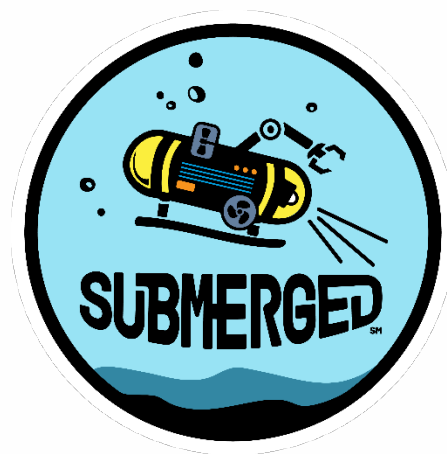




# Multimedia Resources



# **FIRST<sup>®</sup> LEGO<sup>®</sup> League Challenge**

## **Multimedia Resources**

Below is a session-by-session list of Multimedia Resources for the SUBMERGED<sup>SM</sup> season. These resources include links to websites, videos, building instructions, and other online tools related to the content of each session.

This document contains links to third-party websites which may contain articles, images, text, graphics, video, applications, software, and other content belonging to or originating from the content creators. While we conduct an initial review of such websites, FIRST is not responsible for any third-party content accessed through this guide, including its accuracy, appropriateness, completeness, offensiveness, opinions, reliability, privacy policies, or other practices of these sites. If you visit any of the sites listed in this guide, or share this third-party content with others, you do so at your own risk. You should review the applicable terms and policies, including privacy and data gathering practices, of any website to which you navigate.

You could share resources during sessions and/or encourage your students to explore them between sessions (with permission and supervision from a parent or guardian).

## SUBMERGED Season Resources

[Season resources](#) page includes:

- Season Launch Resources
- Links to Season Videos
- Challenge Overview
- Challenge Welcome Letter
- Challenge Introduction
- Challenge Set Building Instructions
- Student Participation Certificates
- Individuals Session Slides
- Robot Game Rulebook
- Mission Building Instructions
- Challenge Related Rule Updates
- SUBMERGED Season video resources on [FIRST LEGO League YouTube Channel](#)

Go To Resources		
<a href="#">Email for General Support</a>	<a href="#">FIRST LEGO League Challenge: How It Works</a>	<a href="#">Getting Started with FIRST LEGO League Challenge video</a>
<a href="#">FIRST LEGO League YouTube Channel</a>	<a href="#">SUBMERGED General Season Resources</a>	<a href="#">Teamwork Makes the Dream Work FIRST LEGO League Music Video</a>
General Resources		
<a href="#">LEGO Education Support</a>	<a href="#">FIRST LEGO League (global)</a>	<a href="#">FIRST LEGO League (US)</a>
<a href="#">Impact of FIRST Programs</a>	<a href="#">Buying Replacement Parts</a>	<a href="#">FIRST LEGO League Support Videos</a>
Coach and Mentor Resources		
<a href="#">FIRST Youth Protection</a>	<a href="#">FIRST Mentor Network</a>	<a href="#">FIRST Volunteer Resources</a>
Educator Resources		
<a href="#">Skills Progression</a>	<a href="#">Standards Alignments</a>	<a href="#">Scope and Sequence Options</a>
<a href="#">FIRST Certified Professional Development</a>	<a href="#">FIRST Education Philosophy</a>	
LEGO Educator Resources		
<a href="#">Self-Guided Professional Development</a>	<a href="#">LEGO Education Teacher Community</a>	<a href="#">LEGO Education Additional Lesson Content for SPIKE Prime and EV3</a>
Equity, Diversity, and Inclusion Resources		
<a href="#">FIRST Mentoring and Coaching with FIRST videos</a>	<a href="#">Inclusive Recruitment &amp; Enrollment Strategies</a>	<a href="#">Additional Training &amp; Resources</a>



## Core Values Resources

- [Season content](#) (logos, templates, graphics, posters, wallpapers)

<b>Book Resources</b>	
The Squirrels who Squabbled by Rachel Bright	Fiction book about conflicts
A Little SPOT of Teamwork: A Story About Collaboration and Leadership by Diane Alber	Fiction book about teamwork
Brave Irene by William Steig	Fiction book about perseverance
The Invisible Boy by Patrice Barton	Fiction book about inclusion
My Mouth is a Volcano! by Julia Cook	Fiction book about taking turns
The Little Red Pen by Janet Stevens	Fiction book about cooperation
Going Places by Paul and Peter Reynolds	Fiction book about creativity
The Squirrels who Squabbled by Rachel Bright	Fiction book about conflicts
A Little SPOT of Teamwork: A Story About Collaboration and Leadership by Diane Alber	Fiction book about teamwork
Brave Irene by William Steig	Fiction book about perseverance
The Invisible Boy by Patrice Barton	Fiction book about inclusion
My Mouth is a Volcano! by Julia Cook	Fiction book about taking turns
<b>Web Resources</b>	
<a href="#">Team-Building Games and Activities for Kids</a>	We Are Teachers
<a href="#">Team Building for Kids: A Complete Guide</a>	Venture Team Building
<a href="#">FIRST at Home activities</a>	A variety of free resources and links
<a href="#">FIRST Core Values through Social, Emotional Learning Activities</a>	Part of <i>FIRST</i> at Home

## Robotics Resources

Team Management Resources	
<a href="#">How to Do Goal Setting with Your Students This School Year</a>	Article from Weareteachers.com about setting goals with your students
<a href="#">How To Set Goals (4 Easy Steps) (4:40)</a>	Video from Rocket Kids about easy ways to set goals
<a href="#">LearnStorm Growth Mindset: How to write a SMART goal (2:52)</a>	Video from Khan Academy about writing SMART goals
<a href="#">Keeping Organized</a>	Tips and tricks from Droid Robotics on how to stay organized with tasks
Robot Design Resources	
<a href="#">Technical Resources</a>	Links to resources for Challenge
<a href="#">Yoshihito Isogawa's YouTube Channel</a>	SPIKE Prime building ideas from the author
<a href="#">Builderdude Robotics Tutorials</a>	Builderdude, former <i>FIRST</i> LEGO League team
<a href="#">Mr. Hino's LEGO Robotics YouTube Channel</a>	Various videos for <i>FIRST</i> LEGO League teams
<a href="#">Droid Robotics YouTube Channel</a>	Video tutorials for <i>FIRST</i> LEGO League teams
<a href="#">Robot Design and Robot Game Prep Activities</a>	Resources on building robots and preparing for the robot game from Droid Robotics
Engineering Design Process, Design, and Computational Thinking	
<a href="#">What is Computational Thinking?</a>	Teach Your Kids Code article about coding
<a href="#">The Engineering Process: Crash Course Kids #12.2 (5:16)</a>	Video by Crash Course Kids to explain the engineering design process to your students
<a href="#">Engineering Design Process Curriculum</a>	Various lessons to practice the engineering design process from Teach Engineering.org
<a href="#">Design Thinking Resources for Educators</a>	Innovation Training article on design thinking
<a href="#">Design Thinking: A Problem Solving Framework (5:22)</a>	Video from Edutopia providing examples of design thinking for educators

### LEGO Education SPIKE Prime Resources

- [Download Software](#)
- [SPIKE Prime Competition Ready Unit](#)
- [SPIKE Prime Supplementary Lessons](#)
- [SPIKE Prime Lessons](#)
- [SPIKE Prime Product Support Videos](#)

### LEGO Education EV3 Resources

- [Download Software](#)
- [MINDSTORMS EV3 Product Support](#)
- [EV3 Robot Trainer Unit](#)
- [EV3 Supplemental Coding Activities](#)
- [EV3 Lessons Coding Tutorials](#)



## Innovation Project Resources

<b>Video Resources</b>	
<a href="#">How to Pick a Project Topic and Conduct Research</a> (40:10)	Share & Learn Webinar Series from Droid Robotics
<a href="#">Essential Google Search Tricks for Research</a> (6:42)	Common Sense Media
<a href="#">Reading More Than One Source on a Topic</a> (3:15)	Khan Academy
<a href="#">Writing Videos for Kids: How to Evaluate Sources for Reliability</a> (3:48)	Teaching without Frills
<a href="#">How To Create Surveys</a> (20:25)	Droid Robotics
<a href="#">Innovation Project for <i>FIRST</i> LEGO League: Create and Iterate your Prototype</a> (13:46)	The Moment Makers, former <i>FIRST</i> LEGO League team from Pearland, TX
Schooled by Kids: <a href="#">Presentation Skills, Part 1</a> (1:44) <a href="#">Presentation Skills, Part 2</a> (1:31)	Green Ivy Schools
<b>Web Resources</b>	
<a href="#">Innovation Project Prep Activities</a>	Resources compiled by Droid Robotics for the innovation project
<a href="#">USPTO Educational for Kids, Parents, and Teachers</a>	United States Patent and Trademark Office
<a href="#">Expanding Students' Ideas About How to Give Presentations</a>	Edutopia
<a href="#">How to Help Students Develop Interviewing Skills</a>	Edutopia
<a href="#">How to Skype with an Expert in your Classroom</a>	Class Tech Tips
<a href="#">There's Got to be a Better Way Developing a Product</a>	Resources from Fun Kids –UK children's Radio Station

## SUBMERGED Resources

### Ocean Layer Resources – (Sunlight, Twilight, Abyss)

Video Resources	
<a href="#">Ocean Zones   Nautilus Live (youtube.com)</a>	Short introductory video on the different ocean layers and the life that is found there
<a href="#">This Incredible Animation Shows How Deep The Ocean Really Is (youtube.com)</a>	Video demonstrating the vastness and the depth of the oceans
<a href="#">Mariana Trench   In Pursuit of the Abyss - YouTube</a>	Exploring the Mariana Trench, the deepest part of the Pacific Ocean
Web Resources	
<a href="#">Ecosystems   Smithsonian Ocean (si.edu)</a>	Overview of a variety of ocean ecosystems ranging from the sunlight zone to the deepest parts of the ocean.
<a href="#">How far does light travel in the ocean? (noaa.gov)</a>	Article about how far light travels in the ocean and what happens when it can no longer be detected
<a href="#">Twilight Zone - Woods Hole Oceanographic Institution (whoi.edu)</a>	Article about creatures found in the twilight zone of the ocean

### General Ocean Resources

Video Resources	
<a href="#">Live cams   Monterey Bay Aquarium</a>	Observe ocean animals at the Monterey Bay Aquarium
<a href="#">OceanX - YouTube</a>	Informational videos from OceanX
<a href="#">Woods Hole Oceanographic Institution - YouTube</a>	Assorted videos about the research and exploration of the oceans
Web Resources	
<a href="#">Just for Kids (noaa.gov)</a>	A range of activities and videos about the ocean and marine life.
<a href="#">Ocean   NASA Space Place – NASA Science for Kids</a>	Games, crafts, activities and media from NASA
<a href="#">How the Ocean Works - Woods Hole Oceanographic Institution (whoi.edu)</a>	Variety of articles about ocean systems

## Ocean Jobs, Vehicles, and Tools

Video Resources	
<a href="#">A Tour of Aquarius Reef Base   JONATHAN BIRD'S BLUE WORLD (youtube.com)</a>	Tour of a reef base located off the coast of Florida
<a href="#">Revealing The Most Powerful Tool in Deep Sea Exploration   OceanXplainer (youtube.com)</a>	Video detailing equipment used by OceanX in their exploration of extreme ocean environments
<a href="#">How do you become a marine biologist?   Earth Unplugged (youtube.com)</a>	Video from the BBC about working as a marine biologist
<a href="#">Virtual Field Trips - Alaska Sealife Center</a>	Assorted 'virtual field trips'
Web Resources	
<a href="#">Erika Bergman (@theerikabergman) - Instagram</a>	Popular Instagram account of 'Submarine Girl' a sub pilot with OceanX
<a href="#">Meet Our Scientists - Alaska Sealife Center</a>	Background on a variety of scientists working from the Alaska SeaLife Center in Seward, Alaska
<a href="#">US NSF - GEO - OCE - Seagoing Tools of Oceanography</a>	Article about the tools used in the field of oceanography
<a href="#">The patience of the ocean photographer - Oceanographic (oceanographicmagazine.com)</a>	Article detailing the experience of an underwater photographer

## Event Preparation Resources

Event Resources	
<a href="#">Events Page</a>	firstlegoleague.org
<a href="#">Judging Session Flow Chart, Rubrics, and Awards List</a>	These resources are found on the Challenge Season Resources page
<a href="#">The Tournament Experience</a> (1:55)	Video by LEGO Education on the basics of the tournament experience for a team
<a href="#">Customizable Student Certificates</a>	Printable certificates to award to each student
<a href="#">Tournament Tips</a>	FLL Tutorials Coaches Corner Tips



## Career Resources

General Career Resources	
Visit the <a href="#">Learning Lab</a> and search careers from A-Z	PBS Learning Media
<a href="#">Amazon Future Engineer Class Chat</a>	Amazon
<a href="#">O*NET Online</a>	United States Department of Labor
<a href="#">Career Exploration Lesson Plans</a>	Nebraska Department of Education
<a href="#">Career Resources for Elementary Grades P-5</a>	Workforce Solutions
<a href="#">Career Exploration</a>	Career profiles from the United States Bureau for Labor and Statistics
<a href="#">Career Exploration Kahoot Course</a>	Kahoot Courses for learning about careers and how <i>FIRST</i> prepares you for your future
<a href="#">X-STEM All Access</a>	YouTube Playlist with one-hour long video interviews with various STEM professionals

Extension Activity Resources	
<a href="#">What is a Robot?</a>	Lesson plan from PBS Learning Media
<a href="#">Wild-Inspired Robotic Arms</a>	Video, background reading, and lesson plan from PBS Learning Media
<a href="#">Engineering for Good</a>	Project-based Unit from PBS Learning Media
<a href="#">Project Management Fiction Books for Youth Ages 10-12</a>	Project Management Institute Educational Foundation
<a href="#">Books on Inventors</a>	Inventive Kids
<a href="#">Invention Education Curricula</a>	Links to invention-focused lesson plans from Invent Ed
<a href="#">Drawing Designs in Detail</a>	Hands-on activity plan from teachengineering.org

