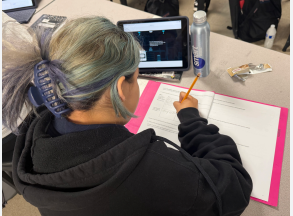

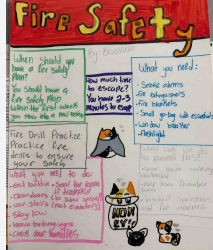



The Duo: Fire Safety and Thermal Runaway

Through this learning experience, students will explore fire safety and the concept of thermal runaway through the Xplorlabs Pathways. They will develop an understanding of how fire sprinkler systems work and why they are essential for keeping people safe in shared spaces. Students will also learn what thermal runaway is, how to recognize its early warning signs, and how it can be prevented.

Using their new knowledge, students will collaborate to plan for co-produced impact, empowering them to take meaningful, agentic action. The experience will culminate in students creating a padlet journal legacy, leaving valuable insights and reflections for next year's learners.

Instructional Phases	Prepare a Runway by Developing Knowledge: Introduce Safety Science	Imagine Preferred Futures & Co-develop a student choice board	Plan for Co-Produced Impact: Design & prototype materials	Take Agentic Action by sharing knowledge with others	Leaving a Legacy for future students																				
<p>Visual Storyline</p>		<table border="1" data-bbox="661 537 951 751"> <tr> <td>Importance of fire safety items</td> <td>Talk about 3 ways to escape home in a fire</td> <td>Talk to parents about fire escape plan</td> <td>Educate others on creating a plan for escaping fires</td> <td>Make a fire safety ad</td> </tr> <tr> <td>Look for and educate others on fireproof materials</td> <td>Educate about checking smoke detectors</td> <td>Create a house layout with locations for smoke detectors</td> <td>Practice fire drills</td> <td>Social Media Post to spread awareness of Fire Safety</td> </tr> <tr> <td>Explain clutter and fire relationships</td> <td>Educate on looks for escaping fires</td> <td>Classroom fires on fire safety or teach classes</td> <td>School posters on Lithium-ion rules</td> <td>Social media post about Lithium-ion battery care</td> </tr> <tr> <td>Educate on fire sprinklers</td> <td>Talk to kids about fire safety</td> <td>Files or poster on proper or safety when charging Motor</td> <td>Making sure electronics hot - Appropriate chargers</td> <td>Do not use while charging?</td> </tr> </table>	Importance of fire safety items	Talk about 3 ways to escape home in a fire	Talk to parents about fire escape plan	Educate others on creating a plan for escaping fires	Make a fire safety ad	Look for and educate others on fireproof materials	Educate about checking smoke detectors	Create a house layout with locations for smoke detectors	Practice fire drills	Social Media Post to spread awareness of Fire Safety	Explain clutter and fire relationships	Educate on looks for escaping fires	Classroom fires on fire safety or teach classes	School posters on Lithium-ion rules	Social media post about Lithium-ion battery care	Educate on fire sprinklers	Talk to kids about fire safety	Files or poster on proper or safety when charging Motor	Making sure electronics hot - Appropriate chargers	Do not use while charging?			
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<p>Objectives</p>	<p>Students will learn about the different types of fire sprinklers and how they work. Students will learn what thermal runaway is and how to identify signs of thermal runaway in Lithium-ion batteries.</p>																								
<p>Timing</p>	<p>≈ 8 days (4 per pathway)</p>	<p>≈ 2 days</p>	<p>≈ 2 to 3 days</p>	<p>≈ 1 to 2 days</p>	<p>~1 day</p>																				
<p>Overview</p>	<p>Implement the Xplorlabs Fire Safety and Thermal Runaway Pathways</p>	<p><u>Whole Class Discussion - Part 1:</u> Students imagine how to use their new knowledge to impact their community; co-create an action choiceboard.</p> <p><u>Future Scenarios:</u> Take on the role of a community member, scientist, or government leader.</p> <p><u>Whole Class Discussion - Part 2:</u> Use the previous activity to generate more ideas for action and for possible collaborations.</p>	<p>Students form groups and choose an action from the choiceboard to disseminate safety knowledge!</p> <p>Students and teacher reach out for partnerships if needed.</p> <p>Structures to consider:</p> <ul style="list-style-type: none"> • Deadlines • Deliverables based on choices • Materials acquisition • Materials storage 	<p>Students work on their selected action to create positive community impacts by sharing knowledge of fire safety or thermal runaway (e.g., with parents, online, younger grades, etc.).</p> <p>Examples: Presentations, flyers, one pagers, posters, surveys</p> <p><i>Note: If the immediately preceding grade is chosen, it can be used as a legacy piece.</i></p>	<p>Students will create a video journal for future classes to build on.</p> <p>Students respond to two prompts on Padlet that will be maintained for the following years' students, allowing for them to leave information and notes to assist with future projects.</p> <p><i>Note: Padlet to be used for student comments that will be combined into a single video.</i></p>																				