



# Interactive STEM Toolbox



Interactive Lessons



Challenge Projects



Design Thinking



3D Printing Activities



Career Videos



Parent Discussions



Coding Activities



Papercraft Figures

Mission	Description	Career Clusters
<b>Dolphin Rescue</b>	Help rescue and rehabilitate an injured dolphin, including creating an artificial prosthetic tail	Biomedicine, Marine Science, Telecommunications
<b>Energy Sources</b>	Evaluate alternative or upgraded energy sources for a city that currently has an old coal-fired power plant	Energy Production, Environmental Science
<b>Entrepreneurship</b>	Set up a new business with a focus on entrepreneurship	Finance, Business, Resource Management
<b>Flu Outbreak</b>	Learn how health and IT professionals use data and GIS and social media data analysis to predict flu outbreaks	Information Technology, Disease Management
<b>Fresh Food</b>	Consider methods to increase production of local foods in a community	Agricultural Science
<b>Hack Attack</b>	See how web development, apps and social media experts restore a school's website and media after being hacked	Computer Science, Cybersecurity
<b>Haiti Orphanage</b>	Design and build an environmentally-sound orphanage for children left homeless by an earthquake in Haiti	Civil Engineering, Sustainability
<b>Heart Surgery</b>	Understand heart surgery techniques and therapy used to treat a child's heart defect	Medicine, Healthcare
<b>Lightweight Aircraft</b>	Design a lightweight and easily maintained aircraft for multiple roles and mission distances	Aerospace, Recycling, Manufacturing
<b>Manufacturing a Concept Car</b>	Use modern manufacturing techniques to design and build a new concept car	Advanced Manufacturing, Industrial Engineering
<b>Rescue Robots</b>	Explore technology and techniques used in robotics design, such as sensors, circuits, industrial design and computers	Electronics, Computer Science
<b>Transportation Congestion</b>	Evaluate new transportation methods for a city with traffic congestion problems	Transportation, Mechanical Engineering
<b>Intro to Computer Science</b>	Learn about some of the most in-demand CS careers and technologies (condensed version of Hack Attack)	Computer Science, Information Technology

# Our Expanding STEM Toolbox

Learning Blade is constantly adapting and expanding to allow educators to integrate STEM awareness and career readiness into their teaching needs.

## Interactive Lessons

Over 400 online lessons connect more than 100 STEM careers and technologies to students' academic skills, demonstrating real-world problem solving.



## Design Thinking

Students use Design Thinking methodology to solve complex problems through brainstorming, collaboration, and the creative exploration of new possibilities.



## Challenge Projects

Simple hands-on activities emphasize problem solving, critical thinking, teamwork and communication using readily-available materials.



## 3D Printing Activities

3D printing experiments and projects demonstrate STEM principles and provide students experience turning 3D designs into physical items.



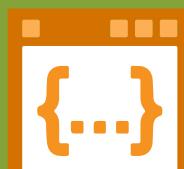
## Career Videos

Each STEM career addressed in our online lessons also includes a career introduction video presenting the career and its education pathway.



## Coding Activities

Fun, interactive coding lessons introduce students to computer science and the development of problem-solving skills, logic, and creativity needed for success in career paths.



## Parent Discussions

Parent-ready handouts stimulate STEM conversations at home, help fill ESSA requirements for parental involvement, and encourage research and simple at-home experiments.



## Papercraft Figures

Each STEM career and technology is accompanied by a 3D papercraft figure students can assemble, helping internalize a knowledge of 3D shapes and offer a tangible reminder of the careers and technologies.



