Multimedia Connections

Below is a session-by-session list of all the Multimedia Connections for the AQUA ADVENTURESM Challenge. These resources include links to websites, videos, and other online tools related to the content of each session.

Consider sharing some or all of the resources during team meetings, and/or encourage your team to explore them between sessions (with permission and supervision from a parent or guardian). Before sharing any of the resources, be sure to preview them to familiarize yourself with the content and to make sure they are appropriate for the ages and ability levels of your team members.

Note: *Points of view or opinions contained within the resources referenced in the Multimedia Connections do not necessarily represent the official position or policies of FIRST® or the LEGO Group.*

Session 1: Introductions!
* Share the *FIRST*® LEGO® League Jr. Core Values video (1 minute) to introduce your team to the Core Values.
* View the Getting Started with *FIRST* LEGO League Jr. playlist on the *FIRST* LEGO League Jr. YouTube channel for video introductions to the Inspire Model (1 minute, 24 seconds), LEGO® Education WeDo (1 minute, 34 seconds), LEGO® Mini-Builds (1 minute, 32 seconds), and Team Model (1 minute, 44 seconds).

Session 2: The PlayPump Story
* For more detailed background information on safe drinking water — including sources, treatment, and distribution — have your team explore the Koshland Science Museum's Safe Drinking Water is Essential website.
* Encourage your team to learn more about the importance of fresh water from the National Institutes of Health's Water and My World website and NASA's Climate Kids: Fresh Water website.
* Access the building instructions for the AQUA ADVENTURE Inspire Model and see a video of it in action on *FIRST* LEGO League Jr's Inspire Set webpage.
  Note: *The LEGO elements for the Inspire Model can be found in your AQUA ADVENTURE Inspire Set in the bags labeled "1." If you got excited and already opened all the bags, please use the Element Overview list to locate the elements needed for the Inspire Model.*
* Download the WeDo Teacher Guide from the LEGO Education website.

Session 3: Choose Your Water Use
- Share all or part of the California Department of Water Resource's [Water — Who Needs It?](#) video (14 minutes, 15 seconds) to help your team explore the importance of water.
- Encourage your team members to learn more about different categories of water use and various ways they use water by visiting the [We All Use Water](#) webpage from ProjectWet.
- Invite your team to explore the [Water Use in the United States](#) website from the U.S. Geological Survey for detailed descriptions of water use categories and data about how much water is used in each category across the United States.
- Have your team members play the [Water Wiz](#) game from National Geographic Kids and visit the [How much is your daily indoor water use?](#) webpage from the USGS to estimate how much water they use on a daily basis.

Session 4: Follow Your Water's Journey
- To help your team members explore water basics, water uses, surface water, groundwater, the water cycle, and more, have them visit the USGS [Water Science School](#) website, which is also available in Spanish and Chinese. Note that the site includes a [Water Cycle Diagram](#) available in 24 languages.
- Explore groundwater through activities, games, and other resources from the Groundwater Foundation's [Students & Educators](#) webpage.
- Invite your team to watch the [How Water Gets to Your Home — And Back to the River](#) video (2 minutes, 32 seconds) from Epcor to learn how water gets from source to tap and back again in Edmonton, Canada.
- Follow the journey of water from a reservoir to a water treatment plant to homes in Cambridge, Massachusetts, in this [Water Treatment Plant](#) video (2 minute, 22 seconds) adapted from PBS Zoom.
- Have your team check out the [Thirstin's Wacky Water Adventure Activity Book](#) (PDF) from the EPA for printable activities and games about the importance of water and the journey that water takes from source to tap. The EPA also has an interactive [Virtual Tour of a Drinking Water Treatment Plant](#) (requires Flash) available in Spanish that your team can explore to learn more about the water treatment process. Another useful EPA resource is the [Excuse Me, Is This the Way to the Drainpipe?](#) story (PDF), which tells about the different journeys that a drop of water might take in rural and urban areas.
- Share the [How Does Water Get to Your Tap?](#) video (4 minutes, 55 seconds) and/or the [Water and You: The Water Treatment Process](#) video (4 minutes, 20 seconds) from New Jersey American Water to help your team learn how water gets from sources to water treatment plants to taps in communities in New Jersey.
- Model your community's watershed using real data on the Stroud Water Research Center's [WikiWatershed](#) website.

Session 5: Be an Engineer
- For an introduction to engineering, invite your team to watch the [Intro to Engineering](#) video (2 minutes, 42 seconds) from NASA for Kids or the [What Is Engineering?](#) video (4 minutes, 17 seconds) from The University of Newcastle, Australia.
- For a more detailed look at engineers and the engineering design process, have your team view the [What's an Engineer? Crash Course Kids #12.1](#) video (4 minutes, 29 seconds) and the [Engineering Process: Crash Course Kids #12.2](#) video (5 minutes, 16 seconds) from Crash Course Kids.

- Have your team visit the [Design Squad](#) website from PBS Kids to find videos, games, and projects about engineering for youth, including information about the various parts of the engineering design process.
- Access the building instructions for the AQUA ADVENTURE Inspire Model and see a video of it in action on *FIRST* LEGO League Jr's [Inspire Set](#) webpage.

Session 6: Improve Your Water's Journey
- Invite your team to check out the [Water — Use It Wisely: Kids webpage](#) for water-saving tips, posters, and printables, an interactive [Tip Tank](#) game, a [Home Water Challenge](#) video (5 minutes, 6 seconds), and a list of 100 ways to save water.
- Encourage your team to explore the EPA's [WaterSense for Kids](#) website for information on why to save water, ways to save water, and an arcade-style game with built-in water conservation quiz questions.
- For more information on the global availability of freshwater, check out the EarthWatch Institute's [Water: A Limited Resource?](#) webpage. It includes a NASA video about the water cycle and a map showing predicted water availability per person in 2025 across the world.
- Read Mystic Aquarium and Unite for Literacy's [World of Water book series](#) to learn more about the importance of water and simple things kids can do to keep it clean and make it last. Online narrations of the books are available in English and Spanish.

Session 7: Plan Your Team Model
- Consider downloading [LEGO Digital Designer](#) — free, 3D-modeling software for Windows PC and Mac OSX that allows users to design and build 3D models using virtual LEGO pieces. Let your team members know that they can use the software to help them envision what their AQUA ADVENTURE Team Model might look like in 3D.
- Download the [WeDo Teacher Guide](#) from the LEGO Education website.

Sessions 8 and 9: Build Your Team Model
- Visit the LEGO [Pick a Brick](#) online catalogue to search for, view, and purchase individual LEGO pieces. This catalogue is useful for acquiring new pieces and replacing lost pieces.
- Explore free, online tools such as [Photoshop Express Editor](#) or [Google Photos](#) to edit any photos you take for the team's *Show Me* poster.

Sessions 10 and 11: Make Your *Show Me* Poster
- To see some examples of *Show Me* posters from past *FIRST* LEGO League Jr. seasons, search [Google Images](#) for "*FIRST* LEGO League Jr. posters."
- Try a free, collaborative whiteboard website such as [Padlet](#) if you want to design your poster online. Select "Create a padlet" to generate a unique URL for a blank whiteboard; double-click anywhere to add a content box. Anyone who has the URL can add text, images, URLs, or other content to the whiteboard.