



Multimedia Resources

「MASTERPIECESM」



FIRST® LEGO® League Challenge

Multimedia Resources

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

Some of the resources below are from third-party sites not developed or managed by FIRST® or LEGO® Education, but they're too great not to share! 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).

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



MASTERPIECE 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
- MASTERPIECE Season video resources on [FIRST LEGO League YouTube Channel](#)
- [Season content](#) (logos, templates, graphics, posters, wallpapers)

Core Values Resources

Book Resources	
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
Web Resources	
Team-Building Games and Activities for Kids	We Are Teachers
Team Building for Kids: A Complete Guide	Venture Team Building
FIRST at Home activities	A variety of free resources and links



Robotics Resources

FIRST Core Values through Social, Emotional Learning Activities	Part of <i>FIRST</i> at Home
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Team Management Resources

How to Do Goal Setting with Your Students This School Year	Article from Weareteachers.com about setting goals with your students
How To Set Goals (4 Easy Steps) (4:40)	Video from Rocket Kids about easy ways to set goals
LearnStorm Growth Mindset: How to write a SMART goal (2:52)	Video from Khan Academy about writing SMART goals
Keeping Organized	Tips and tricks from Droid Robotics on how to stay organized with tasks

Robot Design Resources

Technical Resources	Links to resources for Challenge
Yoshihito Isogawa's YouTube Channel	SPIKE Prime building ideas from the author
Builderdude Robotics Tutorials	Builderdude, former <i>FIRST</i> LEGO League team
Mr. Hino's LEGO Robotics YouTube Channel	Various videos for <i>FIRST</i> LEGO League teams
Droid Robotics YouTube Channel	Video tutorials for <i>FIRST</i> LEGO League teams
Robot Design and Robot Game Prep Activities	Resources on building robots and preparing for the robot game from Droid Robotics

Engineering Design Process, Design, and Computational Thinking

What is Computational Thinking?	Teach Your Kids Code article about coding
The Engineering Process: Crash Course Kids #12.2 (5:16)	Video by Crash Course Kids to explain the engineering design process to your students
Engineering Design Process Curriculum	Various lessons to practice the engineering design process from Teach Engineering.org
Design Thinking Resources for Educators	Innovation Training article on design thinking
Design Thinking: A Problem Solving Framework (5:22)	Video from Edutopia providing examples of design thinking for educators

LEGO Education EV3 Resources

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



LEGO Education SPIKE Prime Resources

- [SPIKE Prime Competition Ready Unit](#)
- [SPIKE Prime Supplementary Lessons](#)
- [SPIKE Prime Lessons](#)

Innovation Project Resources

- [Download Software](#)
- [SPIKE Prime Product Support Videos](#)

Video Resources	
How to Pick a Project Topic and Conduct Research (40:10)	Share & Learn Webinar Series from Droid Robotics
Essential Google Search Tricks for Research (6:42)	Common Sense Media
Reading More Than One Source on a Topic (3:15)	Khan Academy
Writing Videos for Kids: How to Evaluate Sources for Reliability (3:48)	Teaching without Frills
How To Create Surveys (20:25)	Droid Robotics
Innovation Project for <i>FIRST</i> LEGO League: Create and Iterate your Prototype (13:46)	The Moment Makers, former <i>FIRST</i> LEGO League team from Pearland, TX
Project Presentation Tips and Tricks (43:00)	Share & Learn Webinar Series from Droid Robotics
Schooled by Kids: Presentation Skills, Part 1 (1:44) Presentation Skills, Part 2 (1:31)	Green Ivy Schools
Web Resources	
Innovation Project Prep Activities	Resources compiled by Droid Robotics for the innovation project
USPTO Educational for Kids, Parents, and Teachers	United States Patent and Trademark Office
Expanding Students' Ideas About How to Give Presentations	Edutopia
How to Help Students Develop Interviewing Skills	Edutopia
How to Skype with an Expert in your Classroom	Class Tech Tips
There's Got to be a Better Way Developing a Product	Resources from Fun Kids –UK children's Radio Station

STEAM Resources

Museum Resources

Video Resources	
Different Kinds of Museums (15:00)	Longer video talking about the different types of museums and their content
Museum Inside Out: The Exhibition Designer (2:04)	Video of a museum exhibit designer talking about what he has to plan for with a new exhibit
Web Resources	
8 Top Technology Trends for Museums	Article on eight forms of technology helping to change the way the audience interacts with museum exhibits
Virtual Children's Museum Visits	A list of ten children's museums you can visit virtually
Virtual Art & History Museum Tours	A list of twenty art and history museums you can visit virtually
Smithsonian Museum Educator Resources	A wealth of resources and digital tools for inquiry-based learning around the various Smithsonian umbrella of museums
Book Resources	
Simon at the Art Museum by Christina Soontornvat	Picture book about a boys first visit to an art museum and how his perspective changed

Music Resources

Video Resources	
Elements of a Concert (5:46)	Explains the basics of one type of concert
Career Connections Sound Engineer (5:38)	The responsibilities of a sound engineer and how to become one
Musical Instrument Maker (1:24)	Interview with musician and artist about how he makes unusual instruments with objects he finds
Web Resources	
Audio Engineer Facts for Kids	Kiddle provides student friendly information about the role of an audio engineer

Interactive Audio Engineer Exploration	KnowItAll.org provides an interactive experience for learning about the role of an audio engineer
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Theater Resources

Video Resources	
Working Backstage at Aladdin the Musical (4:01)	Production manager interview of Aladdin about what all happens to make the show a success
Adventures Backstage: What is a Stage Manager? (7:14)	A great explanation of what a stage manager is and how they're involved in play production
Web Resources	
Setting the Stage (average video is 5:00)	A 12-part video series highlighting STEAM professionals who create the live performances
It's Not Just a Stage	An article covering what's what and where's where on a stage
Theater Facts for Kids	Kiddle provides student friendly information about the history of theater

Movie Resources

Video Resources	
How are movies made? The movie making process explained (6:07)	Video by Movie University explaining the process of making movies
Want to be a FILMMAKER when you grow up? (12:36)	Video interview with a filmmaker – advice for kids interested in working in the movie/film industry
Career Connections: Animator (6:01)	The responsibilities of a computer animation artist and how to become one
Web Resources	
Movie University	YouTube page with various videos about movies
Cinematography Facts for Kids	Kiddle provides student friendly information about the history of cinematography
Book Resources	
Action! How Movies Began by Meghan McCarthy	Great picture book about the history of movies and what technology advanced them

Technology Enhancement Resources

Video Resources	
Camera Movement (and why it matters!) (2:44)	Video on the seven basic camera movements and why they are important
How Does a Green-Screen Work? (1:56)	Short video explaining how a green screen works
The Making of Star Wars — Pioneering Special Effects, VFX, and Sound Design (13:03)	Video explaining how the making of Star Wars was the first of its kind in special/visual effects and sound design
Web Resources	
VFX – Everything You Need to Know	Great article and videos about visual effects and when to use them
Working in the Visual Effects Industry	Article and series of short videos on the skills needed to work in visual effects and animation
Book Resources	
Little Leonardo's Fascinating World of Technology by Bob Cooper	A short picture book that focuses on inventions and new technologies have advanced over time

Event Preparation Resources

Event Resources	
Events Page	firstlegoleague.org
Judging Session Flow Chart, Rubrics, and Awards List	These resources are found on the Challenge Season Resources page
The Tournament Experience (1:55)	Video by LEGO Education on the basics of the tournament experience for a team
Customizable Student Certificates	Printable certificates to award to each student
Tournament Tips	FLL Tutorials Coaches Corner Tips
Tips from Core Values Judges	FLL Tutorials Coaches Corner Tips
Tips from Innovation Project Judges	FLL Tutorials Coaches Corner Tips
Tips from Robot Design Judges	FLL Tutorials Coaches Corner Tips

Career Resources

General Career Resources	
Visit the Learning Lab and search careers from A-Z	PBS Learning Media
Amazon Future Engineer Class Chat	Amazon
O*NET Online	United States Department of Labor
Career Exploration Lesson Plans	Nebraska Department of Education
Career Resources for Elementary Grades P-5	Workforce Solutions
Career Exploration	Career profiles from the United States Bureau for Labor and Statistics
Career Exploration Kahoot Course	Kahoot Courses for learning about careers and how <i>FIRST</i> prepares you for your future
X-STEM All Access	YouTube Playlist with one-hour long video interviews with various STEM professionals
MASTERPIECE Career Resources	
Music Career Resources	Learn about the various careers in music and the experience you need for each job
Music Career Resources and Tools	Learn where to get the experience necessary for certain music careers
Working in Theater	Various videos on the jobs you can have working in theater – both technical and nontechnical
Film School & Careers in Film: How to Become a Filmmaker	Article covering the ways to work in the film industry including the schooling opportunities
MUSEUM CAREERS 101 Types of Museums (14:37)	Video giving an overview of the various careers in museums
Highest Paid Museum Careers Part 1 Museum Career Ideas Discover If Museum Jobs Are for You (7:59)	Video discussing the skills and interests for those who want to work in museums

Additional Resources

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

FIRST IN SHOW

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