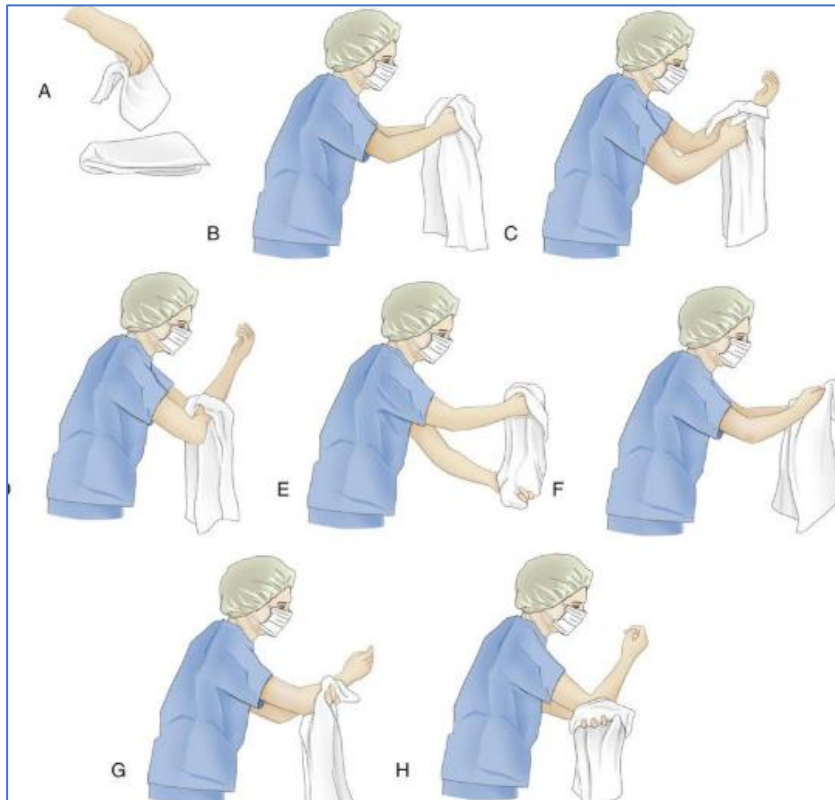
Importance of Sterility

- Preventing Infections
 - Sterility techniques help prevent infections by eliminating microorganisms that can cause disease. This is especially important during invasive procedures where the risk of infection is high.
- Patient Safety
 - Maintaining sterility ensures patient safety by reducing the risk of complications from infections. This is a fundamental aspect of patient care and a core responsibility of nurses
- Professional Standards
 - Understanding and applying sterile techniques are part of the professional standards in nursing. It demonstrates competence and adherence to best practices, which is essential for building trust with patients.
- Skill Development
 - Learning and practicing sterile techniques help nursing students develop precision and attention to detail, which are critical skills in all areas of nursing.

Create ways to encourage skill technique practice

Proper Washing and Drying Station:

Create a station where students can go through proper steps of washing their hands and drying their hands at a sink location.



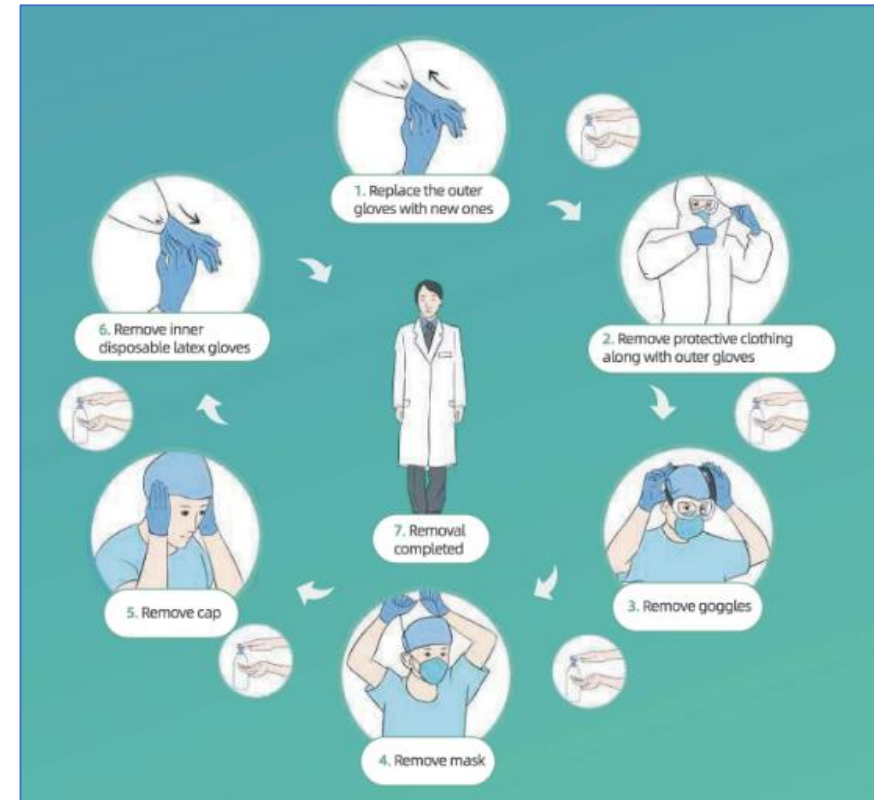
Sterile Donning of Gloves

Station: Create a station where students can don (put on) and remove their gloves in a proper procedure repeatedly.



Proper Personal Protective (PPE) Station:

Create a station where students can put on all of the PPE needed for nursing activities and patient care.



Nursing Simulation Lab



Sterile Techniques Simulator



Curriculum

Sterile Techniques Curriculum

Lesson topics:

1. Sterile Technique Basics
2. Central Line Dressing Change
3. Tracheostomy Suctioning
4. Urinary Catheterization

Teaching hours: 4

Includes: Presentation slides, student activities, and assessment tools

Aligns to: National Health Science Standards

Important Features

- This product allows for three of the most common sterile procedures to be practiced correctly and performed with confidence.
 - *Tracheostomy Suctioning*
 - *Central Line Cleaning*
 - *Catheterization*
- Every time you practice, you get valuable feedback on proper protocol. It allows for independent learning and engagement to keep the sterile field intact.
- There are two different boards for skill practice, allowing for practice and assessment modes to help you gain interpersonal and professional skills.

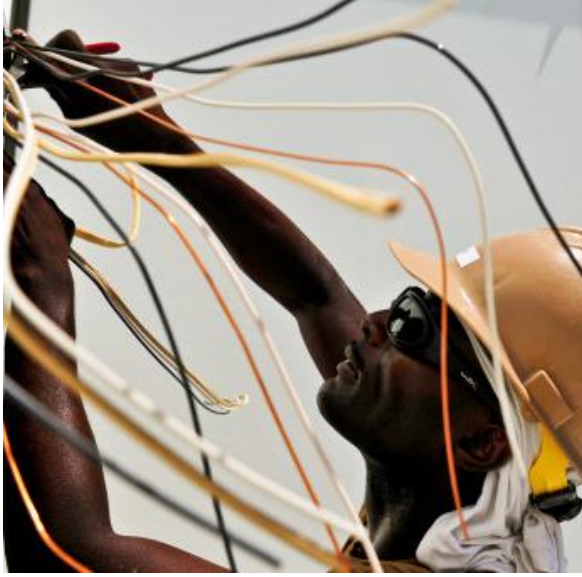


Performing a central line is not that hard of a procedure but it is a HIGH-RISK procedure, students may be okay with learning it, but the practice of it is so important!

- College Nursing Instructor

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STEM & Electrical

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The Future is Electric

- **Electricity Demand Projections:** Global electricity demand is expected to rise at a faster rate over the next three years, growing by an average of 3.4% annually through 2026. [iea.org](https://www.iea.org)
- **Electricians' Job Growth:** Employment of electricians is projected to grow 11% from 2023 to 2033, much faster than the average for all occupations. This growth underscores the rising demand for professionals with electrical expertise. [bls.gov](https://www.bls.gov)
- **Electrical Engineers' Job Growth:** Employment of electrical and electronics engineers is projected to grow 9% from 2023 to 2033, indicating robust demand for electrical knowledge in engineering fields. [bls.gov](https://www.bls.gov)

Trailer Circuits STEM Kit

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.

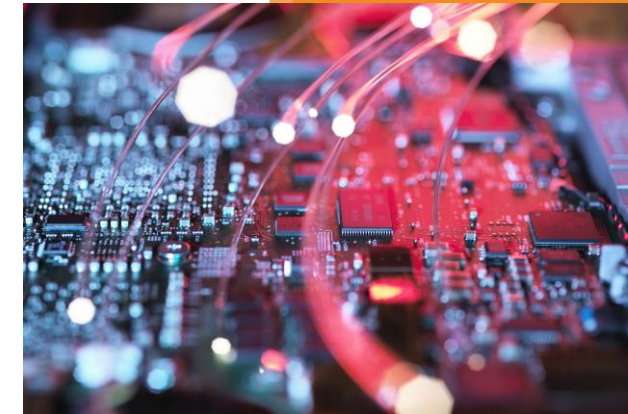


The image shows the Trailer Circuits STEM Kit components. It includes a blue plastic base unit with a control panel featuring a digital display and several buttons. A power cord is plugged into the back. Various colored wires (red, yellow, green, blue) are connected to the unit. A circular inset shows three blue plastic wiring trucks. Other tools shown include a digital multimeter, a screwdriver, a pair of pliers, and a small battery pack. A circular inset at the bottom shows two people looking at the kit.

Features:

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

Specifications:

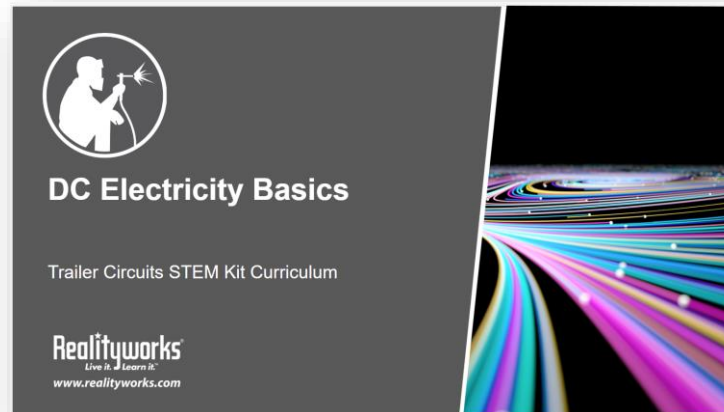


Trailer Circuit STEM Kit sets you up for success

3 Simulators + Teacher's Consumables Box



LMS Ready Student Slideshows



Lesson One – DC Electricity Basics

Lesson Overview

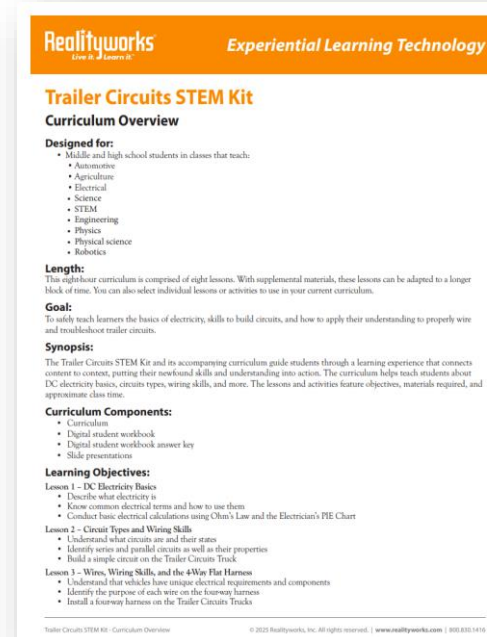
Students will be introduced to the physics of electricity, the measurable properties of voltage, current, resistance, and power. They will also develop the ability to do simple electrical calculations with Ohm's Law and the Electrician's PIE Chart.

Lesson Objectives

After completing this lesson, participants will be able to:

- Describe what electricity is
- Know common electrical terms and how to use them
- Conduct basic electrical calculations using Ohm's Law and the Electrician's PIE Chart

Teacher's Guide & Keys



Student Workbook



Trailer Circuits STEM Kit

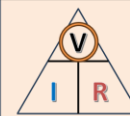
1	DC Electricity Basics
2	Circuit Types and Wiring Skills
3	Wiring the 4-Way Flat Harness
4	Testing with a Multimeter and Auto Light Tester
5	Wiring the 7-way Round Harness
6	Connecting the 7-Way Round Harness
7	How To Troubleshoot Electrical Circuits
8	Practice Troubleshooting with Scenarios 2-11
A	Teacher Assessment Mode

We communicate and measure electricity with these concepts:

- Current
- Voltage
- Resistance
- Power

Trailer Circuits STEM Kit 13

Math Tool:
Use the Ohm's Law Pyramid to find the right equation.

To Find Voltage	To Find Current	To Find Resistance
		
$V = I \times R$	$I = \frac{V}{R}$	$R = \frac{V}{I}$

Trailer Circuits STEM Kit 14

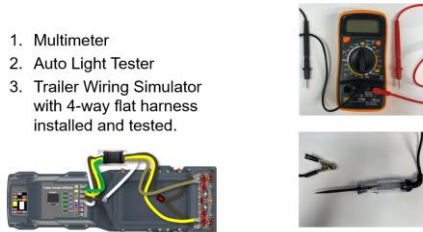
Done with the Student Workbook for Lesson 1?

See your teacher to check the key and/or turn in.

Trailer Circuits STEM Kit 15

You will need these items:

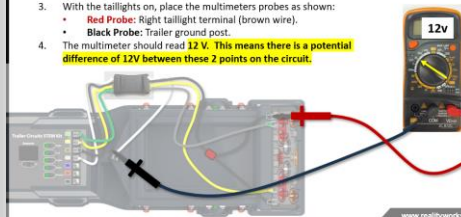
1. Multimeter
2. Auto Light Tester
3. Trailer Wiring Simulator with 4-way flat harness installed and tested.



Trailer Circuits STEM Kit 16

Using the Multimeter:
Measuring Voltage: Try it!

1. Turn on the Simulator with the 4-way flat harness installed.
2. Turn on the taillights by gently clicking the Lights button on the control panel.
3. With the taillights on, place the multimeter probes as shown:
 - Red Probe: Right taillight terminal (brown wire).
 - Black Probe: Trailer ground post.
4. The multimeter should read 12 V. This means there is a potential difference of 12V between these 2 points on the circuit.



Trailer Circuits STEM Kit 17

Congratulations!

You can now test circuits with:

- Auto Light Tester
- Multimeter

You know how to:

- Check for continuity.
- Measure Voltage and Current.

Trailer Circuits STEM Kit 18

Student Slides

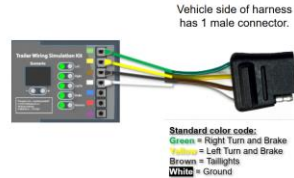
Step 1: Prepare the Wire Ends

1. Remove ½" of the sheath from all the wire ends.
2. Instead of J-hooks, we will use U-shaped crimp terminals.
3. Slide a crimp terminal over the end.
4. Crimp (smash) the terminal down using the crimp tool on the wire cutter as shown.
5. This should secure the terminal to the wire.
6. Repeat for all the wire ends, so each wire on both sides ends with a u-shaped crimp terminal.



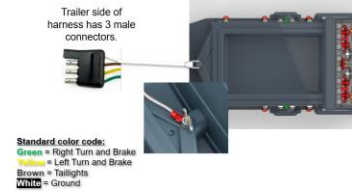
Step 2: Connect the Vehicle Side

Use the screwdriver to secure the wires to the vehicle's terminals, matching the colors as shown.



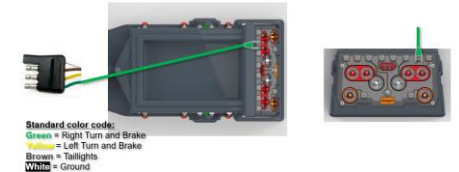
Step 3: Connect the Trailer Side – Ground

Use your fingers to securely tighten the white wire to the trailer's ground post.



Step 4: Connect the Trailer Side – Right Turn/Brake

Use the screwdriver to securely tighten the green wire to the right light brake terminal.



Start

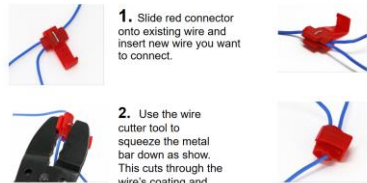
Step 7: Connect the Trailer Side – Right Taillights

1. Measure and cut an 8" length of brown wire off the spool.
2. Strip ½" off one end of this brown wire and install a U-shaped crimp terminal.
3. Connect this crimp terminal to the right taillight terminal.
4. Use a red 3-way snap connector to connect this new brown wire to the existing brown wire on the trailer, as shown below.



How to Use Red 3-Way Connectors

1. Slide red connector onto existing wire and insert new wire you want to connect.
2. Use the wire cutter tool to squeeze the metal bar down as shown. This cuts through the wire's coating and electrically connects the 2 wires' conductive cores.
3. Confirm that metal bar is fully squeezed down.
4. Wrap plastic snap over the connector so it snaps shut.



Step 6: Connect the Trailer Side – Left Taillights

Use the screwdriver to securely tighten the brown wire to the left taillight terminal.

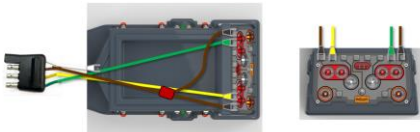


Step 5: Connect the Trailer Side – Left Turn/Brake

Use the screwdriver to securely tighten the yellow wire to the right left brake terminal.



Step 8: Connect the Trailer Side – Confirm Connections



Step 9: Connect the Harness

- Plug the 2 sides into each other, as shown below
- You may need to twist 1 of them, so they line up correctly



Step 10: Confirm and Power On

1. Check your complete setup.
2. Turn on the power switch underneath the Trailer Circuits Truck.



4-Way Harness

Trailer Circuits STEM Kit

1	DC Electricity Basics
2	Circuit Types and Wiring Skills
3	Wiring the 4-Way Flat Harness
4	Testing with a Multimeter and Auto Light Tester
5	Wiring the 7-way Round Harness
6	Connecting the 7-Way Round Harness
7	How To Troubleshoot Electrical Circuits
8	Practice Troubleshooting with Scenarios 2-11
A	Teacher Assessment Mode

Trailer Circuits STEM Kit Curriculum

Name: _____ Class: _____

Lesson 1: DC Electricity Basics

Directions: As follow the Lesson 1: DC Electricity Basics slideshow complete the following questions.

- How many mA of current will result in the "Can't Let Go" phenomena?
- Fill in the blank: Electromagnetism is one of the ____ fundamental forces of the Universe.
- What is the difference between AC and DC, and which would you find in the circuits powering a vehicle's trailer?
- Electricity can be thought of as the movement of what through a material?
- How are the electrons around conductors different from the electrons around insulators?
- Complete the missing fields in the table below:

Electrical Property	Equation Variable	Unit	Definition
Voltage			
Current			
Resistance			
Power			

- Load:** In your kitchen... what are 4 appliances might make up the load of a kitchen circuit?
- What is the difference between AC and DC currents?

Trailer Circuits STEM Kit Curriculum

Lesson 6: Connecting the 7-Way Round Harness.

Directions: As follow the Lesson 6 slideshow complete the following questions.

- Why should the simulator be turned off before you start making connections with the harness?
- Review:** Brown & White: Try This Question: (see Slide 14 in Lesson 6 PPT)
 - When you pulled the bulb out of the socket, did any of the other brown-connected lights change?
 - What does this tell you about the circuit you have used to wire all the brown-connected lights? Is it a series or parallel circuit, and how do you know?
- As you work through this lesson, create a 7-Way Wiring Color Key by filling in this table.

Wire Color	What does it connect to?
Green	
Yellow	
Brown	
White	
Blue	
Red	
Black	

- Continuity Check:** For each wire record your testing results in the table; Check the box in the Continuity Test if the meter confirms Continuity with a beep/flash.

Wire Color	Continuity Test
Green	☐
Yellow	☐
Brown	☐
White	☐
Blue	☐

Trailer Circuits STEM Kit Curriculum

Lesson 7: How To Troubleshoot Electrical Circuits

Directions: As follow the Lesson 6 slideshow complete the following questions.

- Why is it important to follow a process when troubleshooting?
- Fill in the circles with the steps of our Troubleshooting Process:

The Troubleshooting Process

- Why do the arrows connect the last and first step of the Troubleshooting Process?
- Troubleshooting Tools Table:** Complete the missing fields:

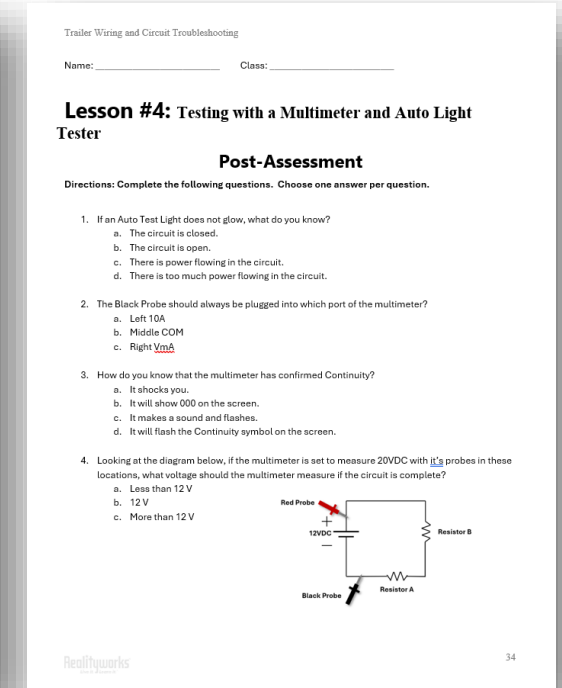
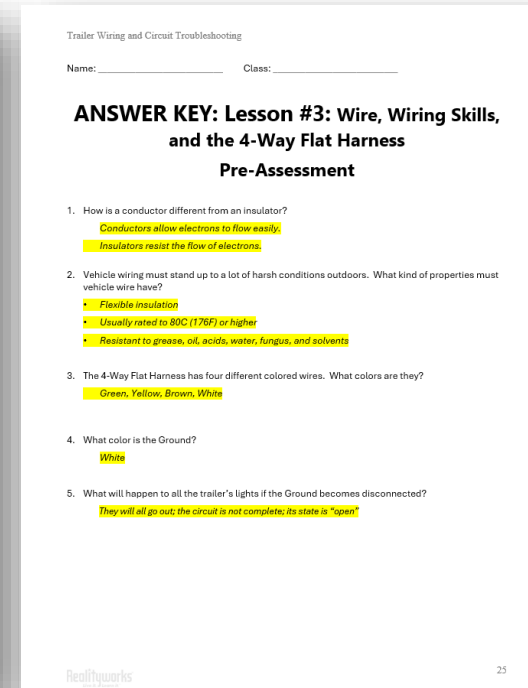
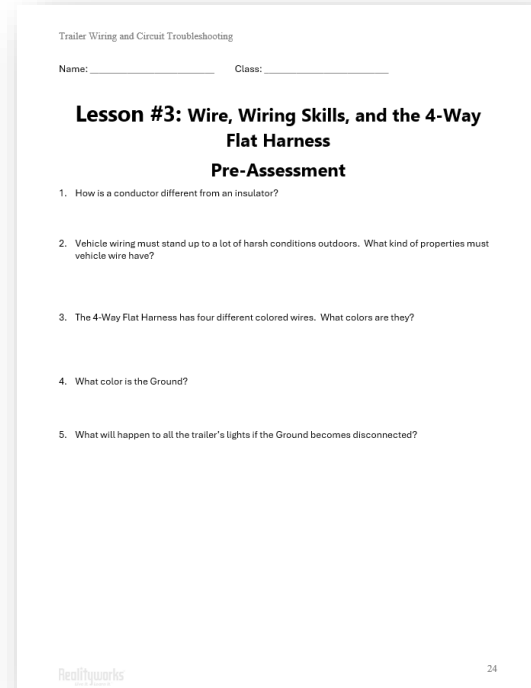
Tool	What does it measure?	What can it tell you?
Auto Test Light		
Multimeter:		

Student Workbook



Trailer Circuits STEM Kit

1	DC Electricity Basics
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A	Teacher Assessment Mode



- Pre & Post Assessments w/Keys
- Student Workbook Keys

Lesson 1: DC Electricity Basics

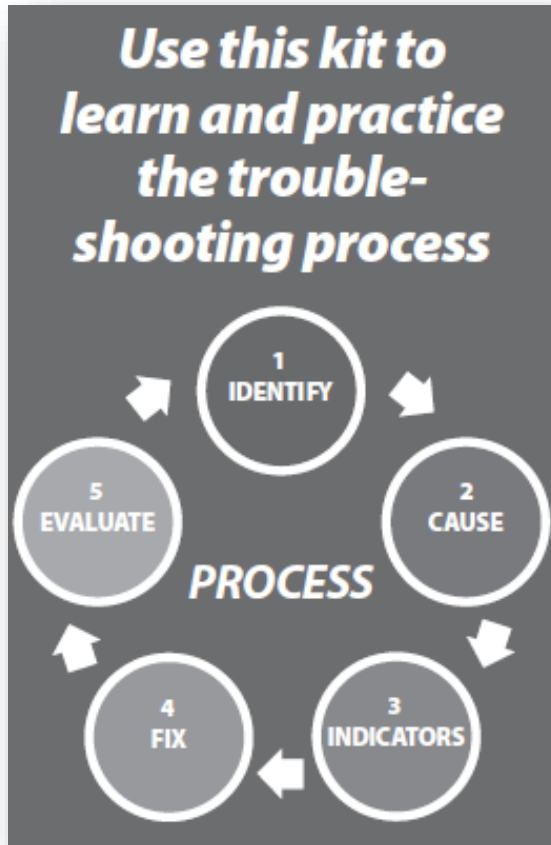
Trailer Circuits STEM Kit: Why Its Safe

- Engineers have designed this kit to *behave* just like the 12VDC system you would find in a car or truck
- This kit will measure, light up, and show all the same values that you would see if you were working on an actual vehicle
- But... its powered by 4 AA batteries and controlled by a complex circuit board that electrical engineers designed to keep you safe
- If you have ever watched someone incorrectly try to “jump” a dead car’s battery... you probably saw a lot of sparks and maybe even heard some painful yelling.

...That WILL NOT happen with this Kit.

We encourage you to learn, experiment, test, connect, and figure it out safely here, so you are ready to safely work on a real car in the future.

Trailer Circuits STEM Kit



Trailer Circuits STEM Kit



We create products that support the growing focus on STEM education in today's schools, aligning with the characteristics of high-performing programs:

- Real-world problem solving
- Authentic STEM practices
- 21st Century skills
- STEM Career Promotion
- Integrated content

Use this kit to learn and practice the troubleshooting process



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

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.

3 trailer wiring trucks



Features:

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

Includes:

- 3 trailer wiring trucks each with:
 - 4-way connection harness
 - 7-way connection harness
 - Replaceable LED bulbs
- Wire stripper and crimping tool
- Auto test light and multimeter
- Screwdriver
- U-shaped crimp terminals
- Splice and butt connectors
- Batteries
- Storage Box
- Teacher's kit:
 - Spare components kit
 - 7 spools of bulk wire
- Standards-based, downloadable curriculum
- Downloadable student workbook
- 1-year limited warranty

Specifications:

- Dimensions: 20" x 7" x 4"
- Weight: 2 lbs

Trailer Circuits

• Curriculum lesson topics:

1. DC Electricity Basics
 2. Circuit Types and Wiring Skills
 3. Wiring the 4-Way Flat Harness
 4. Testing with a Multimeter and Auto Test Light
 5. Wiring the 7-Way Round Harness
 6. Connecting the 7-Way
 7. How To Troubleshoot Electrical Circuits
 8. Practice Troubleshooting Scenarios
 9. Teacher Assessment Mode
- Teaching hours: 8



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 - Sterile Techniques Simulator
- **STEM & Electricity**
 - Trailer Circuits STEM Kit

Questions?

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