

**GEMS-Net & URI-UCONN Navy STEM Coalition:
Connecting Classroom Science to Engineering Research (Grades 5-8)**

Topic	Video	Task	Teacher Support	Standards Connections
Factors That Affect Electric Signals in Synthetic Materials	URI Materials Lab Video	URI Dynamic Photo-Mechanics Lab: Materials Research	URI Dynamic Photo-Mechanics Lab: Materials Research (Teacher Guide)	NGSS Forces and Its Interactions 5-PS1-3 MS-PS1-3 MS-PS2-3 NGSS Engineering Design 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3 MS-ETS1-2 MS-ETS1-3 MS-ETS1-4
Using Nanotubes to Improve Live-Cell Visualization and Wound Recovery	URI Cell Culture Lab Video URI NanoBio Smart Bandage Video	URI NanoBio Lab: Nanotube Sensing for Wound Healing	URI NanoBio Lab: Nanotube Sensing for Wound Healing (Teacher Guide)	NGSS From Molecules to Organisms MS-LS1-1 MS-LS1-2 MS-LS1-3 MS-LS1-5 NGSS Engineering Design MS-ETS1-3 MS-ETS1-4
Using Properties of Materials to Solve Problems	URI Dynamic Photo-Mechanics Lab Video	URI Dynamic Photo-Mechanics Lab: Underwater Implosion Research	URI Dynamic Photo-Mechanics Lab: Underwater Implosion Research (Teacher Guide)	NGSS Matter and Its Interactions 5-PS1-3 MS-PS1-3 NGSS Engineering Design 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3 MS-ETS1-2 MS-ETS1-3 MS-ETS1-4

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Topic	Video	Task	Teacher Support	Standards Connections
Engineering Solutions to Reduce Human Impact on Local Waterways	URI Water for the World Lab Video	URI Water for the World Lab Task URI Water for the World Lab Task (Math Models)	URI Water for the World Lab Task (Teacher Guide)	NGSS Earth & Human Activity MS-ESS3-1 MS-ESS3-2 MS-ESS3-3 MS-ESS3-4 MS-ESS3-5 NGSS Engineering Design MS-ETS1-2
Utilizing Technology to Recognize and Prevent Risk of Injury	UConn Human Factors Video	UConn Human Performance Lab: Sport Optimization and Rehabilitation	UConn Human Performance Lab: Sport Optimization and Rehabilitation (Teacher Guide)	NGSS Molecules to Organisms: Structures and Processes MS-LS1-8 NGSS Engineering Design MS-ETS1-1
The Impact of Industrial and Systems Engineering on In-person Voting	The Impact of Industrial and Systems Engineering on In-person Voting	Task 1: In-Class Simulation, Student Reflection Task 2: Data Analysis, Student pages Task 3: Layout of In-Person Voting Location, Student pages	Background Task 1: In-Class Simulation, Teacher guide Task 2: Data Analysis, Teacher Guide Task 3: Layout of In-Person Voting Location, Teacher Guide	NGSS Engineering Design MS-ETS1-3: RI Social Studies Anchor Standards: K-12: Civics and Government Rhode Island Social Studies Standards: SS8.6 Connecticut Social Studies Standards: CG.Civ.8.a CG.Civ.8.b CCS Math: Model with Mathematics CCSS.MATH.PRACTICE.MP4:

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Investigating Organisms' Response to the Environment, Body Systems, Engineering	Lobster Video from URI Aquarium	Coming Soon	Coming Soon	NGSS Structure and Processes MS-LS1-5 MS-LS2-1 MS-LS4-5 NGSS Engineering Design

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